2. 기장2터널 안전성평가 자료

2.1 안전성평가 자료

구조물의 안전성 평가는 그 기능과 역할을 유지할 수 있는 구조적 및 사용상의 안전성에 대한 확보여부를 평가하는 것이므로 설계도서 검토 및 시공방법과 사용재료에 대한 검토, 부재별 상태평가 결과 및 각종 계측·측정·조사·시험 등을 통한 충분한 기초자료를 확보하여 이를 바탕으로 수치해석에 의해 안전성 여부를 판단하여야 한다.

상태평가 결과 및 각종 계측·측정·조사·시험 등을 실시한 결과, 전회(2019년) 정밀안전진단과 해당 구조물의 현황이 이전과 근소한 차이 외 변화가 없는 것으로 확인되어 구조계산서 및 터널해석보고서 등 기초 자료를 활용하여 안전성여부를 판단하였고, 일부 자료를 발췌하여 첨부하였다.

관 리 번 호

사 본 번 호

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(준 공)

제3공구 : 서부~화전

2008. 12

BUSAN ULSAN 부산울산고속도로(주)

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■ 부 록

1. STA.0+520 계산결과

2. STA.0+670 계산결과

3. STA.0+700(무보강시) 계산결과

4. STA.0+700(보강시) 계산결과

5. 콘크리트 라이닝해석 전산결과

6. 구조물(벨마우스)해석 전산결과 (리핑암)

7. 구조물(벨마우스)해석 전산결과 (발파암)

8. BOX 및 PIPE 수리계산서

제 1 장 개 요

1.1 검토 목적

1.2 터널 계획

제 1장 개요

1.1 검토목적

본 보고서는 "고속국도 제65호선 부산~울산간 건설공사(3공구) 기장2터널 실시설계용역" 중 기장 2터널 (부산방향 L=265m, 울산방향 L=304m, 3차로)에 대한 지반거동 분석 검토서로서 굴착에 따른 터널 주변지반의 응력과 변형거동 및 지보재의 응력을 분석하고 터널단면의 안정성 및 적합성 여부를 판단하여 합리적이며 경제적인 설계가 되기 위한 자료를 제공하는 데 그 목적이 있다.

1.2 터널 계획

1.2.1 기장 2터널 제원

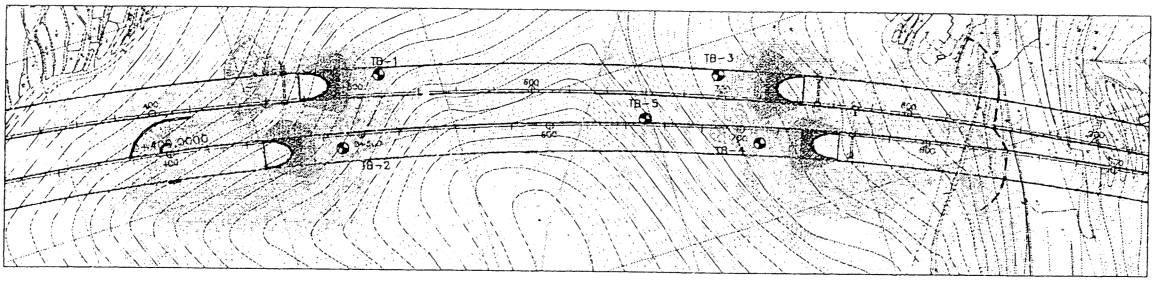
<표 1-1> 기장 2터널 제원

구 분		기 장 2 터 널	비 고
위 치	시 점	부산광역시 기장군 기장읍 서부리	
	종 점	부산광역시 기장군 기장읍 만화리	
터널연장	부산방향	265m (STA. 0+478~STA. 0+743)	개착터널 포함
	울산방향	304m (STA. 0+449~STA. 0+753)	
개 착 터 널		시·종점 : 각 23m (구조물 구간 20m 포함)	
평면선형	부산방향	곡선 R=1,600	
	울산방향	곡선 R=1,600	
종단경사	부산방향	-1.3923 (%)	
	울산방향	-1.3923 (%)	
편 경 사	부산방향	-4%	
	울산방향	-4%	
갱문형식	부산방향	시·종점 : 원통절개식	
	울산방향	시·종점 : 원통절개식	
통 행 방 식		일방향 3차로	
환 기 방 식		자연환기	
터 널 시 공 방 법		NATM 공법 + 개착	

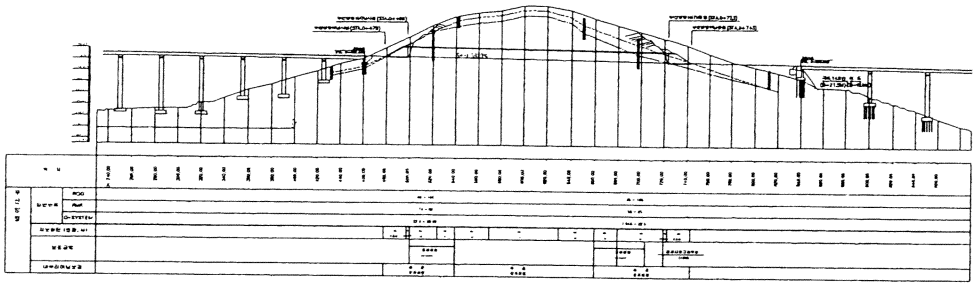
1.2.2 평면계획 및 종단계획

<표 1-2> 평면계획 및 종단계획

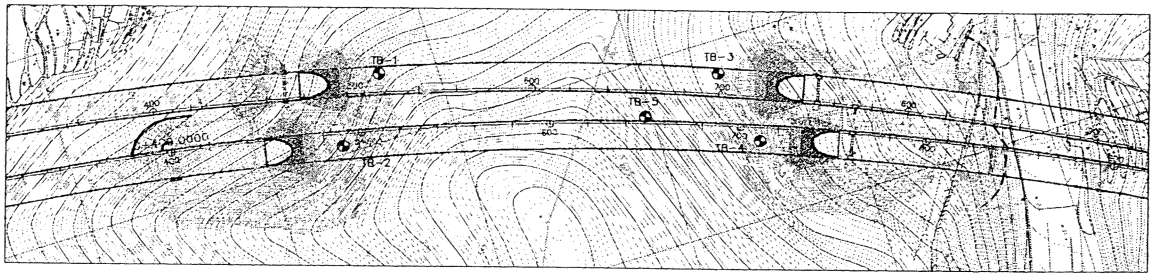
부산 방향



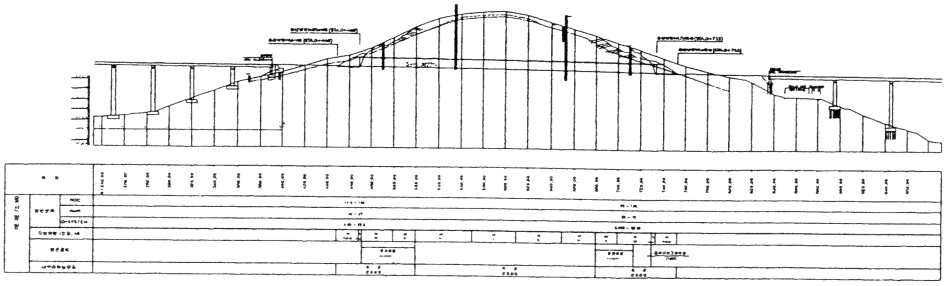
종단면도(부산방향)



울산 방향

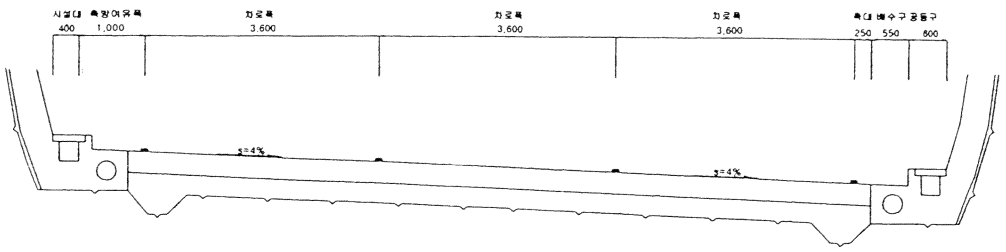


종단면도(울산방향)



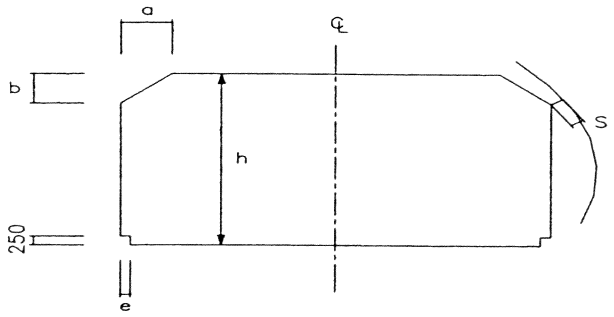
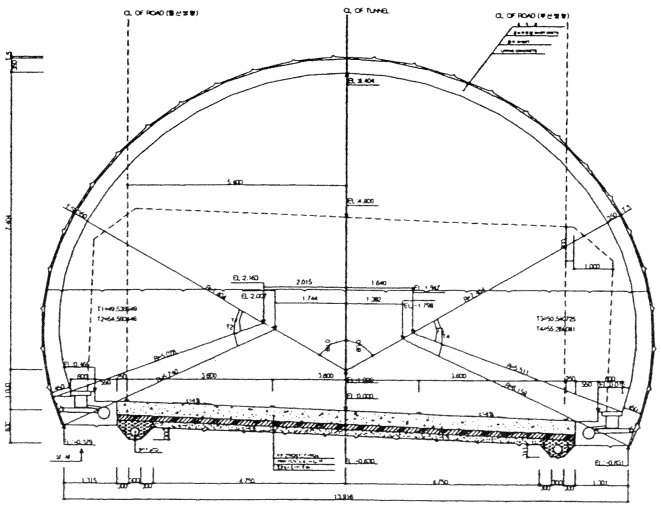
1.2.3 폭원구성 및 단면계획

<표 1-3> 기장 2터널 폭원구성

폭원 구성 개 요						
총 폭 원 (m)	차 로 폭 (m)	측 방 여 유 폭 (m)			시설대 (m)	비 고
		측 대	배 수 구	공 동 구	공 동 구	
13.6	3x3.6	0.25x2	0.55x2	0.20x2	0.40x2	

<표 1-4> 기장 2터널 단면계획

구 분	a	b	e	h	s	비 고
본 설 계 적 용	**1,000**	**800**	**100**	**4,800**	**300**	

차도부의 시설한계	
표 준 단 면 (편경사4%)	

제 2 장 현장조사 결과

2.1 현장조사 내용

2.2 지형 및 지질

2.3 현장조사결과

제 2장 현장조사 결과

2.1 현장조사 내용

- ■ 시추조사(Boring) : 5 개소 (TB-1 ~ TB-5)
- ■ 현장수압시험 : 4 개소 (TB-1 ~ TB-4)
- ■ 공내재하시험 : 4 개소 (TB-1 ~ TB-4)
- ■ 탄성파탐사 : 1 식

2.2 지형 및 지질

2.2.1 지형

산 계	· 과업지역의 주요 산계로는 북측으로 인접하여 셋드산(△577.8m)이 위치하며 도로를 중심으로 산세의 발달이 매우 두드러진다. · 전체적으로 능선의 연계성이 매우 발달하여 있다.
수 계	· 과업지역의 주요 수계로는 능선을 따라 소규모 하천들이 발달해 있으며 일부 저수지 등이 분포한다.

2.2.2 지질

본 조사지역의 하부 기반암은 백악기 경상계 불국사화강암류암에 속하는 화강섬록암으로 구성된다. 본 암은 인접한 안산암, 유천리층, 래피리응회암등과 관입 및 접촉을 하고 있지만 부분적으로는 안산암으로 전이하는 듯한 양상을 보이기도 한다. 전이양상을 야외에서 관찰하면 화강섬록암이 안산암으로 접근함에 따라 유색광물이 풍부한 포유체가 더욱 많아지고 입자크기도 감소되어 세립질의 섬록암질암을 거쳐 반상조직의 안산암으로 된다.

<그림 2-1> 조사지역 지질도 현황

<표 2-1> 지 질 계 통 표

제4기	충적층	
	~ 부정합 ~	
	맥암류	산성암맥
	~ 관 입 ~	
	마산암류	규장암
		미문상화강암
		아다멜라이트
		토나라이트
	~ 관 입 ~	
백악기	불국사화강암류	흑운모화강암
		각섬석화강암
		화강섬록암
		섬록반암
	~ 관 입 ~	
	신 라 통	유문반암
		유문암질응회암류
		래피리응회암
		유문암
		안산암질암류
		관입 및 분출
		유천리층

2.3 현장조사 결과

2.3.1 시추조사 결과

(1) 붕적층 (Colluvial deposit) - 점토자갈층

본 지층은 사면의 활동, 붕괴 및 기타요인에 의하여 형성된 점토자갈층으로 자갈, 호박돌, 전석 및 점토로 구성된다. 본 층은 5.6~10.5m의 층후를 보이며, 표준관입시험 결과 N치 5~50회 이상의 느슨~매우조밀한 결과치를 보인다. 이는 자갈, 호박돌 및 전석의 불규칙적인 분포로 인한 과다치로 추정되는 바 신뢰도는 다소 떨어지며, 대부분의 심도에서 코아상태로 회수되었다. 토질의 색은 황갈색~담청색 계통이다.

(2) 풍화잔류토층 (Residual soil)

본 지층은 기반암의 차별 풍화에 의해 형성된 풍화잔류토층으로, 완전히 풍화되어 실트 섞인 모래 또는, 실트 섞인 점토 상태로 분포하며, 부분적으로 미풍화된 암편이 협재 되어 나타난다. 표준관입시험 결과 N치 40~50회 이상의 매우조밀한 상대밀도를 보이며, 미 풍화된 암맥이 부분적으로 분포하여 연경이 교호하는 양상을 나타내지만, 대체적으로 하부로 갈수록 견고해지는 양상을 보인

다. 본 조사 지역에서의 층후는 6.4m이며, TB-3호공에서만 분포한다. 토질의 색은 황갈색 계통이다.

(3) 풍화암층 (Weathered Rock)

본 지층은 하부 기반암의 차별 풍화에 의해 형성된 지층으로 본래의 암성은 거의 상실되어 있다. 또한, 모암조직이 다소 변질-변색되어 잔재하며, 미 풍화된 암맥 및 암괴가 다량 협재하여 연경이 교호하는 경우가 많다. 또한, 표준관입시험 결과 N치가 모두 50/10회 이상이며, 부분적으로 협재된 암맥으로 인해 표준관입시험이 불가하였으며, 일부 심도에서는 암편상의 코아상태로 회수되었다. 기반암층의 차별 풍화로 층후는 GL 기준 (-)10.5~(-)12.0m의 심도에 분포한다. 본 조사지역에서는 TB-3, 4호공에서만 분포하며, 토질의 색은 황갈색이다.

(4) 연암층 (Soft rock)

본 역의 기반암은 화강섬록암으로 분류된다. 각 시추공별로 조금씩 차이는 있지만, 대체적으로 변질 및 변색이 보이고, 절리 및 균열이 발달해 있다. 조사결과 TCR=64~100% 및 RQD=0~38%로 각 시추공 및 심도에 따라 차이가 나며, 암질 역시 각 시추공 및 심도에 따른 차이를 보인다. 또한, 파쇄대 부분을 제외하면, 대체적으로 지층 하부로 갈수록 코어 회수율 및 암질이 다소 양호해지는 양상을 보인다. 암편 및 단주상의 코어 상태로 회수되었으며, 코아 길이도 2~30cm로 다양하게 나타난다. 본 지층은 GL 기준 (-)5.6~(-)11.0m의 심도에서 지형에 따라 불규칙적으로 출현하며, 암의 색은 색 담청색~담회색~황갈색 계통이다. TB-3호공에서는 결층이다.

(5) 경암층 (Hard rock)

본 역의 기반암은 경암층으로, 화강섬록암으로 구성된다. 각 시추공별로 조금씩 차이는 있지만, 대체적으로 변질 및 변색이 조금 있으며, 절리 및 균열이 조금 발달해 있으며, 부분적으로 파쇄대가 발달해 있다. 전체적인 TCR 50~100% 및 RQD 0~100%으로 각 시추공 및 심도에 따라 차이가 나며, 암질 역시 각 시추공 및 심도에 따른 차이를 다소 보인다. 또한, 파쇄대 부분을 제외하면, 대체적으로 지층 하부로 갈수록 코어회수율 및 암질이 양호해지는 양상을 보이며, 암편 및 단주상의 코어 상태로 회수되었으며, 절리의 길이도 2~200cm로 다양하게 나타난다. 본 지층은 GL 기준 (-)7.7~(-)20.5m의 심도에서 불규칙적으로 출현한다. 암의 색은 담청색~암청색 계통이다. 본 조사에서는 분포하는 기반암의 투수계수를 구하기 위하여 수압시험과 대상 지반의 탄성계수 및 변형계수를 파악하기 위하여 공내재하시험을 실시하였다.

2.3.2 지하수위 측정결과

본 조사지역의 지하수위 측정 결과 GL 기준 -13.04~-17.84m의 심도에서 분포하며, 해당 지층은 풍화암층 및 경암층이다. 탄성파탐사 결과와 비교해보면 대수층이 형성되어 있는 지층은 아니며 측정된 지하수위는 부록의 시추 주상도에 정리·수록하였으며 조사된 지하수위는 계절의 변화와 건기·우기등의 요인에 의해 변화될 수 있는 점에 유의하여야 한다.

<표 2-2> 지하수위측정 결과표

공 번	지하수위(m)			해당지층
	24시간 이후	48시간 이후	72시간 이후	
TB-1	(GL-) 17.50	(GL-) 17.50	(GL-) 17.50	경암층
TB-2	(GL-) 17.80	(GL-) 17.84	(GL-) 17.84	경암층
TB-3	(GL-) 13.00	(GL-) 13.04	(GL-) 13.04	풍화암층
TB-4	(GL-) 15.00	(GL-) 15.20	(GL-) 15.20	경암층

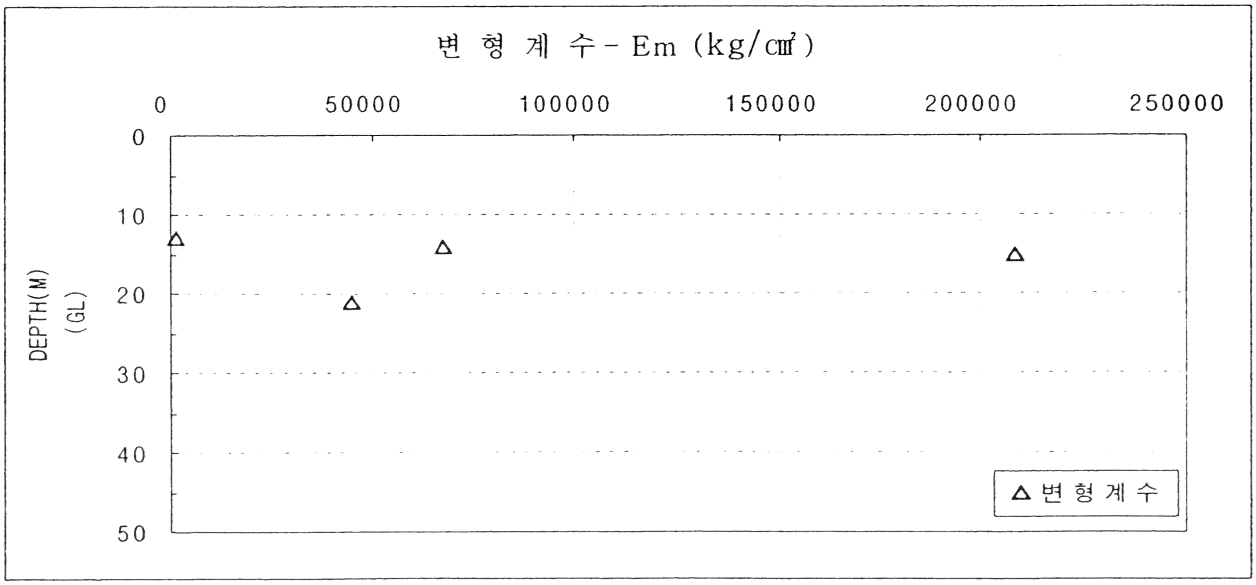
2.3.3 공내재하시험 결과

본 조사 지역에서 실시된 공내재하시험은 대상 지반의 변형계수를 파악하기 위하여 실시되었으며, 시험결과 연암층 및 경암층의 변형계수 E_m은 1,499~208,440 kg/cm^{2}의 결과치를 나타낸다.

<표 2-3> 공내재하시험 결과표

공 번	심도 G.L(-)m	p_o (kg/cm²)	p_y (kg/cm²)	R_o (cm)	R_y (cm)	R_m (cm)	K_m (kg/cm²)	E_m (pressuremeter modulus)(kg/cm²)	지층명
TB-1	15.0	24.90	204.30	3.573	3.577	3.575	44850.0	208,440	경암
TB-2	14.0	16.70	204.60	3.582	3.595	3.5885	14453.8	67,427	경암
TB-3	21.0	37.10	201.90	3.736	3.754	3.745	9155.6	44,573	경암
TB-4	13.0	30.30	51.10	4.012	4.085	4.0485	284.9	1,499	연암 (파쇄대)

<그림 2-2> 공내재하시험 분포도



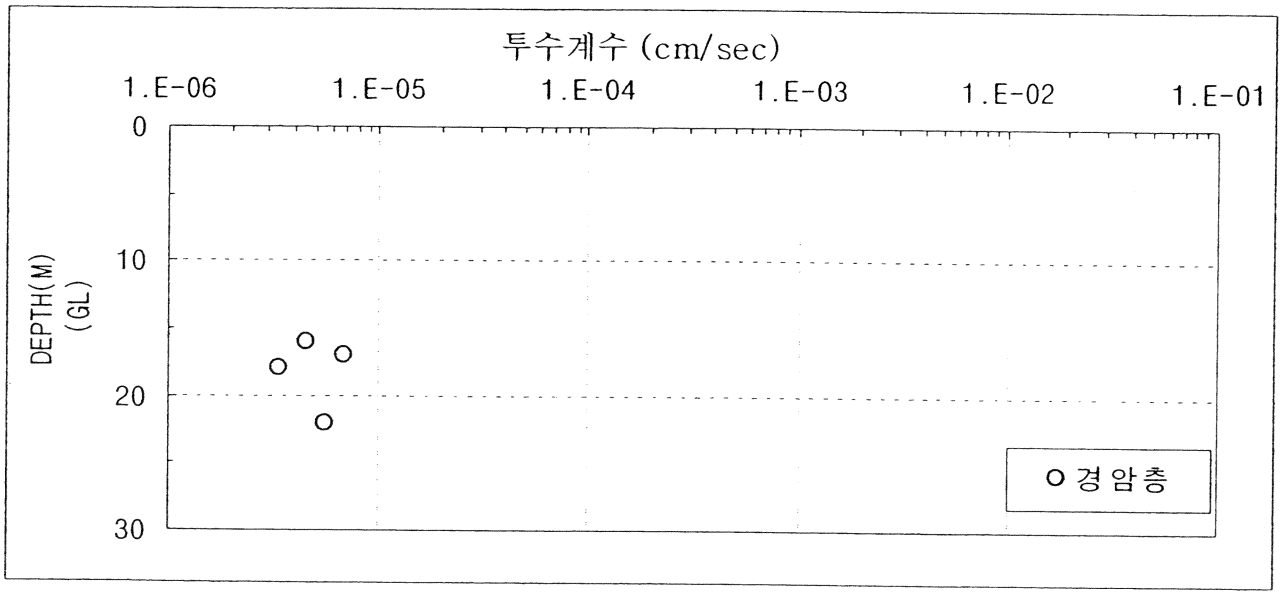
2.3.4 현장수압시험 결과

본 조사지역에 분포하는 기반암의 투수계수를 구하기 위하여 수압시험을 실시하였으며, 그 결과 경암층에서는 투수계수 3.3580E-06~6.7439E-06, LU값 0.319~0.614의 결과치를 보인다.

<표 2-4> 현장수압시험 결과표

공 번	심 도 (m)	투수계수 (cm/sec)	LUGEON VALUE	FLOW PATTEN	지반상태	TCR/RQD (%)
TB-1	18.0 - 20.0	3.3580E-06	0.319	Laminar	경암층	100 / 100
TB-2	17.0 - 19.0	6.7439E-06	0.641	Laminar	경암층	100 / 60
TB-3	22.0 - 24.0	5.5715E-06	0.530	Laminar	경암층	100 / 69
TB-4	16.0 - 18.0	4.4789E-06	0.426	Laminar	경암층	100 / 95

<그림 2-3> 현장수압시험 분포도



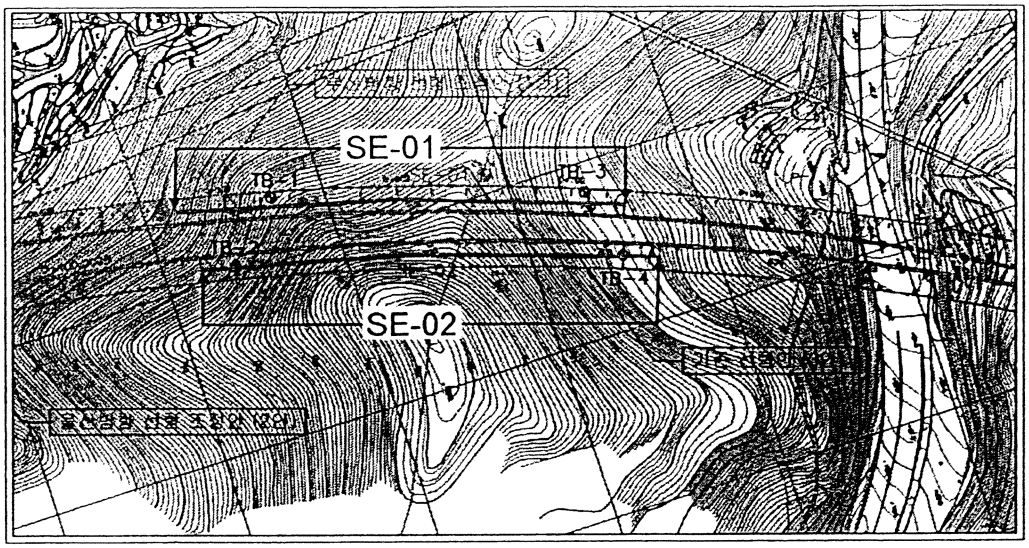
2.3.5 탄성파탐사 결과

(1) 개요

부산방향과 울산방향의 터널 예정 선형에 대하여 각각의 탐사를 실시하였다. 측정은 정방향 원거리 송신원 (FF, Forward Far Shot), 정방향 근거리 송신원 (FN, Forward Near Shot), 중앙송신원 (CT, Center Shot), 역방향 근거리 송신원 (Reverse Near Shot), 역방향 원거리 송신원 (Reverse Far Shot)을 발생하였으며 선형별 터널 구간에 대해 8개의 초동 기록을 획득하였다. 수진기의 간격은 10m로 하였으며, 배열된 각 수진점에 도달하는 탄성파의 초동을 읽어 주시곡선을 작성하고, 주시곡선상에 나타나는 각 직선 등의 기울기로부터 지층에 대한 속도를 결정한 후 각층 경계면까지의 심도를 계산한다. 계산된 경계면까지의 심도를 이용, 탄성파에 의한 지층단면도를 작성하였다.

<표 2-5> 굴절법 탄성파탐사 방법

현장자료의 측정	측정자료의 처리	자료획득
• 지하 매질에 Hammer 타격으로 탄성파 발생 • 배열된 수진기를 통해 전달된 탄성파 속도 정보를 기록	• 측정된 정보를 처리해서 주시 곡선도 작성 • 지형보정 • 지층단면도 작성	• 탐사구간의 탄성파 지층 단면도 • 연약대 및 파쇄대 등의 지질 구조대 파악 • 탄성파 속도에 의한 등급 산정

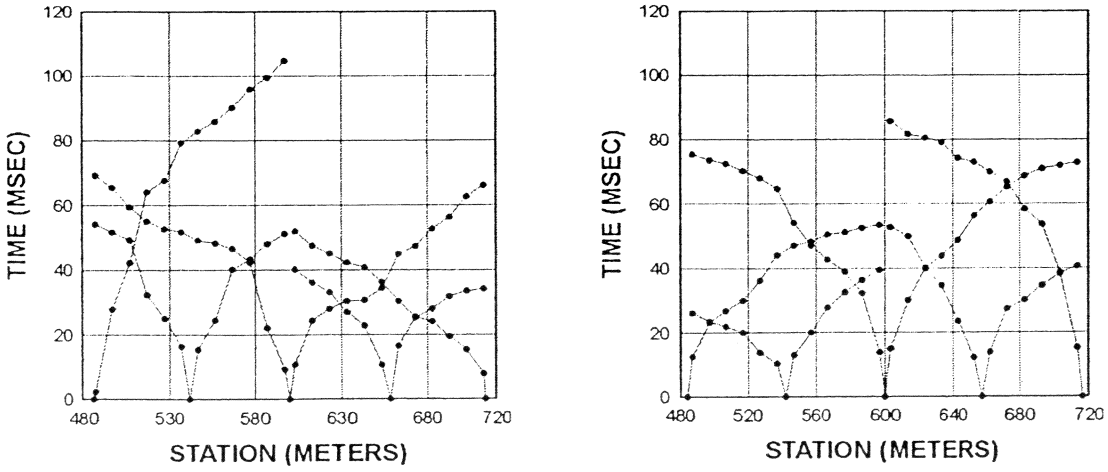


<그림 2-4> 탐사측선의 배열 위치

(2) 자료 해석

<그림 2-5>는 부산 방향과 울산 방향 측선의 주시를 나타낸 것이며 <표 2-6>과 <표 2-7> 은 SE-01측선과 SE-02 측선의 속도층 분포를 나타낸 것이다.

① 주시 곡선



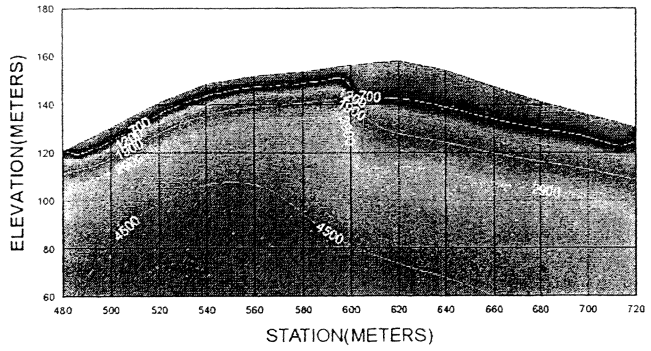
(a) SE-01 (부산 방향) (b) SE-02 (울산 방향)

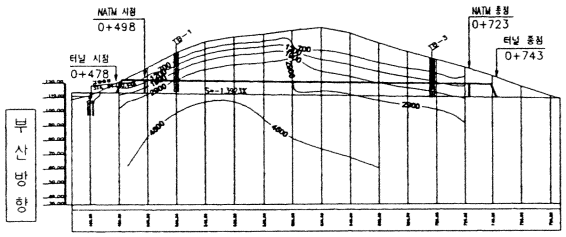
<그림 2-5> 탐사 측선의 주시곡선

② 속도단면

<표 2-6> SE-01 측선 (부산 방향)의 속도층 분포

탐사결과





탄성파속도 (m.sec)	지 층
700이하	풍화토
700-1200	풍화암
1200-1900	연 암
1900-2900	보통암
2900-4500	경 암
4500이상	극경암

터널구간 탄 성 파 속도분포

구간	지층	구간	지층
0K480~0K492	경 암	0K611~0K621	보통암
0K492~0K560	보통암	0K621~0K634	연 암
0K560~0K579	경 암	0K634~0K672	풍화암
0K579~0K604	극경암	0K672~0K720	연 암
0K604~0K611	경 암		

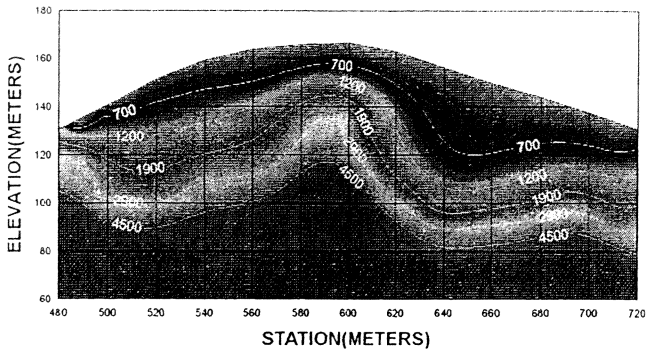
결과분석

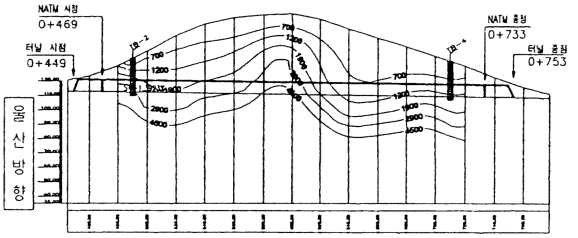
붕적토에 의한 점토자갈층과 풍화토층이 제1속도층이며, 풍화암층 및 연암이하에서 제2, 3속도층이 나타나며, 터널시점부에서 층후가 얇고, 종점부는 시점부에 비해 매우 두꺼운 층후를 보인다.

STA.	풍화토 (~700m/sec)		풍화암 (700~1200m/sec)		연암 (1200~1900m/sec)		보통암 (1900~2900m/sec)		경암 (2900m/sec 이상)
	두께	부존심도	두께	부존심도	두께	부존심도	두께	부존심도	부존심도
490	5.3	125.7~120.4	3.2	120.4~117.2	3.6	117.2~113.6	5.7	113.6~107.9	107.9 이하
510	6.8	135.6~128.8	1.6	128.8~127.2	4.6	127.2~122.7	6.0	122.7~116.7	116.7 이하
530	4.5	144.8~140.3	3.8	140.3~136.5	4.4	136.5~132.2	6.0	132.2~126.1	126.1 이하
550	4.5	150.3~145.8	3.8	145.8~142.0	4.4	142.0~137.6	6.4	137.6~131.3	131.3 이하
570	5.0	152.8~147.8	3.7	147.8~144.2	4.4	144.2~139.8	6.5	139.8~133.3	133.3 이하
590	4.8	155.1~150.3	4.2	150.3~146.2	4.4	146.2~141.8	6.4	141.8~135.4	135.4 이하
610	15.2	157.3~142.2	3.6	142.2~138.5	6.8	138.5~131.8	18.7	131.8~113.1	113.1 이하
630	15.2	156.2~141.0	6.8	141.0~134.2	8.2	134.2~125.9	12.6	125.9~113.3	113.3 이하
650	14.6	150.9~136.3	6.5	136.3~129.8	8.0	129.8~121.8	12.4	121.8~109.3	109.3 이하
670	12.7	144.4~131.8	6.2	131.8~125.5	7.7	125.5~117.8	12.2	117.8~105.6	105.6 이하
690	10.1	138.5~128.4	6.2	128.4~122.2	7.5	122.2~114.6	11.7	114.6~102.9	102.9 이하
710	10.1	133.3~123.2	5.4	123.2~117.7	7.2	117.7~110.6	12.6	110.6~98.0	98.0 이하

<표 2-7> SE-02 측선 (울산 방향)의 속도층 분포

탐사결과





탄성파속도 (m.sec)	지 층
700이하	풍화토
700-1200	풍화암
1200-1900	연 암
1900-2900	보통암
2900-4500	경 암
4500이상	극경암

터널구간 탄 성 파 속도분포

구간	지층	구간	지층
0K480～0K487	연 암	0K644～0K714	보통암
0K487～0K502	보통암	0K714～0K720	연 암
0K502～0K644	경 암		

결과분석

제1속도층은 점토자갈 및 풍화토층에 해당하며, 제2속도층과 제3속도층은 연암이상의 속도분포를 가지는 기반암으로 판단된다. 층의 기복이 STA. 0+520과 STA. 0+640에서 탄성파탐사 이상대가 분포하며, 이상대에 의한 종단방향의 층후의 기복이 매우 심한 것으로 나타나며, 전체적으로 층후의 두께는 SE-01과 비슷한 양상을 보인다.

STA.	풍화토 (～700m/sec)		풍화암 (700～1200m/sec)		연암 (1200～1900m/sec)		보통암 (1900～2900m/sec)		경암 (2900m/sec 이상)
	두께	부존심도	두께	부존심도	두께	부존심도	두께	부존심도	부존심도
490	4.5	136.0～131.5	3.8	131.5～127.6	4.6	127.6～123.1	8.6	123.1～114.5	114.5 이하
510	7.6	146.3～138.7	10.9	138.7～127.8	14.5	127.8～113.3	12.8	113.3～100.5	100.5 이하
530	10.9	153.7～144.8	13.8	144.8～131.0	13.8	131.0～117.2	13.3	117.2～103.9	103.9 이하
550	13.2	161.8～148.6	12.2	148.6～136.4	13.8	136.4～122.6	12.4	122.6～110.2	110.2 이하
570	11.5	165.1～153.6	8.1	153.6～145.5	11.6	145.5～134.0	16.6	134.0～117.4	117.4 이하
590	8.6	166.6～158.0	6.4	158.0～151.5	6.8	151.5～144.7	9.6	144.7～135.1	135.1 이하
610	10.4	165.1～154.7	9.0	154.7～145.7	18.2	145.7～127.5	14.8	127.5～112.7	112.7 이하
630	19.6	159.8～140.2	25.9	140.2～114.3	12.0	114.3～102.3	8.9	102.3～93.4	93.4 이하
650	32.8	153.2～120.4	15.0	120.4～105.4	9.1	105.4～96.3	6.7	96.3～89.6	89.6 이하
670	23.8	147.0～123.2	14.1	123.2～109.1	9.8	109.1～99.4	7.2	99.4～92.2	92.2 이하
690	15.6	140.8～125.2	11.7	125.2～113.5	8.9	113.5～104.6	8.3	104.6～96.3	96.3 이하
710	12.5	134.2～121.6	10.6	121.6～111.0	11.5	111.0～99.5	9.6	99.5～89.9	89.9 이하

2.3.6 실내시험 결과

본 구간에 분포하는 기반암의 공학적 특성을 파악하기 위하여, 실내암석시험을 실시하였으며 그 결과 비중 2.53~2.77, 흡수율 0.86~1.76%, 공극율 0.29~0.36, Young률 0.27~0.44, Poisson 비 0.11 ~ 0.28, 탄성파속도(P) 5.40~6.19 km/s, 인장강도 29.3~85.3 kg/cm^2, 일축압축강도 785.9 ~ 1682.3 kg/cm^2, 점착력 C 107.02~123.61kg/cm^2 , Φ 58.9~72.3° 의 결과치를 보인다.

(1) 실내암석시험 결과표

<표 2-8> 기장 2터널구간 실내암석시험 결과

구 분		실내암석시험					비 고
공 번	심 도 (m)	비중	흡수율 (%)	공극율	탄성계수		
					Young율 (10^6kg/cm^2)	Poisson비	
TB-1	19.1~19.8m	2.77	0.87	0.29	0.44	0.25	-
TB-2	19.0~19.6m	2.53	1.76	0.36	0.27	0.11	-
TB-3	20.6~21.4m	2.62	0.88	0.30	0.43	0.28	-
TB-4	18.2~19.0m	2.66	0.86	0.29	0.43	0.25	-

구 분		실내암석시험					비 고
공 번	심 도 (m)	탄성파속도 (P) (km/s)	일축압축 강 도 (kg/cm^2)	인장강도	삼축압축시험		
					점착력 (kg/cm^2)	내부마찰각 (°)	
TB-1	19.1~19.8m	5.45	1623.9	83.9	123.61	71.6	-
TB-2	19.0~19.6m	5.40	785.9	29.3	107.02	58.9	-
TB-3	20.6~21.4m	6.09	1444.1	64.7	110.03	71.8	-
TB-4	18.2~19.0m	6.19	1682.3	85.3	112.93	72.3	-

제 4 장 표준지보패턴

4.1 표준지보패턴의 구분

4.2 설계구간의 Type별 지보패턴

제 4장 표준지보패턴

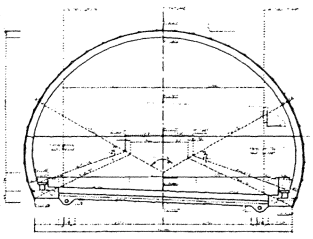
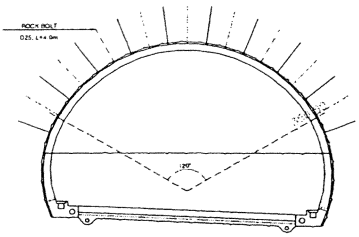
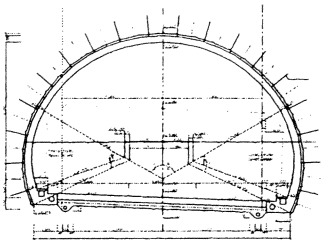
4.1 표준지보패턴의 구분

<표 4-1> 지보패턴의 적용

구분	일반적인 지보패턴 적용기준	본과업 적용
TYPE-1	· 극히 양호한 지반에 적용하며 암의 일축압축강도가 1,000 kg/cm^2 이상, R.Q.D 가 75% 이상, R.M.R 81 이상, Q값 10 이상, 풍화정도는 거의 신선하며 절리상태가 Massive 한 지반에 적용 · 강지보재(Steel Rib)는 사용치 않으며 숏크리트는 타설하지 않아도 무방하나 암편의 붕락방지를 위하여 5cm 로 타설하고 록볼트는 설치하는 것이 필요하다고 판단될 경우에는 L=4.0m 로 Random 으로 설치한다.	· 부산방향 STA.0+570~0+630 : L=60.0m · 울산방향 STA.0+570~0+610 : L=40.0m · 숏크리트 : 5cm · 록볼트 : L=4.0m, Random
TYPE-2	· 비교적 양호한 지반에 적용하며 암의 일축압축강도가 500~1,000 kg/cm^2, R.Q.D 가 50~75% 정도, R.M.R 61~80 정도, Q값 5~10 의 보통풍화된 지반에 적용 · 지보재의 경우 숏크리트는 8cm 정도로 타설하고 강지보재는 사용치 않으며 L=4.0m 록볼트를 터널의 상반부에 설치한다.	· 울산방향 STA.0+610~0+650 : L=40.0m · 숏크리트 : 8cm · 록볼트 : L=4.0m, 상반부
TYPE-3	· 풍화가 발달한 지반에 적용하며 암의 일축압축강도가 250~500 kg/cm^2, R.Q.D 가 25~50% 정도, R.M.R 41~60 정도, Q값 1~3 의 풍화가 어느 정도 진행되고 부분적으로 파쇄대가 발달한 지역에 적용 · 지보재의 경우 숏크리트는 12cm 정도로 타설하고 L=4.0m 록볼트를 터널의 천반부 및 측벽부에 설치한다.	· 부산방향 STA.0+540~0+570 : L=30.0m STA.0+630~0+660 : L=30.0m · 울산방향 STA.0+520~0+570 : L=50.0m STA.0+650~0+680 : L=30.0m · 숏크리트 : 12cm · 록볼트 : L=4.0m, 천반부 및 측벽부
TYPE-4	· 지반이 이완되어 있거나 극히 불량한 지반에 적용하며 암의 일축압축강도가 250 kg/cm^2 이하, R.Q.D 25% 이하, R.M.R 21~40 정도, Q값 1 이하인 풍화정도가 심하고 절리사이에 Gouge 등이 끼어 있는 암과 풍화가 발달한 구간 및 파쇄가 심한 지역에 적용 · 강지보재의 간격은 1.5m 정도이며 숏크리트는 두께 10~15cm 정도로 타설하고 L=4.0~5.0m 록볼트를 터널 전주위에 설치한다.	-
TYPE-5	· 갱구부 안쪽에 적용시킨 패턴으로서 용수가 심하고 막장상태가 불량할 것으로 예상되는 구간에 적용한다. · 강지보재의 간격은 1.2m 정도이며 숏크리트는 두께 16cm 정도로 타설하고 L=5.0m 록볼트를 1.2m 간격으로 터널 전주위에 조직적(System) 으로 설치한다. · 또한 Forepoling을 막장전면에 설치하여 굴착에 따른 지반의 안정성을 확보하도록 하여야 하며 막장용수가 다량일 경우에는 막장전면에 수평배수공을 실시하여야 한다.	· 부산방향 STA.0+525~0+540 : L=15.0m STA.0+660~0+680 : L=20.0m · 울산방향 STA.0+500~0+520 : L=20.0m STA.0+680~0+700 : L=20.0m · 숏크리트 : 16cm · 록볼트 : L=5.0m, 천반부 및 측벽부
TYPE-6	· 갱구부에 적용시킨 패턴으로서 단층대 또는 용수가 심하고 막장상태가 불량할 것으로 예상되는 구간에 적용한다. · 강지보재의 간격은 1.0m 정도이며 숏크리트는 두께 16cm 정도로 타설하고 L=5.0m 록볼트를 터널 전주위에 조직적(System) 으로 설치한다. · 또한 터널 주변지반의 안정성 제고 및 단면의 안정성을 위해 Forepoling 또는 강관다단그라우팅을 막장 전면에 설치하도록 하며, 막장 용수가 다량일 경우에는 막장전면에 수평배수공을 실시하여야 한다.	· 부2STA.0+501~0+525 : L=24.0m STA.0+680~0+720 : L=40.0m · 울산방향 STA.0+472~0+500 : L=28.0m STA.0+700~0+730 : L=30.0m · 숏크리트 : 16cm · 록볼트 : L=5.0m, 천반부 및 측벽부

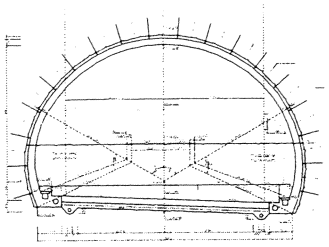
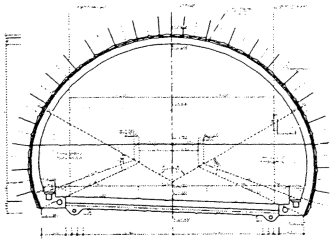
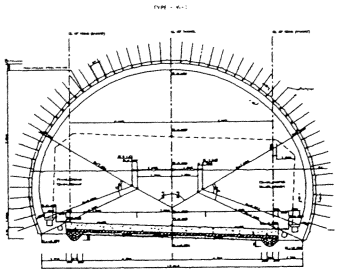
4.2 설계구간의 Type별 지보패턴

<표 4-2> TYPE 별 지보패턴

구 분		TYPE-1	TYPE-2	TYPE-3
표준단면				
굴착공법		NATM	NATM	NATM
1회 굴진장	상부	3.0 m	2.0 m	2.0 m
	하부	4.0 m	4.0 m	3.0 m
굴착방법		반단면 굴착	반단면 굴착	반단면 굴착
숏크리트	두께	5 cm	8 cm	12 cm
	종류	습식 (강섬유보강)	습식 (강섬유보강)	습식 (강섬유보강)
록볼트	길이	4.0 m	4.0 m	4.0 m
	종방향	Random	2.0 m	2.0 m
	횡방향	Random	2.0 m	1.5 m
	설치위치	Random	상반부	천반부 및 측벽부
지보공	규격	-	-	-
	재질	-	-	-
라이닝	상부	35 cm	35 cm	35 cm
	측벽	35~45cm	35~45cm	35~45cm
보조공법		-	-	-

<표 4-2 계속>

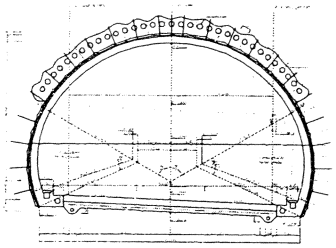
TYPE 별 지보패턴

구 분		TYPE-4	TYPE-5	TYPE-6
표준단면				
굴착공법		NATM	NATM	NATM
1회 굴진장	상부	1.5 m	1.2 m	1.0 m
	하부	1.5 m	1.2 m	1.0 m
굴착방법		반단면 굴착	반단면 굴착	반단면 굴착
숏크리트	두께	16 cm	16 cm	16 cm
	종류	습식 (강섬유보강)	습식 (강섬유보강)	습식 (강섬유보강)
록볼트	길이	5.0 m	5.0 m	5.0 m
	종방향	1.5 m	1.2 m	1.0 m
	횡방향	1.5 m	1.2 m	1.0 m
	설치위치	천반부 및 측벽부	천반부 및 측벽부	천반부 및 측벽부
지보공	간격	1.5 m	1.2 m	1.0 m
	재질	△-50x20x30 (SS400)	△-70x20x30 (SS400)	△-70x20x30 (SS400)
라이닝	상부	35 cm	35 cm	35 cm
	측벽	35~45cm	35~45cm	35~45cm
보조공법		필요시 Forepoling	Forepoling	Forepoling

주)1. 본 과업에서는 Type-4 를 적용하지 않았으나 시공시 막장관찰을 통하여 감독원과 협의후 적용할 수 있음.

<표 4-2 계속>

TYPE 별 지보패턴

구 분		TYPE-6-1
표준단면		
굴착공법		NATM
1회 굴진장	상부	1.0 m
	하부	1.0 m
굴착방법		반단면 굴착
숏크리트	두께	16 cm
	종류	습식 (강섬유보강)
록볼트	길이	5.0 m
	종방향	1.0 m
	횡방향	1.0 m
	설치위치	천반부 및 측벽부
지보공	간격	1.0 m
	재질	△-70x20x30 (SS400)
라이닝	상부	35 cm
	측벽	35~45cm
보조공법		· 부산방향, 울산방향 종점부 : 강관다단그라우팅 (32m 구간)

제 6 장 F.E.M(Finite Element Method) 해석조건

6.1 해석위치 선정

6.2 해석영역 및 경계조건

6.3 단계별 해석순서 및 하중분담률

제 6장 F.E.M (Finite Element Method) 해석조건

6.1 해석위치 선정

터널 해석시 중요한 것은 지반재료의 특성으로 암석자체의 강도, 풍화정도, 절리군, 파쇄대 및 지질구조적 상태등 여러 가지 변수에 따라 같은 분류에 속하는 지반이라도 해석결과는 상이하게 나타나는 경우가 많다. 따라서, 해석단면 위치는 현장지표지질조사, 시추조사를 통하여 관찰된 취약한 곳으로,

- 지반조건이 불리한 곳
- 중요 시설물이 위치한 곳
- 대심도로서 응력방해력어 매우 큰 곳
- 갱구부 등 지형상 불리한 곳 중에서 해석위치를 선정하였다.

<표 6-1> 터널해석 단면 위치

해 석 위 치	지보패턴	굴착방법	구 분
STA.0+520 (부산방향 기준)	· 부산방향 : TYPE - 6 · 울산방향 : TYPE - 5	반단면굴착	갱구부
STA.0+670 (부산방향 기준)	· 부산방향 : TYPE - 5 · 울산방향 : TYPE - 3	반단면굴착	본선부
STA.0+700 (울산방향 기준)	· 부산방향 : TYPE - 6 · 울산방향 : TYPE - 6	반단면굴착	갱구부

6.2 해석영역 및 경계조건

해석 경계면은 해석결과에 영향을 주지 않는 곳에 설치하여야 하는데 일반적으로 터널굴착으로 인한 지반의 응력변화가 발생하는 위치에서 멀리 떨어진 지점에 설치하여야 한다. 굴착으로 인한 영향 영역이 대상 지반/암반에 따라 변하기 때문에 예비해석(예민성 연구)을 통해서 경계면의 위치를 설정하는 것이 바람직하다. 해석수평경계가 터널에서 멀어질수록 지표 침하량이 다소 감소하는데 이러한 경향은 수평경계가 터널에 가까이 위치할 경우 굴착면에서 발생하는 굴착상당외력을 구속하게 됨에 기인한다. Kulhawy(1974)는 경계조건이 터널해석 결과에 영향을 미치지 않게 하기 위해서는 해석의 범위가 터널반경의 6배(터널직경의 3배)이상 떨어져야 한다고 주장하였다.

<표 6-2> 각 기준별 해석범위 설정 예

구 분	Kulhawy(1974)	도로설계요령	고속도로 터널설계 실무자료집	터널표준시방서
해석범위	상부 : 지표면 측방 : 3D 하부 : 3D	상부 : 지표면 측방 : 1.5D 하부 : 1D	상부 : 지표면 측방 : 2.5D 하부 : 2H	상부 : 지표면 측방 : 2D 하부 : 1.5H

본 터널 안정성해석의 영역은 터널상부는 지표면까지를 해석영역으로 하고 터널하부는 터널직경의 3배 이상 하였다. 가로방향으로는 4배 이상으로 하여 응력전이 현상이 원활히 이뤄지게 하였다. 또한 실제지

형을 모델링하므로서 편토압의 영향까지 해석에 반영되도록 하였다.

경계조건은 좌우 측방경계부에서는 횡방향변위(수평변위)를 구속하여 연직변위만 허용하고, 하부의 경계에서는 연직변위를 구속하여 수평변위만 허용하였다. 하부의 양모서리부는 힌지로서 수직 및 수평변위를 구속하고 회전만 허용하였다.

6.3 단계별 해석순서 및 하중분담률

터널을 굴착함에 따라 어느 특정한 지점은 굴착하기 전에 이미 어느 정도의 응력변화와 지반변형이 일어나며, 암반의 특성과 시공순서, 지보재의 작용 등으로 인하여 전 암반하중은 몇 단계로 구분되어 작용한다고 볼 수 있다.

따라서, 본 검토에서는 시공순서에 의해 시간적 변화에 따른 주변암반의 거동과 지보재의 정확한 관계 등을 알아내기 위하여 아래와 같은 단계로 구분하여 해석하였고 지반 고유의 강도와 숏크리트의 경화시간 및 각 Type 별로 굴착상태, 숏크리트와 록볼트의 타설시기 등을 감안하여 단계별 해석은 굴착 ⇒ 1차 Shotcrete(Soft) ⇒ 2차 Shotcrete(Hard)+Rock Bolt 의 3단계를 적용하여 해석하였다.

(1) Stage별 해석순서

- 1~3단계 : 울산방향 터널 상반굴착(굴착→연한 쇼크리트→강한 쇼크리트+록볼트)
- 4~6단계 : 울산방향 터널 하반굴착(굴착→연한 쇼크리트→강한 쇼크리트+록볼트)
- 7~9단계 : 부산방향 터널 상반굴착(굴착→연한 쇼크리트→강한 쇼크리트+록볼트)
- 10~12단계 : 부산방향 터널 하반굴착(굴착→연한 쇼크리트→강한 쇼크리트+록볼트)

(2) 각 해석단계별 하중분담율

<표 6-3> 각 해석단계별 하중분담률

Stage	반단면굴착		Stage	반단면굴착	
	해석단계	하중분담률		해석단계	하중분담률
0	초기응력상태	-	7	상반굴착 (부산방향)	50%
1	상반굴착 (울산방향)	50%	8	1차 숏크리트	25%
2	1차 숏크리트	25%	9	2차 숏크리트 + Rock Bolt	25%
3	2차 숏크리트 + Rock Bolt	25%	10	하반굴착 (부산방향)	50%
4	하반굴착 (울산방향)	50%	11	1차 숏크리트	25%
5	1차 숏크리트	25%	12	2차 숏크리트 + Rock Bolt	25%
6	2차 숏크리트 + Rock Bolt	25%	-	-	-

제 7 장 터널해석결과

7.1 STA.0+520 단면해석

7.2 STA.0+670 단면해석

7.3 STA.0+700 단면해석

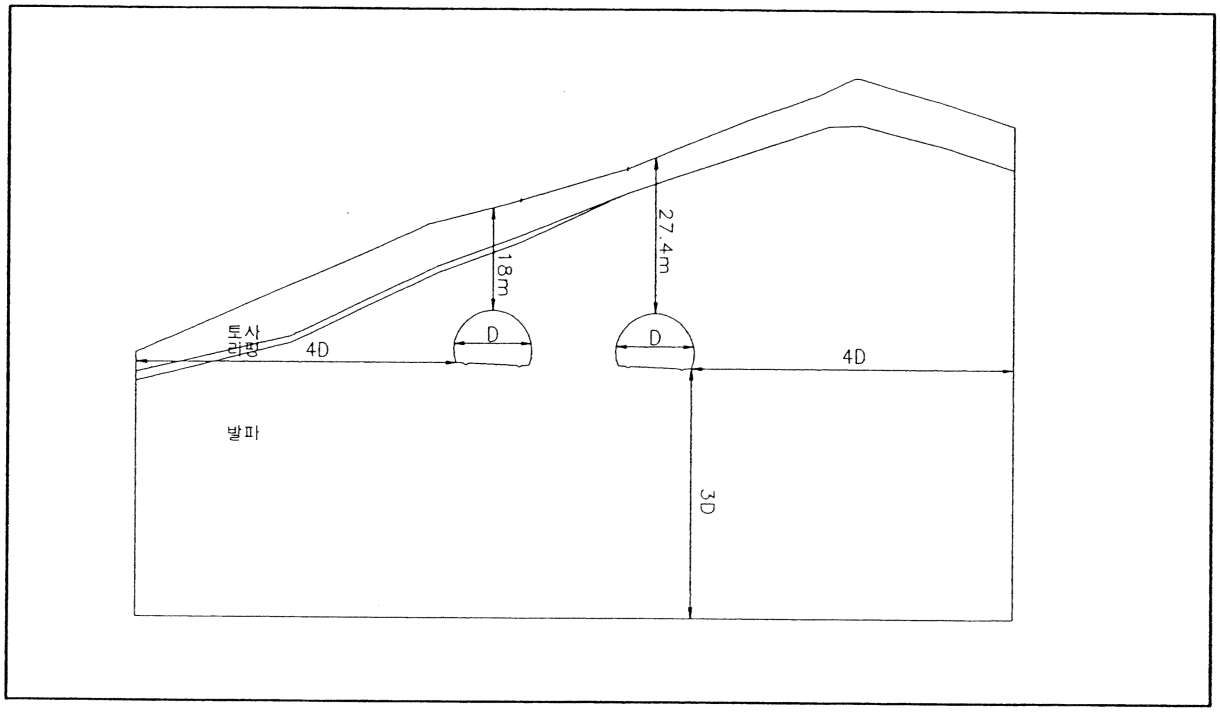
제 7장 터널해석결과

7.1 STA.0+520(부산방향기준) 단면 해석

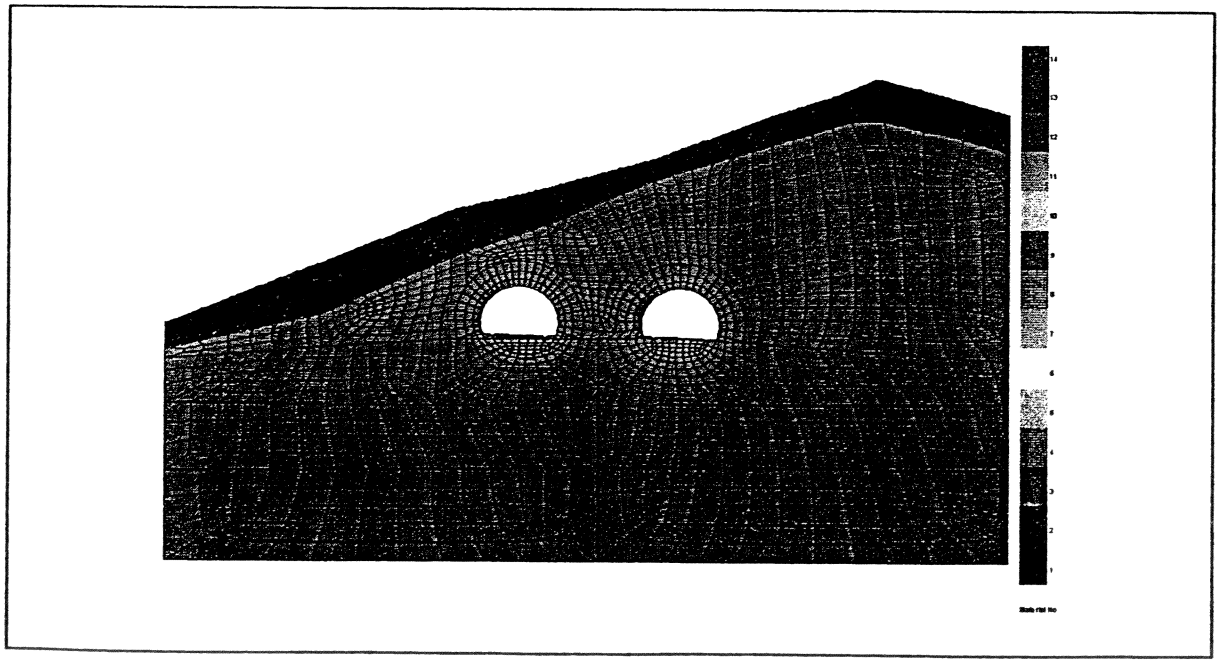
7.1.1 해석단면의 모델링 및 해석단계

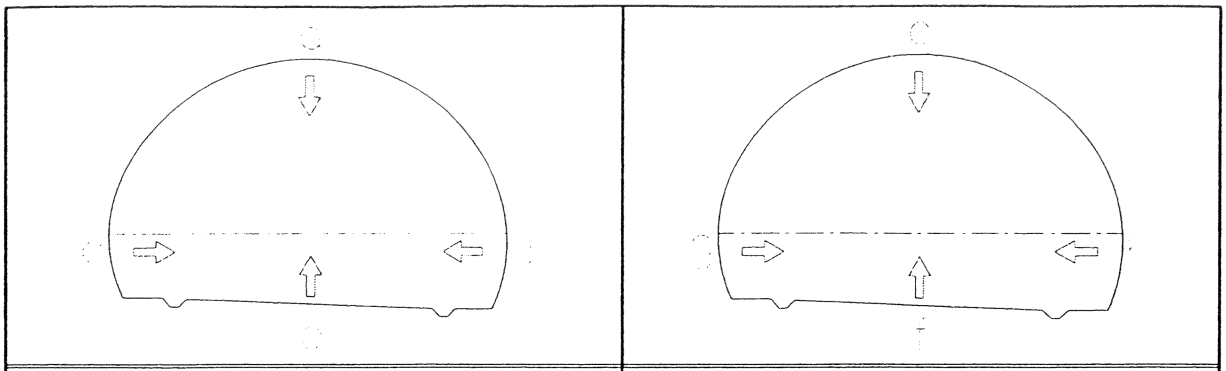
해석모델의 크기는 크라운부의 토피고 18~27.4m 정도이며 하부 및 측벽부는 3D~4D 이상이고 터널 굴진방향으로는 단위길이로 모델링하였다.

<그림 7-1> STA.0+520 (부산방향기준) 지층현황



<그림 7-2> STA. 0+520 (부산방향기준) 해석단면 모델링





부산 방향 | 울산 방향

<그림 7-3> STA. 0+520 (부산방향기준) 변위량 Check 지점

7.1.2 해석결과

(1) 변위량

해석결과 예상되는 터널변위량은 다음의 <표 7-1> 과 같다.

<표 7-1> 울산방향 해석단계별 지반변위량 (Ko=1.0) (mm)

Stage	변위 Check 지점				비 고
	a	b	c	d	
Initial	-	-	-	-	초기 상태
1	-0.00326 (-0.00458)	-0.00324 (-0.00296)	0.000484 (0.00804)	-0.00237 (0.00933)	상반굴착 (울산방향)
2	-0.00488 (-0.00686)	-0.00185 (-0.00444)	0.000731 (0.0121)	-0.00354 (0.014)	1차 숏크리트
3	-0.00649 (-0.00913)	-0.00644 (-0.0059)	0.000988 (0.0161)	-0.00469 (0.0186)	2차 숏크리트 + Rock Bolt
4	-0.00688 (-0.012)	-0.00584 (-0.00583)	0.00636 (0.0316)	0.00274 (0.0415)	하반굴착 (울산방향)
5	-0.00708 (-0.0135)	-0.00554 (-0.00579)	0.00904 (0.0393)	0.00646 (0.0529)	1차 숏크리트
6	-0.00725 (-0.0149)	-0.00522 (-0.00573)	0.0117 (0.0471)	0.0102 (0.0643)	2차 숏크리트 + Rock Bolt
7	-0.0957 (-0.0835)	0.0609 (0.055)	0.0137 (0.0741)	0.0275 (0.0669)	상반굴착 (부산방향)
8	-0.14 (-0.0118)	0.094 (0.0854)	0.0146 (0.0875)	0.0362 (0.0682)	1차 숏크리트
9	-0.183 (-0.151)	0.127 (0.116)	0.0154 (0.101)	0.045 (0.0696)	2차 숏크리트 + Rock Bolt
10	-0.174 (-0.127)	0.164 (0.149)	0.0503 (0.171)	-0.0155 (-0.0421)	하반굴착 (부산방향)
11	-0.17 (-0.115)	0.183 (0.165)	0.0677 (0.206)	-0.0456 (-0.0978)	1차 숏크리트
12	-0.165 (-0.102)	0.202 (0.182)	0.0851 (0.241)	-0.0756 (-0.153)	2차 숏크리트 + Rock Bolt

<표 7-1 계속>　　부산방향 해석단계별 지반변위량 (Ko=1.0)　　(mm)

Stage	변위 Check 지점				비　　고
	e	f	g	h	
Initial	-	-	-	-	초기 상태
1	-0.117 (-0.0968)	0.0993 (0.0922)	-0.00912 (0.0185)	0.0246 (0.00595)	상반굴착 (울산방향)
2	-0.175 (-0.145)	0.149 (0.138)	-0.0137 (0.0277)	0.037 (0.00897)	1차 숏크리트
3	-0.233 (-0.193)	0.198 (0.184)	-0.0185 (0.0368)	0.0494 (0.0121)	2차 숏크리트 + Rock Bolt
4	-0.231 (-0.179)	0.245 (0.228)	0.0232 (0.123)	-0.00474 (-0.095)	하반굴착 (울산방향)
5	-0.23 (-0.172)	0.266 (0.249)	0.044 (0.166)	-0.0317 (-0.143)	1차 숏크리트
6	-0.229 (-0.164)	0.292 (0.271)	0.0647 (0.209)	-0.0586 (-0.195)	2차 숏크리트 + Rock Bolt
7	-0.234 (-0.174)	0.289 (0.268)	0.0689 (0.203)	-0.0606 (-0.2)	상반굴착 (부산방향)
8	-0.237 (-0.179)	0.287 (0.267)	0.0709 (0.199)	-0.0615 (-0.202)	1차 숏크리트
9	-0.24 (-0.184)	0.286 (0.266)	0.073 (0.196)	-0.0625 (-0.205)	2차 숏크리트 + Rock Bolt
10	-0.245 (-0.193)	0.287 (0.269)	0.059 (0.163)	-0.0663 (-0.212)	하반굴착 (부산방향)
11	-0.247 (-0.198)	0.286 (0.271)	0.052 (0.147)	-0.0681 (-0.216)	1차 숏크리트
12	-0.249 (-0.203)	0.289 (0.273)	0.045 (0.130)	-0.07 (-0.22)	2차 숏크리트 + Rock Bolt

주)1. ( ) 의 변위량값은 Ko=2.0 일 경우임.
주)2. 침하 : (-), 융기 : (+), ← : (-), → : (+)

상기 표에서 굴착시 예상되는 변위량은 천단부는 최대 0.249 mm (침하), 바닥면 0.292 mm (융기) 정도로 계산된다.

여기서, 굴착에 따른 내공변위량은 약 1.0 mm 이하로 비교적 작아 <표 7-2~3>에 제시되어 있는 굴착에 따른 지반변형의 기준을 만족하는 것으로 나타났으며, 천단부의 경우는 지보재 설치에 따른 변위가 수렴하는 경향을 나타내므로 문제가 없을 것으로 판단된다. 또한, 바닥면의 경우도 단계별로 변위량이 다소 증가(융기)하는 것으로 나타났으나 최종단계에서의 값이 1.0 mm 이하로 비교적 작으므로 포장층 시공시 상부에서의 포장하중이 가해질 경우 변위는 수렴할 것으로 판단되므로 문제는 없을 것으로 판단된다.

<표 7-2> 천단 침하량 관리기준치 (건설교통부 도로설계편람) 터널반경 5.0 m

레 벨	변 위 량	
	연암지반	풍화암지반
I	5 ~ 10 mm	10 ~ 30 mm
II	15 ~ 40 mm	40 ~ 95 mm
III	40 ~ 110 mm	110 ~ 270 mm

주)1. 주의레벨 I : 지반은 안정해 있지만 이완영역의 발생한계에 달하기 때문에 굴착에 약간의 주의를 요함

주)2. 주의레벨 II : 이완영역이 발생하는 것으로 간주함

주)3. 주의레벨 III : 명확하게 이완영역이 발생하기 때문에 안전의 문제와 시공의 곤란이 예상되므로 굴착방법, 지보재 등의 변경을 요함

<표 7-3> 천단 침하량 관리기준(프랑스 공업성)

토 피 고	천단 최대허용 변위량	
	경 암 지 반	소 성 지 반
10 ~ 50 m	10 ~ 20 mm	20 ~ 50 mm
50 ~ 100 m	20 ~ 60 mm	100 ~ 200 mm
100 m 이상	60 ~ 120 mm	200 ~ 400 mm

(2) 숏크리트 응력 검토

해석결과 Shotcrete 의 응력분포는 터널 천단부보다는 S.L 상부 좌, 우측 측벽부에서 가장 크게 발생되고 있으며, 최대값은 단계별로 차이가 있으나 최대 4.5 kgf/cm^2 (압축) 정도를 나타낸다.

여기서, Shotcrete 의 허용압축응력은 84.0 kgf/cm^2 (fca=0.4 · fck=0.4 · 210)정도이므로 단계별로 발생된 최대 응력값을 크게 상회하므로 안정성에는 문제가 없을 것으로 판단되며, Shotcrete 두께 16 cm 는 타당한 것으로 사료된다.

Shotcrete 의 허용전단응력은 3.62 kgf/cm^2 (fca=0.25 · $\sqrt{}$fck=0.25 · $\sqrt{}$210), Shotcrete 의 허용인장응력은 6.09 kgf/cm^2 (fca=0.42 · $\sqrt{}$fck=0.42 · $\sqrt{}$210) 정도이므로 단계별로 발생된 최대인장 및 전단응력은 허용치 이내이므로 안정성에는 문제가 없을 것으로 사료된다.

<표 7-4> 해석단계별 Shotcrete 응력 (Ko=1.0) (-):압축, (+):인장

Stage	최대압축응력 (t/m²)	위 치	비 고
1	-	-	상반굴착 (울산방향)
2	-10.6 (-9.97)	SL(울산)-우측 (SL(울산)-우측)	1차 숏크리트
3	-40.3 (-37.9)	SL(울산)-우측 (SL(울산)-우측)	2차 숏크리트 + Rock Bolt
4	-14.2 (-17.7)	SL(울산)-좌측 (SL(울산)-좌측)	하반굴착 (울산방향)
5	14.6 (21.7)	SL(울산)-우측 (SL(울산)-우측)	1차 숏크리트
6	32.5 (41.4)	SL(울산)-우측 (SL(울산)-우측)	2차 숏크리트 + Rock Bolt
7	32.4 (-41.4)	SL(울산)-우측 (하부(울산)-우측)	상반굴착 (부산방향)
8	32.4 (-42)	SL(울산)-우측 (하부(울산)-우측)	1차 숏크리트
9	-33 (-42.5)	SL(부산)-우측 (하부(울산)-우측)	2차 숏크리트 + Rock Bolt
10	-32 (-43.5)	하단(울산)-우측 측벽 (하부(울산)-우측)	하반굴착 (부산방향)
11	-32.3 (-44)	하단(울산)-우측 측벽 (하부(울산)-우측)	1차 숏크리트
12	33.3 (44.5)	SL(부산)-우측 (SL(부산)-우측)	2차 숏크리트 + Rock Bolt

주)1. 상기표에서 괄호안의 값은 K_0=2.0일 경우의 값임.

<표 7-5>　　해석단계별 Shotcrete 전단응력 (Ko=1.0)

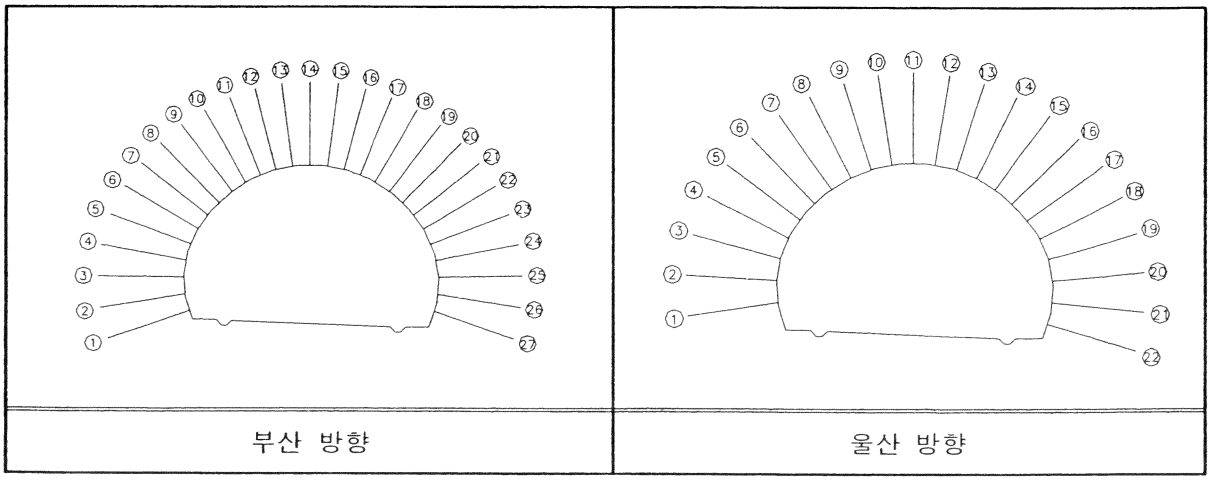
Stage	최대전단응력 (t/㎡)	위　　치	비　　고
1	-	-	상반굴착 (울산방향)
2	-0.0241 (-0.0381)	SL(울산)-우측 (SL(울산)-우측)	1차 숏크리트
3	0.106 (0.151)	SL(울산)-우측 (SL(울산)-우측)	2차 숏크리트 + Rock Bolt
4	-0.035 (-0.296)	SL(울산)-우측 (SL(울산)-우측)	하반굴착 (울산방향)
5	-0.0519 (-0.755)	SL(울산)-우측 (SL(울산)-우측)	1차 숏크리트
6	-0.381 (-0.755)	SL(울산)-우측 (SL(울산)-우측)	2차 숏크리트 + Rock Bolt
7	-0.949 (-0.755)	SL(울산)-우측 (SL(울산)-우측)	상반굴착 (부산방향)
8	-0.948 (-0.755)	SL(울산)-우측 (SL(울산)-우측)	1차 숏크리트
9	-0.948 (-0.754)	SL(울산)-우측 (SL(울산)-우측)	2차 숏크리트 + Rock Bolt
10	-0.947 (-0.655)	SL(울산)-우측 (SL(울산)-우측)	하반굴착 (부산방향)
11	-0.945 (-3)	SL(부산)-좌측 (SL(울산)-우측)	1차 숏크리트
12	-1.59 (-4.15)	SL(부산)-우측 (SL(부산)-우측)	2차 숏크리트 + Rock Bolt

주)1. 상기표에서 괄호안의 값은 K_0=2.0일 경우의 값임.

(3) 록볼트 응력 검토

굴착단계별 Rock Bolt 부재의 작용응력은 <표 7-6> 과 같다.

본 단면에서의 Rock Bolt 는 부산방향의 경우 27개, 울산방향의 경우 22개를 설치하였으며, 작용축력은 천단부에서 최대 0.18 ton 정도로 나타났다. 이는 허용하중(SD-35 D25 기준, Ta=0.5 · Ty=0.5 · 35000*0.0005=8.75 ton)을 크게 하회하므로 Rock Bolt 의 길이 및 간격은 타당한 것으로 판단된다.



<그림 7-4>　STA. 0+520 (부산방향기준) 록볼트 축력 Check 지점

<표 7-6> Rock Bolt 축력 및 응력(단계별) (Ko=1.0) (+) : 인장력

Stage	발생 최대 축력 (ton)	위 치	비 고
3	0.0429 (0.0598)	17.울산방향 (19.울산방향)	2차 숏크리트 + Rock Bolt
4	-0.0673 (0.102)	19.울산방향 (19.울산방향)	하반굴착 (울산방향)
5	0.0909 (0.139)	19.울산방향 (19.울산방향)	1차 숏크리트
6	0.114 (0.183)	19.울산방향 (19.울산방향)	2차 숏크리트 + Rock Bolt
7	0.115 (0.183)	19.울산방향 (19.울산방향)	상반굴착 (부산방향)
8	0.115 (0.183)	19.울산방향 (19.울산방향)	1차 숏크리트
9	0.115 (0.183)	19.울산방향 (19.울산방향)	2차 숏크리트 + Rock Bolt
10	0.115 (0.183)	19.울산방향 (19.울산방향)	하반굴착 (부산방향)
11	0.134 (0.199)	24.부산방향 (24.부산방향)	1차 숏크리트
12	0.182 (0.268)	24.부산방향 (24.부산방향)	2차 숏크리트 + Rock Bolt

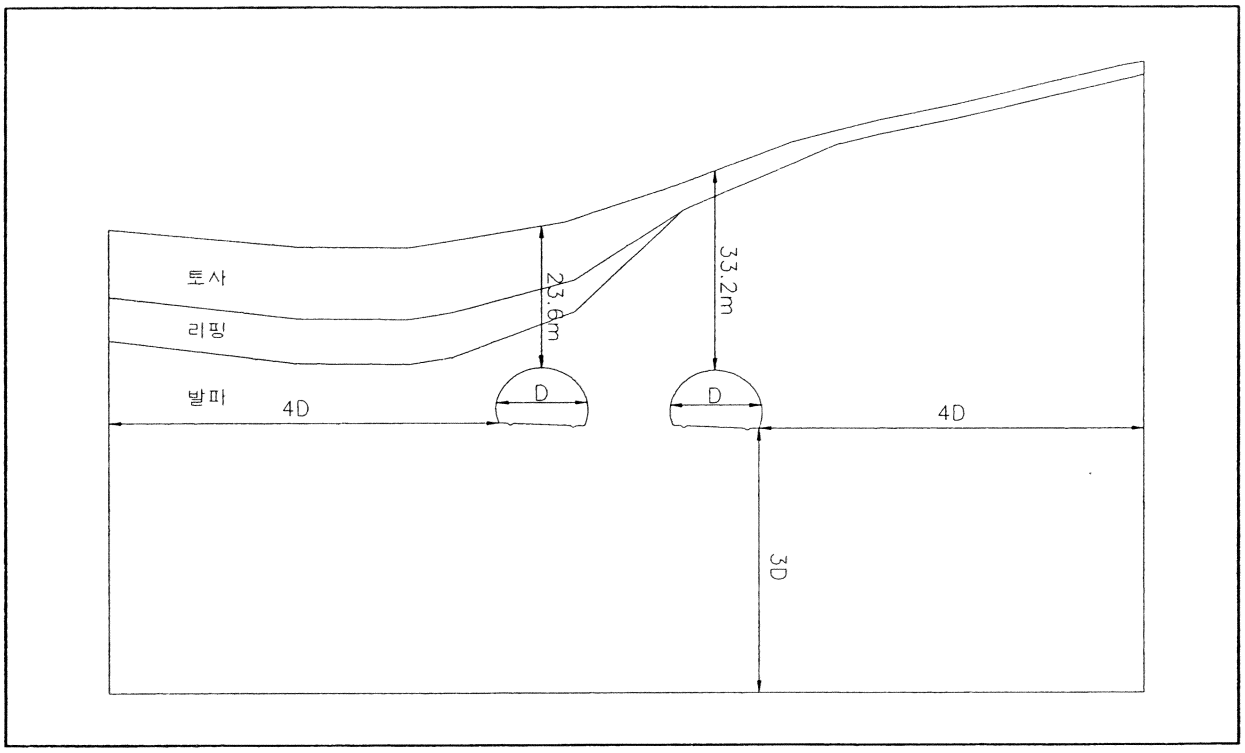
주)1. 상기표에서 괄호안의 값은 K_0=2.0일 경우의 값임.

7.2 STA.0+670(부산방향기준) 단면 해석

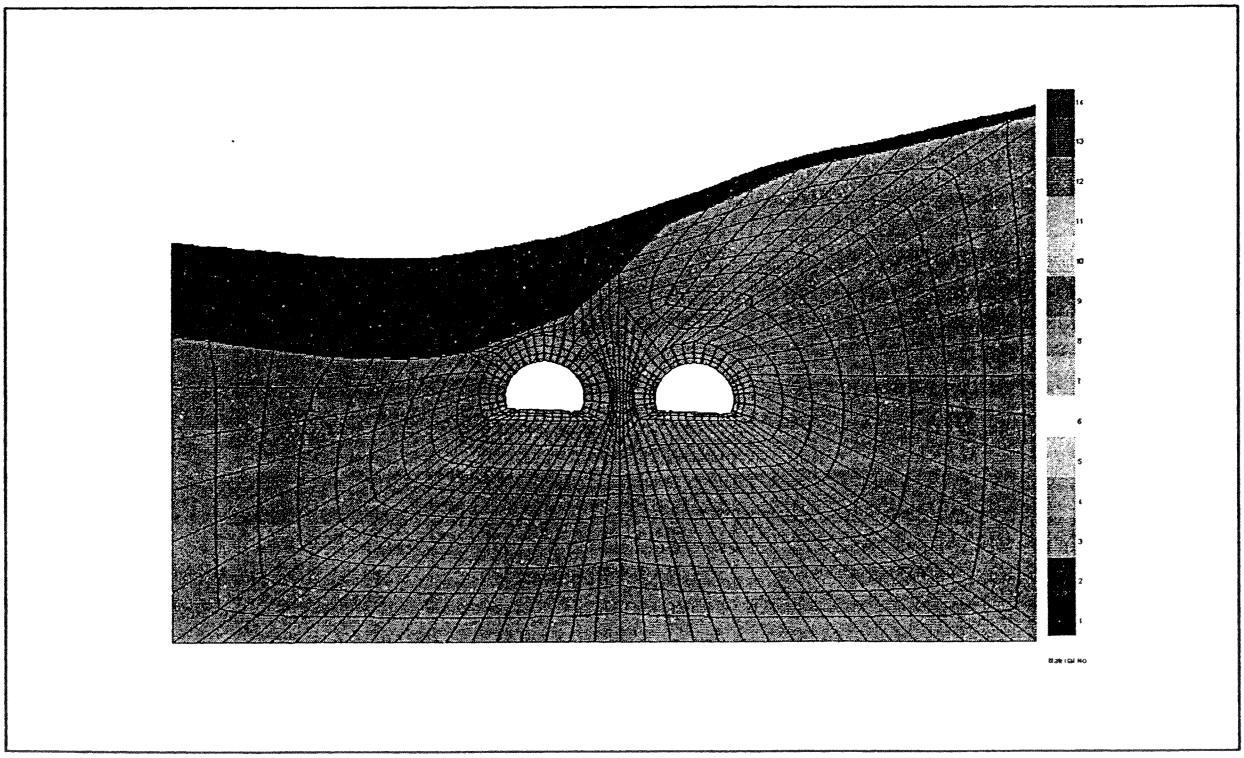
7.2.1 해석단면의 모델링 및 해석단계

해석모델의 크기는 크라운부의 토피고 23.6~33.2m 정도이며 하부 및 측벽부는 3D~4D 이상이고 터널 굴진방향으로는 단위길이로 모델링하였다.

<그림 7-5> STA.0+670 (부산방향기준) 지층현황



<그림 7-6> STA. 0+670 (부산방향기준) 해석단면 모델링



7.2.2 해석결과

(1) 변위량

해석결과 예상되는 터널변위량은 다음의 <표 7-7> 과 같다.

<표 7-7> 울산방향 해석단계별 지반변위량 (Ko=1.0) (mm)

Stage	변위 Check 지점				비 고
	a	b	c	d	
Initial	-	-	-	-	초기 상태
1	-0.128 (-0.098)	0.107 (0.0955)	-0.00319 (0.0359)	0.0296 (0.0063)	상반굴착 (울산방향)
2	-0.191 (-0.147)	0.16 (0.143)	-0.00508 (0.0535)	0.0447 (0.00966)	1차 숏크리트
3	-0.255 (-0.195)	0.214 (0.191)	-0.00696 (0.071)	0.0597 (0.013)	2차 숏크리트 + Rock Bolt
4	-0.252 (-0.175)	0.271 (0.242)	0.0516 (0.191)	-0.0242 (-0.147)	하반굴착 (울산방향)
5	-0.251 (-0.164)	0.3 (0.268)	0.0808 (0.251)	-0.0661 (-0.226)	1차 숏크리트
6	-0.249 (-0.154)	0.329 (0.294)	0.11 (0.311)	-0.108 (-0.306)	2차 숏크리트 + Rock Bolt
7	-0.263 (-0.175)	0.322 (0.287)	0.12 (0.303)	-0.11 (-0.313)	상반굴착 (부산방향)
8	-0.27 (-0.185)	0.319 (0.284)	0.124 (0.299)	-0.11 (-0.316)	1차 숏크리트
9	-0.277 (-0.195)	0.316 (0.281)	0.129 (0.295)	-0.111 (-0.319)	2차 숏크리트 + Rock Bolt
10	-0.287 (-0.213)	0.319 (0.288)	0.1 (0.227)	-0.118 (-0.335)	하반굴착 (부산방향)
11	-0.291 (-0.222)	0.32 (0.291)	0.0858 (0.192)	-0.121 (-0.342)	1차 숏크리트
12	-0.296 (-0.231)	0.322 (0.295)	0.0714 (0.158)	-0.125 (-0.35)	2차 숏크리트 + Rock Bolt

<표 7-7 계속>　　부산방향 해석단계별 지반변위량 (Ko=1.0)　　(mm)

Stage	변위 Check 지점				비　　고
	e	f	g	h	
Initial	-	-	-	-	초기 상태
1	-0.00441 (-0.00552)	-0.00331 (-0.00196)	0.00113 (0.0107)	-0.000903 (0.0154)	상반굴착 (울산방향)
2	-0.00659 (-0.00825)	-0.00495 (-0.00293)	0.0017 (0.0161)	-0.00133 (0.0231)	1차 숏크리트
3	-0.00878 (-0.011)	-0.00658 (-0.00389)	0.00227 (0.0214)	-0.00176 (0.0308)	2차 숏크리트 + Rock Bolt
4	-0.0103 (-0.0164)	-0.00584 (-0.00339)	0.0109 (0.0449)	0.0166 (0.0685)	하반굴착 (울산방향)
5	-0.0111 (-0.0191)	-0.00545 (-0.00313)	0.0152 (0.0567)	0.0183 (0.0873)	1차 숏크리트
6	-0.0119 (-0.0218)	-0.00505 (-0.00286)	0.0195 (0.0684)	0.025 (0.106)	2차 숏크리트 + Rock Bolt
7	-0.152 (-0.136)	0.0694 (0.068)	0.0269 (0.113)	0.0532 (0.113)	상반굴착 (부산방향)
8	-0.222 (-0.193)	0.107 (0.103)	0.0305 (0.135)	0.0673 (0.117)	1차 숏크리트
9	-0.292 (-0.25)	0.144 (0.139)	0.0339 (0.157)	0.0816 (0.121)	2차 숏크리트 + Rock Bolt
10	-0.279 (-0.206)	0.195 (0.185)	0.093 (0.278)	-0.014 (-0.0616)	하반굴착 (부산방향)
11	-0.273 (-0.185)	0.221 (0.209)	0.123 (0.339)	-0.0617 (-0.153)	1차 숏크리트
12	-0.267 (-0.163)	0.247 (0.232)	0.152 (0.4)	-0.109 (-0.244)	2차 숏크리트 + Rock Bolt

주)1. (　) 의 변위량값은 Ko=2.0 일 경우임.
주)2. 침하 : (-), 융기 : (+), ← : (-), → : (+)

상기 표에서 굴착시 예상되는 변위량은 천단부는 최대 0.296 mm (침하), 바닥면 0.329 mm (융기) 정도로 계산된다. 여기서, 굴착에 따른 내공변위량은 약 1.0 mm 이하로 비교적 작게 나타났다.

(2) 숏크리트 응력 검토

해석결과 Shotcrete 의 응력분포는 터널 천단부보다는 S.L 상부 좌, 우측 측벽부에서 가장 크게 발생되고 있으며, 최대값은 단계별로 차이가 있으나 최대 7.93 kgf/cm^2 (압축) 정도를 나타낸다.

여기서, Shotcrete 의 허용응력은 84.0 kgf/cm^2 (fca=0.4 · fck=0.4 · 210)정도이므로 단계별로 발생된 최대 응력값을 크게 상회하므로 안정성에는 문제가 없을 것으로 판단되며, Shotcrete 두께 16 cm 는 타당한 것으로 사료된다.

Shotcrete 의 허용전단응력은 3.62 kgf/cm^2 (fca=0.25 · $\sqrt{}$fck=0.25 · $\sqrt{}$210), Shotcrete 의 허용인장응력은 6.09 kgf/cm^2 (fca=0.42 · $\sqrt{}$fck=0.42 · $\sqrt{}$210) 정도이므로 단계별로 발생된 최대인장 및 전단응력은 허용치 이내이므로 안정성에는 문제가 없을 것으로 사료된다.

<표 7-8> 해석단계별 Shotcrete 응력 (Ko=1.0) (-):압축, (+):인장

Stage	최대압축응력 (t/m²)	위 치	비 고
1	-	-	상반굴착 (울산방향)
2	-34.1 (-29.2)	SL(울산)-우측 (SL(울산)-우측)	1차 숏크리트
3	-68.2 (-58.3)	SL(울산)-우측 (SL(울산)-우측)	2차 숏크리트 + Rock Bolt
4	-27.4 (-36.3)	SL(울산)-좌측 (CROWN(울산)-좌측)	하반굴착 (울산방향)
5	-26.4 (-41.4)	SL(울산)-우측 (CROWN(울산)-좌측)	1차 숏크리트
6	-48.2 (-70.7)	SL(울산)-우측 (CROWN(울산)-좌측)	2차 숏크리트 + Rock Bolt
7	-49.4 (-73.1)	하부(울산)-우측 (하부(울산)-우측)	상반굴착 (부산방향)
8	-50.1 (-74.3)	하부(울산)-우측 (하부(울산)-우측)	1차 숏크리트
9	-50.7 (-75.5)	하부(울산)-우측 (하부(울산)-우측)	2차 숏크리트 + Rock Bolt
10	-52.1 (-77.4)	하부(울산)-우측 (하부(울산)-우측)	하반굴착 (부산방향)
11	-52.7 (-78.3)	하부(울산)-우측 (하부(울산)-우측)	1차 숏크리트
12	-53.4 (-79.3)	하부(울산)-우측 (하부(울산)-우측)	2차 숏크리트 + Rock Bolt

주)1. 상기표에서 괄호안의 값은 K_0=2.0일 경우의 값임.

<표 7-9>　　해석단계별 Shotcrete 전단응력 (Ko=1.0)

Stage	최대전단응력 (t/m²)	위　　치	비　　고
1	-	-	상반굴착 (울산방향)
2	-0.0383 (-0.051)	SL(울산)-우측 (SL(울산)-우측)	1차 숏크리트
3	0.0767 (-0.102)	SL(울산)-우측 (SL(울산)-우측)	2차 숏크리트 + Rock Bolt
4	0.0326 (0.0343)	SL(울산)-좌측 (SL(울산)-좌측)	하반굴착 (울산방향)
5	-0.0895 (-0.124)	SL(울산)-우측 (SL(울산)-우측)	1차 숏크리트
6	-0.0655 (-0.353)	SL(울산)-우측 (SL(울산)-우측)	2차 숏크리트 + Rock Bolt
7	-0.261 (-0.353)	SL(울산)-우측 (SL(울산)-우측)	상반굴착 (부산방향)
8	-0.261 (-0.352)	SL(울산)-우측 (SL(울산)-우측)	1차 숏크리트
9	-0.261 (-0.352)	SL(울산)-우측 (SL(울산)-우측)	2차 숏크리트 + Rock Bolt
10	-0.26 (-0.352)	SL(울산)-우측 (SL(울산)-우측)	하반굴착 (부산방향)
11	-0.26 (-0.352)	SL(울산)-우측 (SL(울산)-우측)	1차 숏크리트
12	-0.26 (-0.352)	SL(울산)-우측 (SL(울산)-우측)	2차 숏크리트 + Rock Bolt

주)1. 상기표에서 괄호안의 값은 K_0=2.0일 경우의 값임.

(3) 록볼트 응력 검토

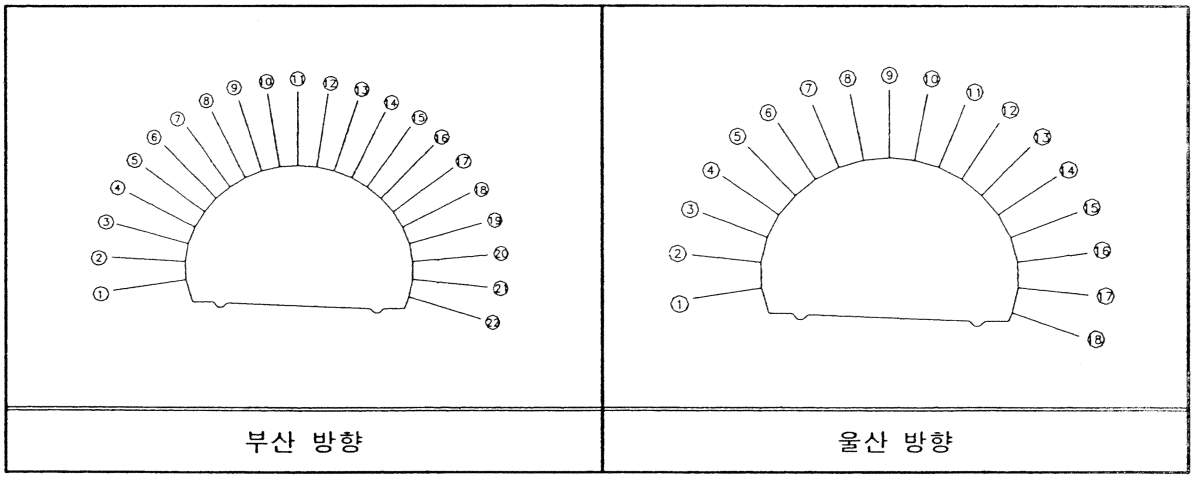
굴착단계별 Rock Bolt 부재의 작용응력은 <표 7-10> 과 같다.

본 단면에서의 Rock Bolt 는 부산방향의 경우 22개, 울산방향의 경우 18개를 설치하였으며, 작용축력은 천단부에서 최대 0.24 ton 정도로 나타났다. 이는 허용하중(SD-35 D25 기준, Ta=0.5 · Ty=0.5 · 35000*0.0005=8.75 ton)을 크게 하회하므로 Rock Bolt 의 길이 및 간격은 타당한 것으로 판단된다.

<표 7-10> Rock Bolt 축력 및 응력(단계별) (Ko=1.0) (+) : 인장력

Stage	발생 최대 축력 (ton)	위 치	비 고
3	0.0599 (0.0843)	울산방향 14 (울산방향 15)	2차 숏크리트 + Rock Bolt
4	0.0838 (0.134)	울산방향 15 (울산방향 15)	하반굴착 (울산방향)
5	0.121 (0.184)	울산방향 15 (울산방향 15)	1차 숏크리트
6	0.158 (0.235)	울산방향 15 (울산방향 15)	2차 숏크리트 + Rock Bolt
7	0.158 (0.235)	울산방향 15 (울산방향 15)	상반굴착 (부산방향)
8	0.158 (0.235)	울산방향 15 (울산방향 15)	1차 숏크리트
9	0.158 (0.236)	울산방향 15 (울산방향 15)	2차 숏크리트 + Rock Bolt
10	0.158 (0.236)	울산방향 15 (울산방향 15)	하반굴착 (부산방향)
11	0.158 (0.237)	울산방향 15 (울산방향 15)	1차 숏크리트
12	0.159 (0.237)	울산방향 15 (울산방향 15)	2차 숏크리트 + Rock Bolt

주)1. 상기표에서 괄호안의 값은 K_0=2.0일 경우의 값임.



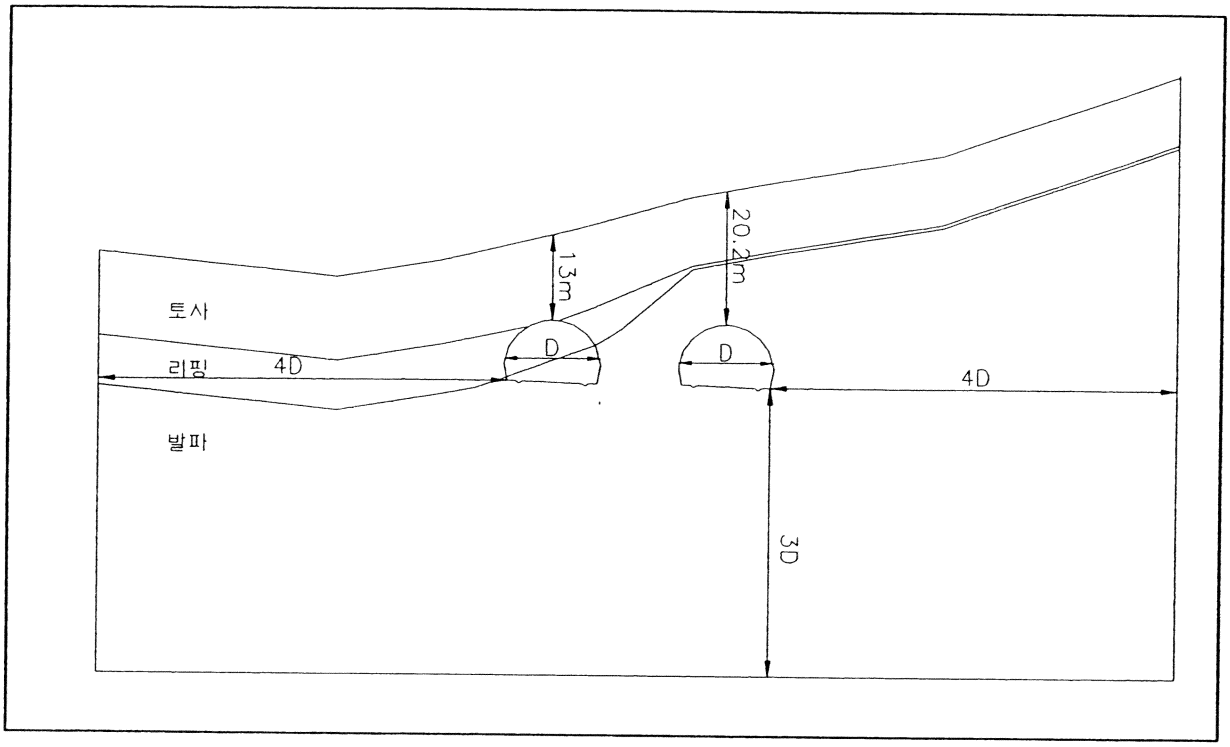
<그림 7-8> STA. 0+670 (부산방향기준) 록볼트 축력 Check 지점

7.3 STA.0+700 (울산방향기준) 단면 해석 (강관다단그라우팅 미적용시)

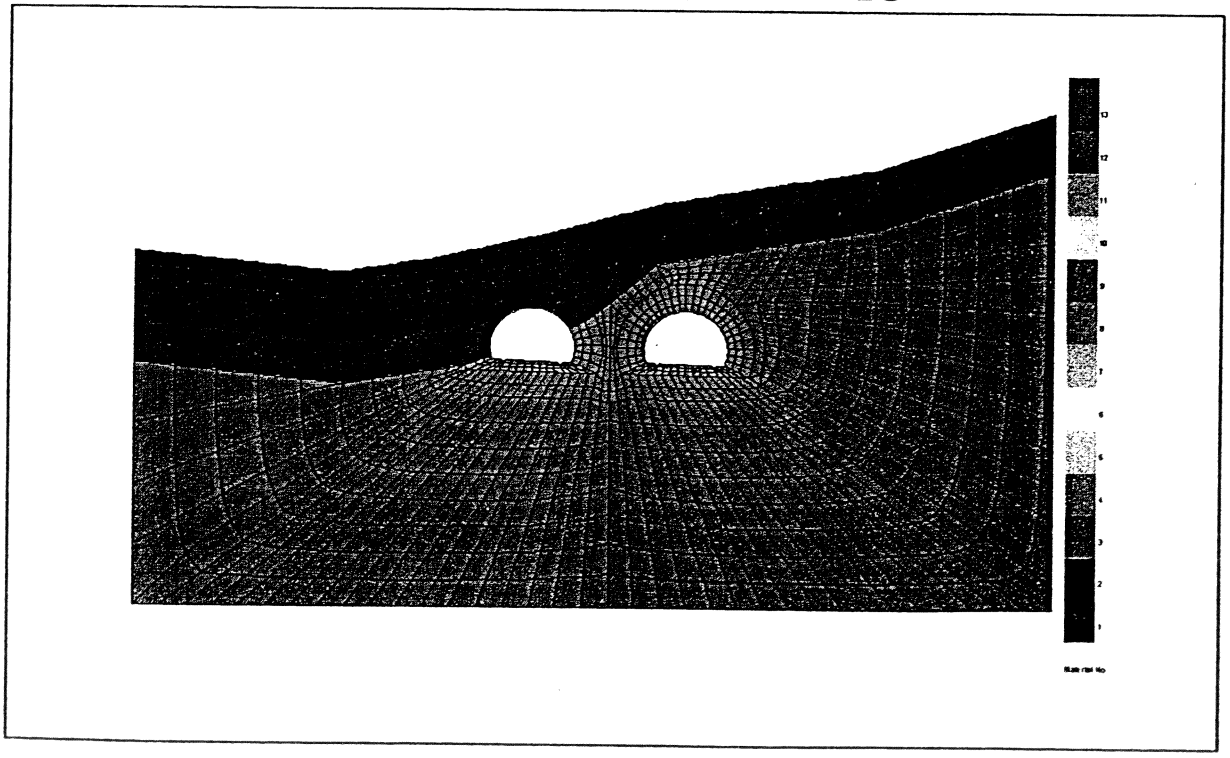
7.3.1 해석단면의 모델링 및 해석단계

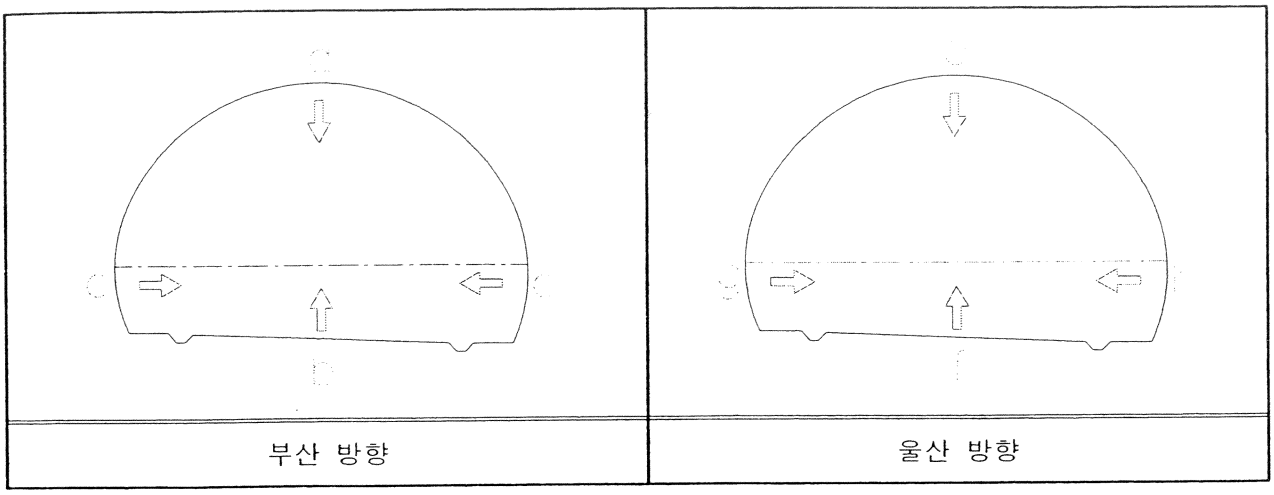
해석모델의 크기는 크라운부의 토피고 13~20.2m 정도이며 하부 및 측벽부는 3D~4D 이상이고 터널 굴진방향으로는 단위길이로 모델링하였다.

<그림 7-9> STA.0+700 (울산방향기준) 지층현황



<그림 7-10> STA. 0+700 (울산방향기준) 해석단면 모델링





<그림 7-11> STA. 0+700 (울산방향기준) 변위량 Check 지점

7.3.2 해석결과

(1) 변위량

해석결과 예상되는 터널변위량은 다음의 <표 7-11> 과 같다.

<표 7-11> 부산방향 해석단계별 지반변위량 (Ko=1.0) (mm)

Stage	변위 Check 지점				비 고
	a	b	c	d	
Initial	-	-	-	-	초기 상태
1	0.00000273 (-0.000791)	0.00125 (0.00328)	-0.00612 (-0.000229)	-0.0052 (0.00561)	상반굴착 (울산방향)
2	0.00163 (0.000372)	0.00189 (0.00492)	-0.00711 (0.00162)	-0.00777 (0.00842)	1차 숏크리트
3	0.00324 (0.00155)	0.00253 (0.00657)	-0.00809 (0.00349)	-0.0103 (0.0112)	2차 숏크리트 + Rock Bolt
4	0.00482 (0.000427)	0.00611 (0.0117)	-0.0041 (-0.0177)	-0.00292 (0.0363)	하반굴착 (울산방향)
5	0.00562 (-0.00013)	0.00791 (0.0142)	-0.0211 (0.024)	0.000769 (0.0488)	1차 숏크리트
6	0.00643 (-0.000672)	0.00971 (0.0168)	-0.000107 (0.0319)	0.00445 (0.0613)	2차 숏크리트 + Rock Bolt
7	-39 (-39)	0.0586 (0.0674)	6.77 (6.82)	0.0236 (0.0809)	상반굴착 (부산방향)
8	-49.7 (-49.7)	0.0833 (0.0929)	4.17 (4.24)	0.0418 (0.0992)	1차 숏크리트
9	-59.5 (-59.5)	0.108 (0.118)	0.130 (0.211)	0.0612 (0.119)	2차 숏크리트 + Rock Bolt
10	-60.8 (-60.8)	0.138 (0.144)	5.32 (5.41)	0.0193 (0.0357)	하반굴착 (부산방향)
11	-60.7 (-60.7)	0.152 (0.156)	6.42 (6.52)	-0.00231 (-0.00645)	1차 숏크리트
12	-60.4 (-60.3)	0.166 (0.168)	7.18 (7.29)	-0.0239 (-0.0486)	2차 숏크리트 + Rock Bolt

<표 7-11 계속>　　울산방향 해석단계별 지반변위량 (Ko=1.0)　　(mm)

Stage	변위 Check 지점				비 고
	e	f	g	h	
Initial	-	-	-	-	초기 상태
1	-0.11 (-0.0932)	0.0682 (0.0626)	-0.0119 (0.00983)	0.0221 (0.0125)	상반굴착 (울산방향)
2	-0.165 (-0.14)	0.102 (0.0938)	-0.0179 (0.0147)	0.0332 (0.0188)	1차 숏크리트
3	-0.219 (-0.185)	0.136 (0.125)	-0.024 (0.0194)	0.04444 (0.0252)	2차 숏크리트 + Rock Bolt
4	-0.216 (-0.168)	0.176 (0.16)	0.00453 (0.0797)	0.00676 (-0.0515)	하반굴착 (울산방향)
5	-0.215 (-0.16)	0.196 (0.178)	0.0187 (0.11)	-0.012 (-0.0898)	1차 숏크리트
6	-0.213 (-0.151)	0.215 (0.196)	0.0329 (0.14)	-0.0307 (-0.128)	2차 숏크리트 + Rock Bolt
7	-0.212 (-0.151)	0.215 (0.195)	0.0414 (0.146)	-0.0305 (-0.129)	상반굴착 (부산방향)
8	-0.211 (-0.15)	0.214 (0.194)	0.0468 (0.15)	-0.0302 (-0.129)	1차 숏크리트
9	-0.209 (-0.149)	0.214 (0.193)	0.0521 (0.154)	-0.0297 (-0.129)	2차 숏크리트 + Rock Bolt
10	-0.213 (-0.161)	0.215 (0.194)	0.0366 (0.119)	-0.0343 (-0.138)	하반굴착 (부산방향)
11	-0.215 (-0.166)	0.216 (0.195)	0.0284 (0.101)	-0.0367 (-0.143)	1차 숏크리트
12	-0.216 (-0.172)	0.217 (0.196)	0.0203 (0.0833)	-0.039 (-0.147)	2차 숏크리트 + Rock Bolt

주)1. ( ) 의 변위량값은 Ko=2.0 일 경우임.
주)2. 침하 : (-), 융기 : (+), ← : (-), → : (+)

상기 표에서 굴착시 예상되는 변위량은 천단부에서 최대 60.8 mm (침하), 바닥면에서 최대 0.22 mm (융기) 정도로 나타났으며, 이는 터널종점부의 지형적인 여건(토사층 두께 약 10.0~12.5m)으로 타 구간과 비교하여 천단부 변위가 큰 것으로 사료되며 <표 7-2> 의 천단변위량의 관리기준치와 비교시 이완영역이 발생하는 것으로 간주하는 주의레벨 II 에 해당되므로 별도의 보강대책이 필요할 것으로 사료된다.

(2) 숏크리트 응력 검토

해석결과 Shotcrete 의 응력분포는 터널 천단부보다는 S.L 상부 좌, 우측 측벽부에서 가장 크게 발생되고 있으며, 최대값은 단계별로 차이가 있으나 약 66.5 kgf/cm^2 (압축) 정도를 나타낸다.

여기서, Shotcrete 의 허용응력은 84.0 kgf/cm^2 (fca=0.4 · fck=0.4 · 210)정도이므로 단계별로 발생된 최대 응력값은 허용응력값보다 작게 나와 안정성에는 별 문제가 없으나 천단부 변위량이 비교적 크

게 발생되므로(최대 60.8mm) 강관다단그라우팅 미적용구간인 Sta.0+520 단면의 경우 최대 0.249mm, Sta.0+670 단면의 경우 최대 0.296mm가 발생되는 것으로 나타나, 본 검토단면의 경우는 안정성 측면을 고려하여 별도의 보강대책이 필요할 것으로 사료된다.

Shotcrete 의 허용전단응력은 3.62 kgf/cm^2 (fca=0.25 · √fck=0.25 · √210), Shotcrete 의 허용인장응력은 6.09 kgf/cm^2 (fca=0.42 · √fck=0.42 · √210) 정도이므로 단계별로 발생된 최대인장 및 전단응력은 허용치 이내이므로 안정성에는 문제가 없을 것으로 사료된다.

<표 7-12> 해석단계별 Shotcrete 응력 (Ko=1.0) (-):압축, (+):인장

Stage	최대압축응력 (t/m^2)	위 치	비 고
1	-	-	상반굴착 (울산방향)
2	-6.24 (-5.36)	SL(울산)-우측 (SL(울산)-우측)	1차 숏크리트
3	-23.92 (-20.50)	SL(울산)-우측 (SL(울산)-우측)	2차 숏크리트 + Rock Bolt
4	-12.84 (-13.66)	SL(울산)-좌측 (SL(울산)-좌측)	하반굴착 (울산방향)
5	-12.47 (-16.01)	SL(울산)-우측 (SL(울산)-우측)	1차 숏크리트
6	-21.13 (-29.77)	하부(울산)-우측 (하부(울산)-우측)	2차 숏크리트 + Rock Bolt
7	-21.09 (-29.95)	하부(울산)-우측 (하부(울산)-우측)	상반굴착 (부산방향)
8	-311.02 (-310.94)	SL(울산)-우측 (SL(울산)-우측)	1차 숏크리트
9	-634.56 (-634.16)	SL(울산)-우측 (SL(울산)-우측)	2차 숏크리트 + Rock Bolt
10	-658.77 (-658.52)	SL(울산)-우측 (SL(울산)-우측)	하반굴착 (부산방향)
11	-661.46 (-661.26)	SL(울산)-우측 (SL(울산)-우측)	1차 숏크리트
12	-663.47 (-663.32)	SL(울산)-우측 (SL(울산)-우측)	2차 숏크리트 + Rock Bolt

주)1. 상기표에서 괄호안의 값은 K_0=2.0일 경우의 값임.

<표 7-13> 해석단계별 Shotcrete 전단응력 (Ko=1.0)

Stage	최대전단응력 (t/m²)	위 치	비 고
1	-	-	상반굴착 (울산방향)
2	-0.00528 (0.00854)	SL(울산)-우측 (SL(울산)-우측)	1차 숏크리트
3	-0.023 (0.0352)	SL(울산)-우측 (SL(울산)-우측)	2차 숏크리트 + Rock Bolt
4	-0.0149 (-0.0153)	SL(울산)-좌측 (SL(울산)-좌측)	하반굴착 (울산방향)
5	-0.0563 (-0.0813)	SL(울산)-우측 (SL(울산)-우측)	1차 숏크리트
6	-0.149 (-0.205)	SL(울산)-우측 (SL(울산)-우측)	2차 숏크리트 + Rock Bolt
7	-0.15 (-0.205)	SL(울산)-우측 (SL(울산)-우측)	상반굴착 (부산방향)
8	3.45 (3.46)	SL(부산)-우측 (SL(부산)-우측)	1차 숏크리트
9	-7.66 (-7.63)	SL(부산)-우측 (SL(부산)-우측)	2차 숏크리트 + Rock Bolt
10	-7.39 (-7.34)	SL(부산)-우측 (SL(부산)-우측)	하반굴착 (부산방향)
11	-7.19 (-7.13)	SL(부산)-우측 (SL(부산)-우측)	1차 숏크리트
12	7.04 (7.0)	SL(부산)-우측 (SL(부산)-우측)	2차 숏크리트 + Rock Bolt

주)1. 상기표에서 괄호안의 값은 K_0=2.0일 경우의 값임.

(3) 록볼트 응력 검토

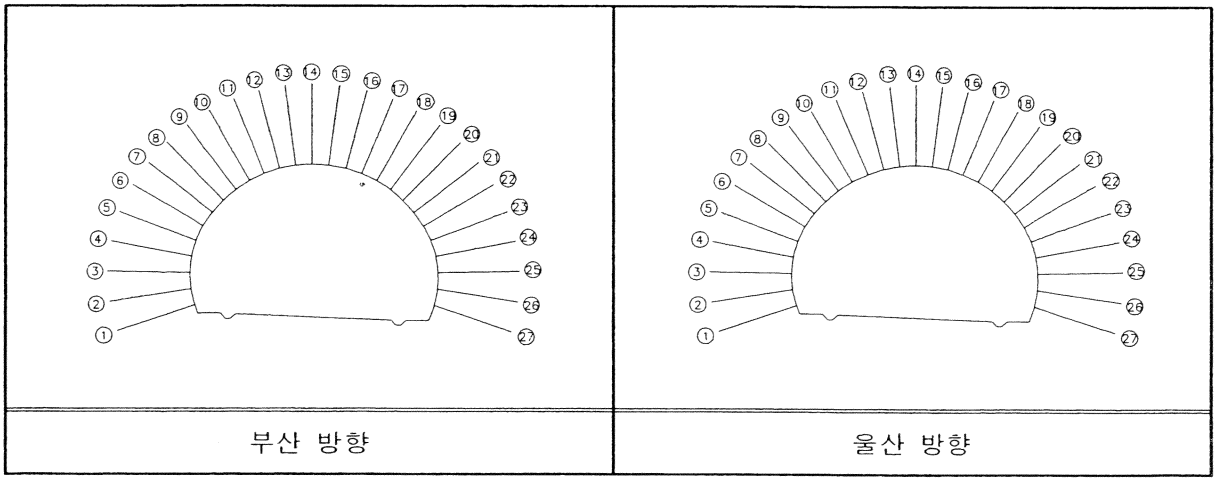
굴착단계별 Rock Bolt 부재의 작용응력은 <표 7-14> 와 같다.

본 단면에서의 Rock Bolt 는 각 방향 27 개를 설치하였으며, 작용축력은 천단부에서 최대 7.38 ton 정도로 허용치 범위안에 있으나 타 구간과 비교하여 상당히 크게 발생된 편이다.

<표 7-14> Rock Bolt 축력 및 응력(단계별) (Ko=1.0) (+) : 인장력

Stage	발생 최대 축력 (ton)	위 치	비 고
3	0.0308 (0.0422)	21.울산방향 (22.울산방향)	2차 숏크리트 + Rock Bolt
4	0.0403 (0.0503)	22.울산방향 (23.울산방향)	하반굴착 (울산방향)
5	0.0491 (0.0791)	22.울산방향 (23.울산방향)	1차 숏크리트
6	0.064 (0.101)	23.울산방향 (23.울산방향)	2차 숏크리트 + Rock Bolt
7	0.0639 (0.101)	23.울산방향 (23.울산방향)	상반굴착 (부산방향)
8	0.0638 (0.101)	23.울산방향 (23.울산방향)	1차 숏크리트
9	3.68 (3.67)	5.부산방향 (5.부산방향)	2차 숏크리트 + Rock Bolt
10	6.75 (6.74)	5.부산방향 (5.부산방향)	하반굴착 (부산방향)
11	7.13 (7.12)	5.부산방향 (5.부산방향)	1차 숏크리트
12	7.38 (7.38)	5.부산방향 (5.부산방향)	2차 숏크리트 + Rock Bolt

주)1. 상기표에서 괄호안의 값은 K_0=2.0일 경우의 값임.



<그림 7-12> STA. 0+700 (울산방향기준) 록볼트 축력 Check 지점

7.4 STA.0+700 (울산방향기준) 단면 해석 (강관다단그라우팅 적용시)

7.4.1 해석단면의 모델링 및 해석단계

해석모델의 크기는 크라운부의 토피고 13~20.2m 정도이며 하부 및 측벽부는 3D~4D 이상이고 터널 굴진방향으로는 단위길이로 모델링하였다. (<그림 7-9, 10, 11> 참조)

(본 검토단면의 울산방향의 경우는 부산방향에 비하여 토사층 두께가 얇거나 일부 구간에서 기반암이 분포하므로 강관다단그라우팅보다는 포어폴링으로 보강하는 것으로 계획하였다.)

7.4.2 해석결과

(1) 변위량

해석결과 예상되는 터널변위량은 다음의 <표 7-15> 와 같다.

<표 7-15> 부산방향 해석단계별 지반변위량 (Ko=1.0) (mm)

Stage	변위 Check 지점				비 고
	a	b	c	d	
Initial	-	-	-	-	초기 상태
1	0.00253 (0.00155)	0.00164 (0.0046)	-0.00811 (-0.00451)	-0.00986 (0.00459)	상반굴착 (울산방향)
2	0.00415 (0.00265)	0.00131 (0.00568)	-0.0104 (0.000816)	-0.0151 (0.00624)	1차 숏크리트
3	0.00578 (0.00358)	0.00105 (0.00679)	-0.0127 (0.00173)	-0.00203 (0.00787)	2차 숏크리트 + Rock Bolt
4	0.00744 (0.00192)	0.00559 (0.0137)	-0.00665 (0.02)	-0.00906 (0.0411)	하반굴착 (울산방향)
5	0.00827 (0.00114)	0.00786 (0.0171)	-0.00361 (0.0292)	-0.00342 (0.0577)	1차 숏크리트
6	0.00913 (0.00383)	0.0101 (0.0205)	-0.00586 (0.0384)	0.00216 (0.0743)	2차 숏크리트 + Rock Bolt
7	-8.8 (-8.7)	0.0587 (0.0708)	-0.358 (-0.257)	0.0382 (0.112)	상반굴착 (부산방향)
8	-13.7 (-13.6)	0.0832 (0.0963)	-2.09 (-1.86)	0.0538 (0.132)	1차 숏크리트
9	-18.2 (-18.2)	0.107 (0.121)	-4.33 (-4.19)	0.0734 (0.152)	2차 숏크리트 + Rock Bolt
10	-18.8 (-18.6)	0.136 (0.145)	-2.73 (-2.62)	-0.0281 (-0.0053)	하반굴착 (부산방향)
11	-18.8 (-18.6)	0.15 (0.156)	-2.38 (-2.28)	-0.092 (-0.0483)	1차 숏크리트
12	-18.7 (-18.6)	0.164 (0.168)	-2.19 (-2.1)	-0.2 (-0.261)	2차 숏크리트 + Rock Bolt

<표 7-15 계속>　　울산방향 해석단계별 지반변위량 (Ko=1.0)　　(mm)

Stage	변위 Check 지점				비　　고
	e	f	g	h	
Initial	-	-	-	-	초기 상태
1	-0.4 (-0.374)	0.0781 (0.071)	-0.00819 (0.0175)	0.0183 (0.00908)	상반굴착 (울산방향)
2	-0.612 (-0.571)	0.115 (0.105)	-0.0133 (0.0251)	0.0286 (0.0147)	1차 숏크리트
3	-0.812 (-0.755)	0.152 (0.138)	-0.019 (0.032)	0.0396 (0.0213)	2차 숏크리트 + Rock Bolt
4	-0.802 (-0.731)	0.187 (0.169)	0.0124 (0.103)	-0.00122 (-0.636)	하반굴착 (울산방향)
5	-0.797 (-0.718)	0.205 (0.184)	0.0281 (0.138)	-0.0215 (-0.106)	1차 숏크리트
6	-0.792 (-0.706)	0.223 (0.199)	0.0437 (0.173)	-0.0417 (-0.148)	2차 숏크리트 + Rock Bolt
7	-0.792 (-0.709)	0.221 (0.197)	0.0512 (0.178)	-0.0426 (-0.15)	상반굴착 (부산방향)
8	-0.79 (-0.709)	0.221 (0.196)	0.0568 (0.181)	-0.0426 (-0.15)	1차 숏크리트
9	-0.789 (-0.708)	0.221 (0.196)	0.0601 (0.183)	-0.0417 (-0.151)	2차 숏크리트 + Rock Bolt
10	-0.797 (-0.727)	0.224 (0.2)	0.0396 (0.141)	0.0455 (-0.156)	하반굴착 (부산방향)
11	-0.801 (-0.736)	0.225 (0.202)	0.0291 (0.119)	-0.047 (-0.0159)	1차 숏크리트
12	-0.805 (-0.745)	0.227 (0.204)	0.0187 (0.0978)	-0.0484 (-0.162)	2차 숏크리트 + Rock Bolt

주)1. (　) 의 변위량값은 Ko=2.0 일 경우임.
주)2. 침하 : (-), 융기 : (+), ← : (-), → : (+)

상기 표에서 굴착시 예상되는 변위량은 천단부에서 최대 18.8 mm (침하), 바닥면에서 최대 0.23 mm (융기) 정도로 계산되었으며 강관무보강시 보다 천단부에서 약 42mm 적게 발생되어 안정성이 유리한 편이다.

(2) 숏크리트 응력 검토

해석결과 Shotcrete 의 응력분포는 터널 천단부보다는 S.L 상부 좌, 우측 측벽부에서 가장 크게 발생되고 있으며, 최대값은 단계별로 차이가 있으나 약 67.9 kgf/cm^2 (압축) 정도를 나타낸다.

Shotcrete 의 허용전단응력은 3.62 kgf/cm^2 (fca=0.25 · $\sqrt{}$fck=0.25 · $\sqrt{}$210), Shotcrete 의 허용인장응력은 6.09 kgf/cm^2 (fca=0.42 · $\sqrt{}$fck=0.42 · $\sqrt{}$210) 정도이므로 단계별로 발생된 최대인장 및 전단응력은 허용치 이내이므로 안정성에는 문제가 없을 것으로 사료된다.

<표 7-16> 해석단계별 Shotcrete 응력 (Ko=1.0) (-):압축, (+):인장

Stage	최대압축응력 (t/m^2)	위 치	비 고
1	-	-	상반굴착 (울산방향)
2	-27.5 (-16.56)	SL 울산방향 우측 (SL 울산방향 우측)	1차 숏크리트
3	-88.69 (-79.12)	SL 울산방향 우측 (크라운부 울산방향 좌측)	2차 숏크리트 + Rock Bolt
4	-77.52 (-82.61)	SL 울산방향 좌측 (크라운부 울산방향 좌측)	하반굴착 (울산방향)
5	-75.39 (-84.55)	SL 울산방향 좌측 (크라운부 울산방향 좌측)	1차 숏크리트
6	-73.63 (-86.91)	SL 울산방향 좌측 (크라운부 울산방향 좌측)	2차 숏크리트 + Rock Bolt
7	-74.78 (-89.90)	SL 울산방향 좌측 (크라운부 울산방향 좌측)	상반굴착 (부산방향)
8	-282.32 (-245.40)	SL 부산방향 우측 (천단부)	1차 숏크리트
9	-668.15 (-651.04)	SL 부산방향 우측 (SL 울산방향 좌측)	2차 숏크리트 + Rock Bolt
10	-678.77 (-655.72)	SL 부산방향 좌측 (SL 부산방향 우측)	하반굴착 (부산방향)
11	-673.97 (-649.77)	SL 부산방향 좌측 (SL 부산방향 우측)	1차 숏크리트
12	-669.69 (-646.51)	SL 부산방향 좌측 (SL 부산방향 우측)	2차 숏크리트 + Rock Bolt

주)1. 상기표에서 괄호안의 값은 K_0=2.0일 경우의 값임.

<표 7-17> 부산방향 해석단계별 Shotcrete 전단응력 (Ko=1.0)

Stage	최대전단응력 (t/m^2)	위 치	비 고
1	-	-	상반굴착 (울산방향)
2	0.227 (0.367)	SL 울산방향 우측 (SL 울산방향 우측)	1차 숏크리트
3	0.829 (1.19)	SL 울산방향 우측 (SL 울산방향 우측)	2차 숏크리트 + Rock Bolt
4	0.719 (1.04)	SL 울산방향 우측 (SL 울산방향 우측)	하반굴착 (울산방향)
5	0.656 (0.958)	SL 울산방향 우측 (SL 울산방향 우측)	1차 숏크리트
6	0.622 (-0.906)	SL 울산방향 좌측 (SL 울산방향 좌측)	2차 숏크리트 + Rock Bolt
7	0.610 (0.856)	SL 울산방향 우측 (SL 울산방향 우측)	상반굴착 (부산방향)
8	-1.24 (1.22)	SL 부산방향 우측 (SL 부산방향 우측)	1차 숏크리트
9	4.5 (4.91)	SL 부산방향 우측 (SL 부산방향 우측)	2차 숏크리트 + Rock Bolt
10	4.56 (4.98)	SL 부산방향 우측 (SL 부산방향 우측)	하반굴착 (부산방향)
11	4.58 (5.0)	SL 부산방향 우측 (SL 부산방향 우측)	1차 숏크리트
12	4.63 (5.06)	SL 부산방향 우측 (SL 부산방향 우측)	2차 숏크리트 + Rock Bolt

주)1. 상기표에서 괄호안의 값은 K_0=2.0일 경우의 값임.

(3) 록볼트 응력 검토

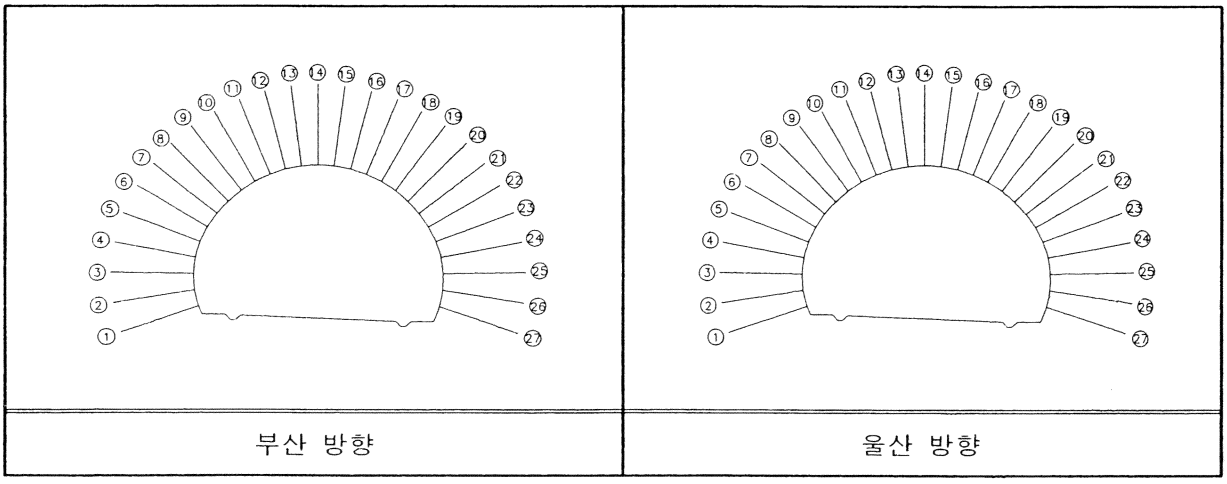
굴착단계별 Rock Bolt 부재의 작용응력은 <표 7-17> 과 같다.

본 단면에서의 Rock Bolt 는 천단부 및 측벽에 27 개를 설치하였으며, 작용축력은 천단부에서 최대 8.73 ton 정도로 허용치(8.75 ton)보다 약간 작게 나와 안정성에는 큰 문제가 없을 것으로 사료된다.

<표 7-18> 부산방향 Rock Bolt 축력 및 응력(단계별) (Ko=1.0) (+) : 인장력

Stage	발생 최대 축력 (ton)	위 치	비 고
3	0.738 (1.78)	8. 울산방향 (8. 울산방향)	2차 숏크리트 + Rock Bolt
4	0.774 (1.78)	7. 울산방향 (8. 울산방향)	하반굴착 (울산방향)
5	0.775 (1.79)	7. 울산방향 (8. 울산방향)	1차 숏크리트
6	0.777 (1.81)	7. 울산방향 (8. 울산방향)	2차 숏크리트 + Rock Bolt
7	0.782 (1.83)	7. 울산방향 (8. 울산방향)	상반굴착 (부산방향)
8	0.782 (1.86)	7. 울산방향 (8. 울산방향)	1차 숏크리트
9	7.0 (8.46)	21. 부산방향 (21. 부산방향)	2차 숏크리트 + Rock Bolt
10	7.01 (8.55)	21. 부산방향 (21. 부산방향)	하반굴착 (부산방향)
11	7.02 (8.62)	21. 부산방향 (21. 부산방향)	1차 숏크리트
12	7.03 (8.73)	21. 부산방향 (21. 부산방향)	2차 숏크리트 + Rock Bolt

주)1. 상기표에서 괄호안의 값은 K_0=2.0일 경우의 값임.



부산 방향 울산 방향

<그림 7-13> STA. 0+700 (울산방향기준) 록볼트 축력 Check 지점

제 8 장 라이닝 및 구조물 구조해석

8.1 해석개요

8.2 설계기준

8.3 2차원 콘크리트 라이닝 해석

8.4 구조물(벨마우스) 해석

8.1 해석 개요

구 분	설 계 방 향
· 터널의 사용목적에 적합하고 · 오랜기간의 사용에 안전할 것	· 도로터널 시설한계와 터널 여유치를 만족하고 · 1차지보의 시간 경과에 따른 기능 저하가 예상되는 구간에 대해서 이완하중을 외력으로 작용하여 사용성 및 내구성 확보
· 내공단면을 만족하고 축력 전달이 원활한 형상	· 3심원터널로 구성된 콘크리트 라이닝 단면을 계획함으로써 구조적으로 안정한 최적의 단면 형상 계획
· 콘크리트 라이닝의 설계두께	· 콘크리트 라이닝 두께는 3차로 대단면을 감안하여 35~45cm로 계획하여 사용성 및 안전성 고려
· 콘크리트 라이닝 배합 설계	· 소요강도,내구성 및 양호한 시공성이 확보될 수 있는 배합설계(설계강도-굵은골재-슬럼프 : 240-25-15cm)
· 콘크리트 라이닝에 유해한 균열이 발생할 염려가 있는 경우에 균열에 대한 대책강구	· 터널 시공시 발생하는 종방향 균열의 원인이 되는 콘크리트 라이닝 천정부의 배면 공극을 방지하기 위하여 배면 공극 충전용 그라우팅 적용
· 콘크리트 라이닝 천정부에 공극 충전용 그라우팅 홀 설치	· 시공순서에 충전용 그라우팅 홀 상세 표기
· 지반 특성별 이완하중 고려	· 암반터널 : 수정 Terzaghi의 암반하중 분류법에 의한 이완하중 적용

8.2 설계기준

8.2.1 설계방법

구 조 물 종 류	적용 설계방법
무근 콘크리트 라이닝	허용응력설계법
철근보강 콘크리트 라이닝	강도 설계법

8.2.2 작용하중

콘크리트 라이닝에 작용하는 하중으로는 자중, 암반이완하중, 내·외측 온도하중, 건조수축 및 계절별 온도하중 등이 있으며, 본 설계에서는 다음과 같이 적용한다.

가. 하 중

1) 고정하중(자중)

부재의 자중을 설계시 외력으로 포함시키는 것은 당연한 것으로 콘크리트 라이닝의 설계하중으로 고려한다.

재 료	단위 중량(tonf/m3)	재 료	단위 중량(tonf/m3)
철근콘크리트	2.50	역청포장	2.30
무근콘크리트	2.35	지 하 수	1.00
모 르 타 르	2.15	도상자갈, 쇄석	1.90

2) 암반이완하중

지반은 숏크리트에 의해 변위가 억제되며 힘의 균형을 이루어 안정된 상태에서 콘크리트 라이닝을 타설하도록 되어있어 지반 또는 지보재등의 특성변화나 힘의 불균형 조건이 발생하지 않는 한 콘크리트 라이닝에는 지반하중이 작용하지 않는다. 그러나, 지반의 풍화가 예상되고 지보재가 시간이 경과함에 따라 기능저하가 우려될 것으로 예상되는 경우에는 콘크리트 라이닝에 지반하중이 작용하는 것으로 보아 콘크리트 라이닝을 설계하여야 안전하게 된다. 이때 콘크리트 라이닝에 작용하는 하중으로는 숏크리트에 작용하였던 하중을 콘크리트 라이닝이 부담하는 것으로 보는 것이 합리적일 것이다. 본 설계에서는 대상구간의 지반조건을 분석·평가하여 수정Terzaghi의 암반하중분류법에 의하여 이완하중을 산정하였다.

3) 내·외측 온도하중(T_1)

갱구부 구조물이 외부와 가까워 기상작용에 영향을 받으므로 온도에 대한 영향을 구조해석 단계에서 고려한다.

갱구부 콘크리트 라이닝의 내·외면 온도차(Δt)는 ±5℃ 및 계절별 온도변화 와 건조수축을 적용함.

4) 잔류수압

- 배수형 터널로 수압을 고려하지않는것이 원칙이나 시간 경과에 따른 배수기능의 저하를 고려함

나. 하중조합

주요 하중계수 및 하중 조합은 다음 표와 같이 나타나 있다. 지하구조물과 같이 고정하중이 지배적인 구조물은 1.4D항의 D대신에 1.1D를 대입하여야 한다.

적 용 하 중	하중계수 및 하중조합
고정하중(D), 활하중(L)	1.4D + 1.7L
고정하중(D), 활하중(L), 횡방향 토압과 지하수압(H)	1.4D + 1.7L + 1.8H 0.9D + 1.7L + 1.8H
고정하중(D), 활하중(L), 온도하중(T)	0.75(1.4D + 1.7L + 1.5T) 1.4D + 1.5T

8.2.3 겹침이음 및 철근의 피복두께

가. 정착길이

1) 인장이형철근의 정착길이(l_d)

가) 정착길이(l_d)는 기본정착길이(l_{db})에 적용 가능한 보정계수를 곱하여 구한다.

나) 기본정착길이 $l_{db} = \dfrac{0.152 d_b f_y}{\sqrt{f_{ck}}}$

다) 또는 다음 식에 의해 계산된 값 중 큰 값으로 하여야 한다. 이렇게 구한 정착길이는 항상 30cm 이상이어야 한다

$$l_d = \frac{0.285 d_b f_y}{\sqrt{f_{ck}}} \times \frac{\alpha\beta\gamma\lambda}{(c+K_{tr})/d_b} \qquad \text{단, } (c+K_{tr})/d_b \le 2.5$$

※ 보정계수

조 건 \ 철근지름	D19 이하의 철근과 이형철선	D22 이상의 철근
철근의 순간격이 d_b 이상이고 피복두께도 d_b 이상이면서 l_d 전구간에 최소 철근량이상의 스터럽 또는 띠철근을 배근한 경우	$\alpha\beta\lambda$	$1.25\alpha\beta\lambda$
기 타	$1.5\alpha\beta\lambda$	$1.88\alpha\beta\lambda$

여기서 α, β, λ는 다음과 같이 구할 수 있다.

① α = 철근배근 위치계수

- 상 부 철 근 : 1.3
- 기 타 철 근 : 1.0

② β = 에폭시 도막계수

- 도막되지 않은 철근 : 1.0

③ λ = 경량콘크리트계수

- 일반콘크리트 : 1.0

④ γ = 철근 또는 철선의 크기계수

- D19 이하의 철근과 이형철선 : 0.8
- D22 이상의 철근 : 1.0

⑤ c = 철근간격 또는 피복두께에 관련된 치수

- 철근 또는 철선의 중심으로부터 콘크리트 표면까지의 최단거리 또는 정착되는 철근 또는 철선의 중심 간 거리의 1/2 중 작은 값 : 6 cm

⑥ K_{tr} = 횡방향 철근지수 : 0

라) 정착길이(l_d)

f_{ck} = 240 kgf/cm^2 , f_y = 3,000 kgf/cm^2

① 상부철근

철근호칭 (mm)	직 경 (cm)	보정된 정착길이 (cm)	계산에 의한 정착길이 (cm)	적용 정착길이 (cm)
D13	1.27	49	16	49
D16	1.59	61	25	61
D19	1.91	74	35	74
D22	2.22	107	59	107
D25	2.54	122	78	122
D29	2.86	137	98	137
D32	3.18	153	121	153

② 기타철근

철근호칭 (mm)	직 경 (cm)	보정된 정착길이 (cm)	계산에 의한 정착길이 (cm)	적용 정착길이 (cm)
D13	1.27	38	12	38
D16	1.59	47	19	47
D19	1.91	57	27	57
D22	2.22	82	46	82
D25	2.54	94	60	94
D29	2.86	106	76	106
D32	3.18	118	94	118

2) 압축이형철근의 정착길이

가) 정착길이(l_d)는 기본정착길이(l_{db})에 적용 가능한 보정계수를 곱하여 구한다. 이때 구한 정착길이는 항상 20cm 이상이어야 한다.

나) 기본정착길이 $l_{db} = \dfrac{0.08 d_b f_y}{\sqrt{f_{ck}}}$

다만, 이 값은 $0.004 d_b f_y$ 이상이어야 한다.

다) 압축에 대한 보정계수

· 해석결과 요구되는 철근량을 초과하여 배근한 경우 : (소요As / 배근As)

철근호칭 (mm)	직 경 (cm)	기본정착길이 (cm)	최소정착길이 (cm)	적용 정착길이 (cm)
D13	1.27	20	15	20
D16	1.59	25	19	25
D19	1.91	30	23	30
D22	2.22	35	27	35
D25	2.54	40	30	40
D29	2.86	45	34	45
D32	3.18	50	38	50

나. 이음길이

1) 인장 이형철근의 이음길이

가) 인장 이형철근의 겹침이음길이는 A급, B급으로 분류하며 다음 값 이상으로 하여야 한다. 단, 30cm 이상이어야 한다.

① A급 이음 : $1.0l_d$

② B급 이음 : $1.3l_d$

나) 겹침이음에서 A급 이음과 B급 이음은 다음과 같이 분류한다.

① A급 이음 : 배근된 철근량이 이음부 전체 구간에서 해석결과 요구되는 소요철근량의 2배 이상이고 소요 겹침이음길이 내 겹침이음된 철근량이 전체 철근량의 1/2 이하인 경우

② B급 이음 : ①에 해당되지 않는 경우

다. 철근의 피복두께

콘크리트 라이닝은 숏크리트와 방수막에 의하여 흙과 직접 접하지 않는 콘크리트구조물로서 D35 이하인 철근을 사용할 경우 20mm이상이면 된다. 단, 내화를 필요로 하는 구조물의 피복두께는 30mm이상으로 한다.

8.2.4 배력철근비의 검토

가. 수축·온도철근비

1) 수축·온도철근으로 배근되는 이형철근은 다음의 철근비 이상으로 하여야 한다. 그러나 어떤 경우에 있어서도 철근비는 0.0014 이상이어야 한다.

가) 설계기준항복강도가 4,000kgf/cm^2 이하인 경우 ····· 0.0020

나) 0.0035의 항복변형률에서 측정한 철근의 설계기준항복강도가 4,000kgf/cm^{2}를 초과한 경우 ····· 0.0020×4,000/fy

2) 수축·온도철근의 간격은 슬래브 두께의 5배 이하, 또한 40cm 이하로 하여야 한다.

나. 최소 철근비

1) 벽체의 전체 단면적에 대한 최소 수평철근비는 다음 각 항에 따라야 한다

가) 설계기준항복강도가 4,000kgf/cm^2 이상으로서 D16 이하의 이형철근 ····· 0.0020

나) 기타 이형철근 ····· 0.0025

다) 지름 16mm 이하의 용접철망 ····· 0.0020

2) 수직 및 수평철근의 간격은 벽두께의 3배 이하, 또한 40cm 이하로 하여야 한다.

콘크리트 단면		수축 및 온도철근비에 따른 철근량 (cm^2)	최소 철근비에 따른 철근량 (cm^2)	적용 철근량 (cm^2)
폭 (cm)	높이 (cm)			
100	45	p = 0.0020 As = 9.00	p = 0.0025 As = 11.25	D16@250 × 2 As = 15.888

다) 겹침이음길이

fck = 240 kgf/㎠ , 피복 = 6 cm , 철근간격 = 12.5 cm											
fck = 240 kgf/㎠				인장철근				압축철근			
				일반철근		상부철근		일반	폐합		
				이음의등급		이음의등급			띠철근	나선철근	
철근호칭	철근직경 (cm)	철근단면적 (㎠)	fy (kgf/㎠)	A급 (Ld)	B급 1.3(Ld)	A급 (Ld)	B급 1.3(Ld)	(Ld)	0.83 (Ld)	0.75 (Ld)	
D13	1.27	1.267	3000	30	30	30	39	30	30	30	
			4000	30	39	39	51	36	30	30	
D16	1.59	1.986	3000	30	37	37	49	34	30	30	
			4000	38	49	49	64	45	38	34	
D19	1.91	2.865	3000	34	44	44	58	41	35	31	
			4000	45	59	59	77	54	45	41	
D22	2.22	3.871	3000	50	64	64	84	47	40	36	
			4000	66	85	85	111	63	53	48	
D25	2.54	5.067	3000	60	78	78	102	54	45	41	
			4000	80	103	103	134	72	60	54	
D29	2.86	6.424	3000	76	98	98	128	61	51	46	
			4000	101	131	131	171	81	68	61	
D32	3.18	7.942	3000	94	121	121	158	67	56	51	
			4000	125	162	162	211	90	75	68	

8.3 2차원 콘크리트 라이닝 구조해석

8.3.1 콘크리트 라이닝 거푸집 탈형 시기 검토 (무근 구간)

가. 설계조건

1) 설계기준 : [거푸집은 부어 넣은 콘크리트의 강도가 fck = 30 kgf/cm2 이상 발현된 후 또는 콘크리트 라이닝의 자중을 견딜 수 있는 강도가 발현된 후 제거하여야 한다.] - 터널 표준시방서 -

2) 설계방법 : 허용응력설계법

3) 콘크리트

① 설계기준강도 :	f_{ck} =	30		kgf/cm^2
	f_{ca} = 0.40f_{ck} =	12.0		kgf/cm^2
	f_{ta} = 0.42$\sqrt{f_{ck}}$ =	2.3		kgf/cm^2
	τ_a = 0.25$\sqrt{f_{ck}}$ =	1.4		kgf/cm^2
② 탄 성 계 수 :	E_c = 15,000$\sqrt{f_{ck}}$ =	8.22E+04		kgf/cm^2
③ 단 위 중 량 :	γ_c =	2.35	tonf/m^3	

3) 지 반

① 단 위 중 량 :	γ_R =	2.40	tonf/m^3
② 탄 성 계 수 :	E_R =	4.30E+06	tonf/m^2

나. 참고문헌

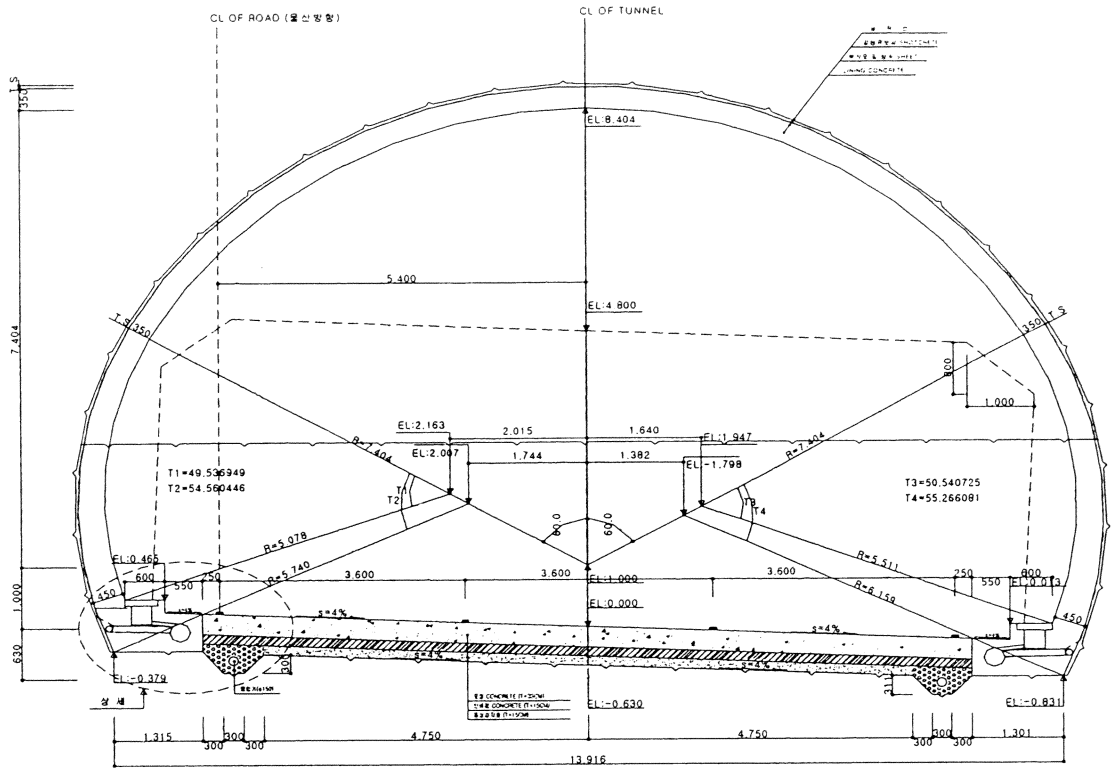
1) 콘크리트구조설계기준(건설교통부)

2) 콘크리트표준시방서(건설교통부)

3) 터널표준시방서(건설교통부)

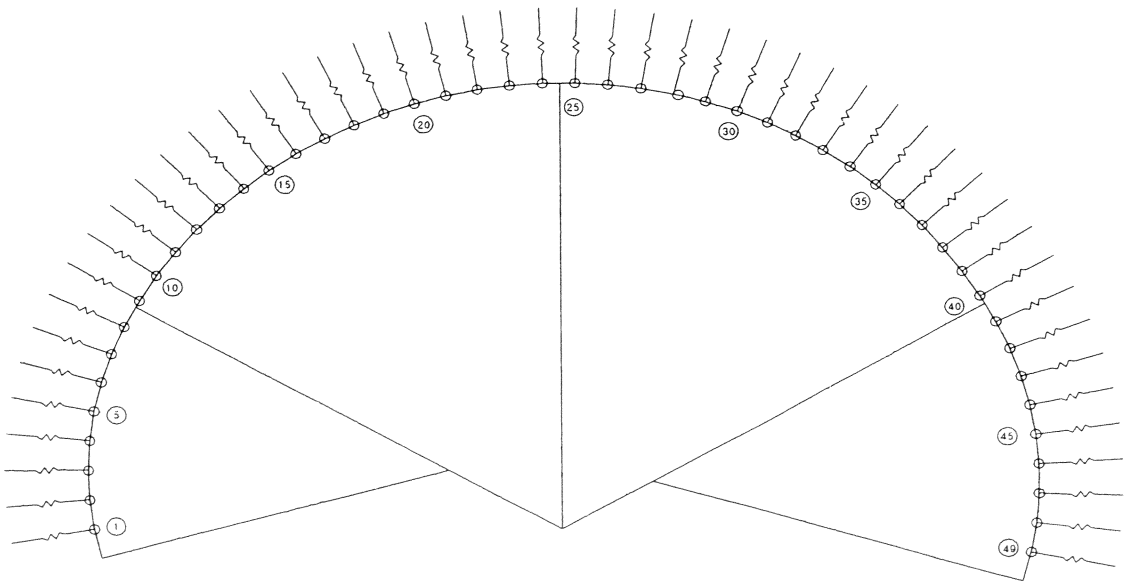
4) 도로교표준시방서(건설교통부)

다. 터널단면



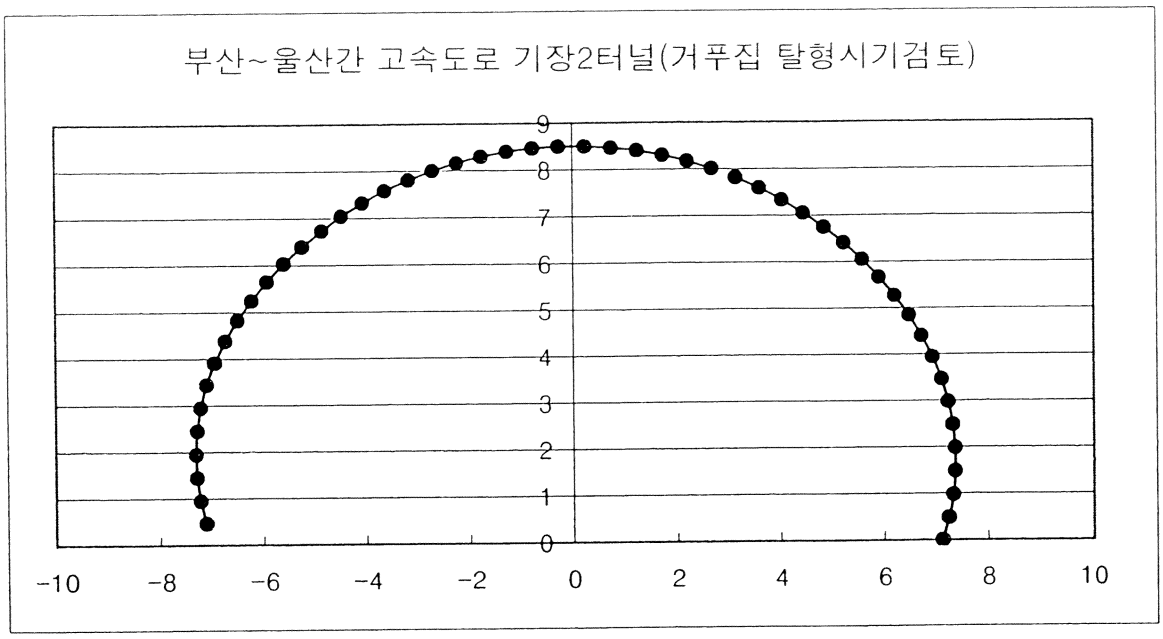
라. 모델링

1) Coordinate



2) 절점좌표

절 점	X(m)	Z(m)	절 점	X(m)	Z(m)
1	-7.110	0.457	31	2.693	8.010
2	-7.221	0.948	32	3.157	7.816
3	-7.288	1.446	33	3.607	7.591
4	-7.309	1.949	34	4.042	7.337
5	-7.285	2.452	35	4.458	7.055
6	-7.215	2.950	36	4.855	6.745
7	-7.101	3.440	37	5.230	6.410
8	-6.943	3.917	38	5.583	6.051
9	-6.743	4.379	39	5.911	5.670
10	-6.502	4.820	40	6.212	5.267
11	-6.229	5.243	41	6.487	4.845
12	-5.929	5.647	42	6.730	4.405
13	-5.602	6.030	43	6.937	3.946
14	-5.251	6.390	44	7.104	3.472
15	-4.877	6.727	45	7.231	2.985
16	-4.482	7.037	46	7.316	2.489
17	-4.066	7.321	47	7.359	1.988
18	-3.633	7.577	48	7.361	1.485
19	-3.184	7.803	49	7.319	0.984
20	-2.720	7.999	50	7.236	0.487
21	-2.245	8.164	51	7.112	0.000
22	-1.760	8.297			
23	-1.267	8.398			
24	-0.768	8.465			
25	-0.266	8.500			
26	0.237	8.500			
27	0.739	8.468			
28	1.238	8.403			
29	1.731	8.304			
30	2.217	8.173			



3) 부재단면

구분	B(m)	H(m)	A(m^2)	I(m^4)	부재번호
1	1.000	0.425	0.425	6.397E-03	1~3, 48~50
2	1.000	0.375	0.375	4.395E-03	4~9, 41~47
3	1.000	0.350	0.350	3.573E-03	10 ~ 40

4) 지반스프링계수

내부라이닝과 지반과의 실제 거동을 고려하기 위하여 모든 인장 스프링 요소는 반복계산을 통하여 제거시킴.

$$k = \frac{E}{R} \times A = \frac{E}{R} \times L \times 1.0$$

여기서,

E : 터널 주변 암반의 탄성계수 (4,300,000 $tonf/m^2$)

R : 터널라이닝 등가반경

L : 요소점유길이

구분	탄성계수 E($tonf/m^2$)	터널반경 R(m)	부재길이 L(m)	지반스프링계수 k($tonf/m^2$)	비 고 (스프링번호)
1	4,300,000	6.173	0.755	525,583	2, 50
2	4,300,000	6.173	0.503	350,388	3~4, 48~49
3	4,300,000	6.173	0.503	350,388	4~9, 42~47
4	4,300,000	6.173	0.503	350,388	10~41

5) 하중 작용도

마. 작용하중

1) 자 중

단위중량 γ_c = 2.35 tonf/m^3 (PROGRAM 내에서 자동계산)

바. 하중조합

CASE 1 = 1.0 × 자중

사. 구조계산 결과

구 분	모멘트(tonf · m)	축 력(tonf)	전단력(tonf)	비 고
측벽부	0.23	12.45	0.49	1 번 부재
아치부	0.32	6.91	0.23	15번 부재
천단부	0.36	5.37	0.21	25번 부재

아. 단면력도

CASE 1 = 1.0 × 자중

*별첨 참조

자. 단면 검토

1) 측벽부

P = 12.45 tonf M = 0.23 tonf · m V = 0.49 tonf

단 면 : A = 0.425 m^2 , Z = 0.030 m^3

$$f = \frac{P}{A} \pm \frac{M}{Z}$$

$$= \frac{12.45}{0.425} + \frac{0.23}{0.030} = 36.961 \quad tonf/m^2 \quad (\text{압축})$$

$$= \frac{12.45}{0.425} - \frac{0.23}{0.030} = 21.627 \quad tonf/m^2 \quad (\text{압축})$$

$\therefore$ fc = 36.961 $tonf/m^2$ < fca = 120 $tonf/m^2$ O.K

fc = 21.627 $tonf/m^2$ < fca = 120 $tonf/m^2$ O.K

$$\tau = \frac{V}{A}$$

$$= \frac{0.49}{0.425} = 1.153 \quad tonf/m^2 < \tau_a = 14 \quad tonf/m^2$$ O.K

2) 아치부

P = 6.91 tonf M = 0.32 tonf · m V = 0.23 tonf

단 면 : A = 0.350 m^2 , Z = 0.020 m^3

$$f = \frac{P}{A} \pm \frac{M}{Z}$$

$$= \frac{6.91}{0.350} + \frac{0.32}{0.020} = 35.743 \quad tonf/m^2 \quad (\text{압축})$$

$$= \frac{6.91}{0.350} - \frac{0.32}{0.020} = 3.743 \quad tonf/m^2 \quad (\text{압축})$$

$\therefore$ fc = 35.743 $tonf/m^2$ < fca = 120 $tonf/m^2$ O.K

fc = 3.743 $tonf/m^2$ < fca = 120 $tonf/m^2$ O.K

$$\tau = \frac{V}{A}$$

$$= \frac{0.23}{0.350} = 0.657 \quad tonf/m^2 < \tau_a = 14 \quad tonf/m^2$$ O.K

3) 천단부

P = 5.37 tonf M = 0.36 tonf · m V = 0.21 tonf

단 면 : A = 0.350 m^2 , Z = 0.020 m^3

$$f = \frac{P}{A} \pm \frac{M}{Z}$$

$$= \frac{5.37}{0.350} + \frac{0.36}{0.020} = 33.343 \quad tonf/m^2 \quad (\text{압축})$$

$$= \frac{5.37}{0.350} - \frac{0.36}{0.020} = -2.657 \quad tonf/m^2 \quad (\text{인장})$$

$\therefore$ fc = 33.343 $tonf/m^2$ < fca = 120 $tonf/m^2$ O.K

ft = 2.657 $tonf/m^2$ < fta = 23 $tonf/m^2$ O.K

$$\tau = \frac{V}{A}$$

$$= \frac{0.21}{0.350} = 0.600 \quad tonf/m^2 < \tau_a = 14 \quad tonf/m^2$$ O.K

4) 균열검토

$f_t < 0.6f_{ta} = 13.8 \quad tonf/m^2$

휨모멘트 및 축방향력에 대한 콘크리트의 인장응력이 설계인장강도의 60%보다 작으므로 휨균열에 대한 검토를 하지 않아도 됨.

5) 검토 결론

- 발생응력에 대해 검토한 결과 설계기준강도 fck = 30 kgf/cm2 내에 존재하므로 안정.

- ACI Committee 209 에서는 임의 시간에서 Con'c 압축강도를 28일 기준으로 다음과 같이 나타내고 있다.

$$fc'(t) = \frac{t}{(a+bt)}\ fc'(28)$$

여기서 fc'(28) : 28일 콘크리트 압축강도

a , b : 시멘트 종류와 양생방법에 따라 결정되는 상수

(보통 Con'c , 습윤양생시 a= 4.0 b= 0.85)

t : 양생일수 3 일

- 탈형시점인 3일후의 Con'c 강도 fc'(3) = 109.9 kgf/cm2

- 따라서 거푸집 탈형시기의 강도를 30 kgf/cm2 으로 고려할때 거푸집 탈형시의 라이닝의 안정에는 문제가 없는것으로 판단됨.

8.3.2 본선(3차로) 무근 콘크리트 라이닝 단면(TYPE : 1~4)

가. 설계조건

1) 설계방법 : 허용응력설계법

2) 콘크리트

① 설계기준강도 :	f_{ck} =	240		kgf/cm^2
	f_{ca} = $0.40f_{ck}$ =	96.0		kgf/cm^2
	f_{ta} = $0.42\sqrt{f_{ck}}$ =	6.5		kgf/cm^2
	τ_a = $0.25\sqrt{f_{ck}}$ =	3.9		kgf/cm^2
② 탄 성 계 수 :	E_c = $15{,}000\sqrt{f_{ck}}$ =	2.32E+05		kgf/cm^2
③ 단 위 중 량 :	γ_c =	2.35		tonf/m^3

3) 지 반

① 단 위 중 량 :	γ_R =	2.68	tonf/m^3
② 탄 성 계 수 :	E_R =	4.30E+06	tonf/m^2

나. 참고문헌

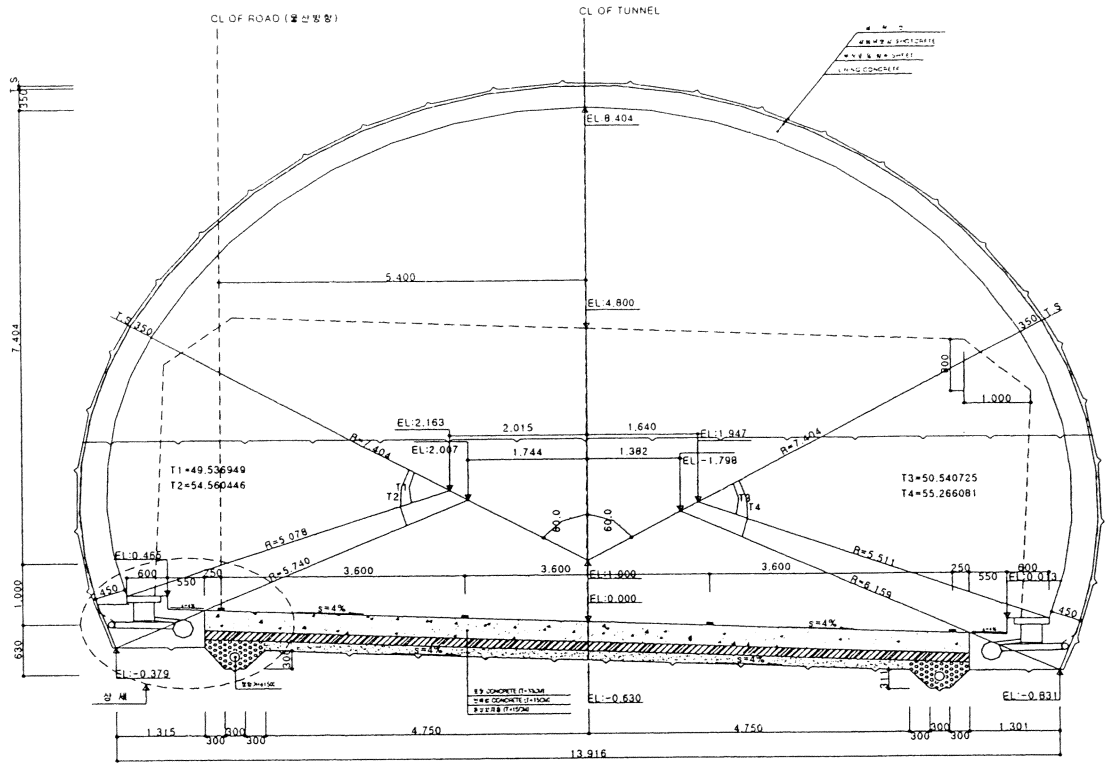
1) 콘크리트구조설계기준(건설교통부)

2) 콘크리트표준시방서(건설교통부)

3) 터널표준시방서(건설교통부)

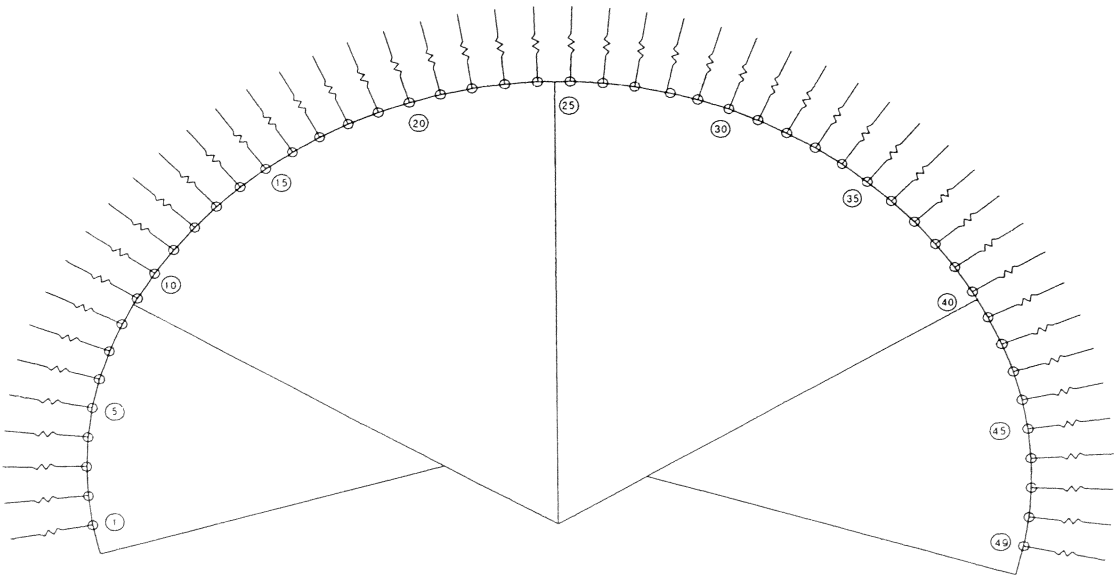
4) 도로교표준시방서(건설교통부)

다. 터널단면



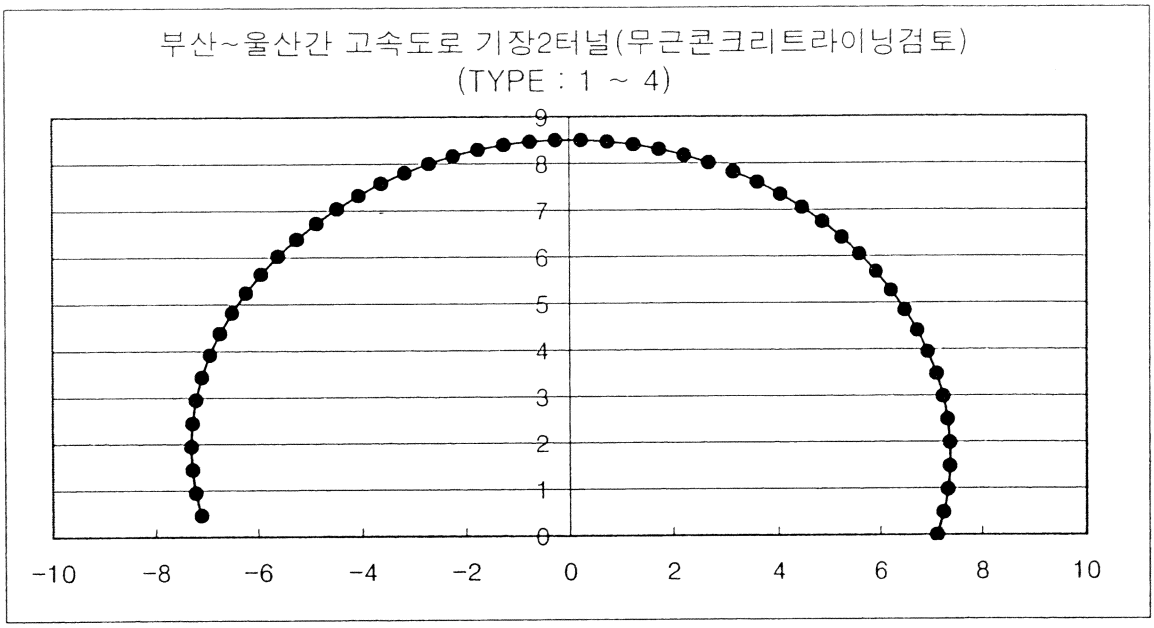
라. 모델링

1) Coordinate



2) 절점좌표

절 점	X(m)	Z(m)	절 점	X(m)	Z(m)
1	-7.110	0.457	31	2.693	8.010
2	-7.221	0.948	32	3.157	7.816
3	-7.288	1.446	33	3.607	7.591
4	-7.309	1.949	34	4.042	7.337
5	-7.285	2.452	35	4.458	7.055
6	-7.215	2.950	36	4.855	6.745
7	-7.101	3.440	37	5.230	6.410
8	-6.943	3.917	38	5.583	6.051
9	-6.743	4.379	39	5.911	5.670
10	-6.502	4.820	40	6.212	5.267
11	-6.229	5.243	41	6.487	4.845
12	-5.929	5.647	42	6.730	4.405
13	-5.602	6.030	43	6.937	3.946
14	-5.251	6.390	44	7.104	3.472
15	-4.877	6.727	45	7.231	2.985
16	-4.482	7.037	46	7.316	2.489
17	-4.066	7.321	47	7.359	1.988
18	-3.633	7.577	48	7.361	1.485
19	-3.184	7.803	49	7.319	0.984
20	-2.720	7.999	50	7.236	0.487
21	-2.245	8.164	51	7.112	0.000
22	-1.760	8.297			
23	-1.267	8.398			
24	-0.768	8.465			
25	-0.266	8.500			
26	0.237	8.500			
27	0.739	8.468			
28	1.238	8.403			
29	1.731	8.304			
30	2.217	8.173			



3) 부재단면

구분	B(m)	H(m)	A(m^2)	I(m^4)	부재번호
1	1.000	0.425	0.425	6.397E-03	1~3, 48~50
2	1.000	0.375	0.375	4.395E-03	4~9, 41~47
11	1.000	0.350	0.350	3.573E-03	10 ~ 40

4) 지반스프링계수

내부라이닝과 지반과의 실제 거동을 고려하기 위하여 모든 인장 스프링 요소는 반복계산을 통하여 제거시킴.

$$k = \frac{E}{R} \times A = \frac{E}{R} \times L \times 1.0$$

여기서,

E : 터널 주변 암반의 탄성계수 (4,300,000 $tonf/m^2$)

R : 터널라이닝 등가반경

L : 요소점유길이

구분	탄성계수 E($tonf/m^2$)	터널반경 R(m)	부재길이 L(m)	지반스프링계수 k($tonf/m^2$)	비 고 (스프링번호)
1	4,300,000	6.173	0.755	525,583	2, 50
2	4,300,000	6.173	0.503	350,388	3~4, 48~49
3	4,300,000	6.173	0.503	350,388	4~9, 42~47
4	4,300,000	6.173	0.503	350,388	10~41

마. 작용하중

1) 자 중

단위중량 γ_c = 2.35 $tonf/m^3$ (PROGRAM 내에서 자동계산)

2) 발파에 의한 암반이완하중

본선터널의 Type Ⅰ,Ⅱ,Ⅲ,Ⅳ 주변지반은 연암~경암으로써 장기적인 지반 이완의 우려가 적으므로 발파의 영향을 고려하여 이완하중(0.5m)을 적용하였다.

P_v = 0.5 × 2.68 = 1.34 $tonf/m^2$

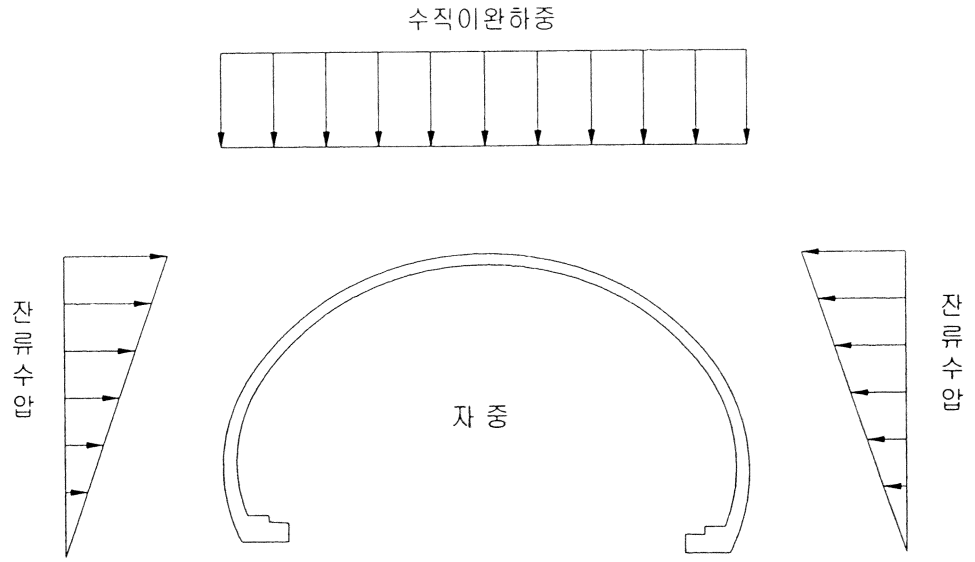
3) 잔류수압

본 터널은 배수형으로서 이론적으로는 수압이 작용하지 않으나, 유도배수층인 부직포가 시간의 경과에 따라 제 기능을 발휘하지 못할 경우 내부라이닝은 잔류수압을 받게 되므로 다음과 같이 잔류수압을 터널 높이에 적용 하였다.

$Q = 0.5 \times Ht \times \gamma_w$

절 점	Z(m):보정	수압	절 점	Z(m):보정	수압
1	0.000	0.000	27	8.468	4.234
2	0.491	0.245	28	8.403	4.201
3	0.989	0.495	29	8.304	4.152
4	1.492	0.746	30	8.173	4.086
5	1.994	0.997	31	8.010	4.005
6	2.493	1.246	32	7.816	3.908
7	2.982	1.491	33	7.591	3.795
8	3.460	1.730	34	7.337	3.668
9	3.921	1.961	35	7.055	3.527
10	4.363	2.181	36	6.745	3.373
11	4.786	2.393	37	6.410	3.205
12	5.190	2.595	38	6.051	3.026
13	5.572	2.786	39	5.670	2.835
14	5.933	2.966	40	5.267	2.633
15	6.269	3.135	41	4.845	2.423
16	6.580	3.290	42	4.405	2.203
17	6.864	3.432	43	3.946	1.973
18	7.120	3.560	44	3.472	1.736
19	7.346	3.673	45	2.985	1.493
20	7.542	3.771	46	2.489	1.245
21	7.707	3.854	47	1.988	0.994
22	7.840	3.920	48	1.485	0.743
23	7.941	3.970	49	0.984	0.492
24	8.008	4.004	50	0.487	0.244
25	8.043	4.021	51	0.000	0.000
26	8.500	4.250			

5) 하중 작용도



바. 하중조합

CASE 1 = 1.0 × 자중 + 1.0 × 발파암반이완하중 + 1.0 x 잔류수압

사. 구조계산 결과

구 분	모멘트(tonf · m)	축 력(tonf)	전단력(tonf)	비 고
측벽부	0.32	17.58	0.58	1 번 부재
아치부	0.51	10.85	0.72	16번 부재
천단부	0.59	8.75	0.51	25번 부재

아. 단면력도

CASE 1 = 1.0 × 자중 + 1.0 × 발파암반이완하중 + 1.0 x 잔류수압

*별첨 참조

자. 단면 검토

1) 측벽부

P = 17.58 tonf M = 0.32 tonf · m V = 0.58 tonf

단 면 : A = 0.425 m^2 , Z = 0.030 m^3

$$f = \frac{P}{A} \pm \frac{M}{Z}$$

$$= \frac{17.58}{0.425} + \frac{0.32}{0.030} = 52.031 \quad tonf/m^2 \quad (\text{압축})$$

$$= \frac{17.58}{0.425} - \frac{0.32}{0.030} = 30.698 \quad tonf/m^2 \quad (\text{압축})$$

∴ fc = 52.031 $tonf/m^2$ < fca = 960 $tonf/m^2$ O.K

fc = 30.698 $tonf/m^2$ < fca = 960 $tonf/m^2$ O.K

$$\tau = \frac{V}{A}$$

$$= \frac{0.58}{0.425} = 1.365 \quad tonf/m^2 < \tau_a = 39 \quad tonf/m^2$$ O.K

2) 아치부

P = 10.85 tonf M = 0.51 tonf · m V = 0.72 tonf

단 면 : A = 0.350 m^2 , Z = 0.020 m^3

$$f = \frac{P}{A} \pm \frac{M}{Z}$$

$$= \frac{10.85}{0.350} + \frac{0.51}{0.020} = 56.500 \quad tonf/m^2 \quad (\text{압축})$$

$$= \frac{10.85}{0.350} - \frac{0.51}{0.020} = 5.500 \quad tonf/m^2 \quad (\text{압축})$$

∴ fc = 56.500 $tonf/m^2$ < fca = 960 $tonf/m^2$ O.K

fc = 5.500 $tonf/m^2$ < fca = 960 $tonf/m^2$ O.K

$$\tau = \frac{V}{A}$$

$$= \frac{0.72}{0.350} = 2.057 \quad tonf/m^2 < \tau_a = 39 \quad tonf/m^2$$ O.K

3) 천단부

P = 8.75 tonf M = 0.59 tonf · m V = 0.51 tonf

단 면 : A = 0.350 m^2 , Z = 0.020 m^3

$$f = \frac{P}{A} \pm \frac{M}{Z}$$

$$= \frac{8.75}{0.350} + \frac{0.59}{0.020} = 54.500 \quad tonf/m^2 \quad (\text{ 압축 })$$

$$= \frac{8.75}{0.350} - \frac{0.59}{0.020} = -4.500 \quad tonf/m^2 \quad (\text{ 인장 })$$

$\therefore$ fc = 54.500 $tonf/m^2$ < fca = 960 $tonf/m^2$ O.K

ft = 4.500 $tonf/m^2$ < fta = 65 $tonf/m^2$ O.K

$$\tau = \frac{V}{A}$$

$$= \frac{0.51}{0.350} = 1.457 \quad tonf/m^2 < \tau_a = 39 \quad tonf/m^2 \quad \text{O.K}$$

4) 균열검토

$f_t < 0.6f_{ta} = 39.04 \ tonf/m^2$

휨모멘트 및 축방향력에 대한 콘크리트의 인장응력이 설계인장강도의 60%보다 작으므로 휨균열에 대한 검토를 하지 않아도 됨.

8.3.3 본선(3차로) 무근 콘크리트 라이닝 단면(TYPE : 5)

가. 설계조건

1) 설계방법 : 허용응력설계법

2) 콘크리트

① 설계기준강도 :	f_{ck} =		240	kgf/cm^2
	f_{ca} =	0.40f_{ck} =	96.0	kgf/cm^2
	f_{ta} =	0.42$\sqrt{f_{ck}}$ =	6.5	kgf/cm^2
	τ_a =	0.25$\sqrt{f_{ck}}$ =	3.9	kgf/cm^2
② 탄 성 계 수 :	E_c =	15,000$\sqrt{f_{ck}}$ =	2.32E+05	kgf/cm^2
③ 단 위 중 량 :	γ_c =	2.35	tonf/m^3	

3) 지 반

① 단 위 중 량 :	γ_R =	2.51	tonf/m^3
② 탄 성 계 수 :	E_R =	4.30E+04	tonf/m^2

나. 참고문헌

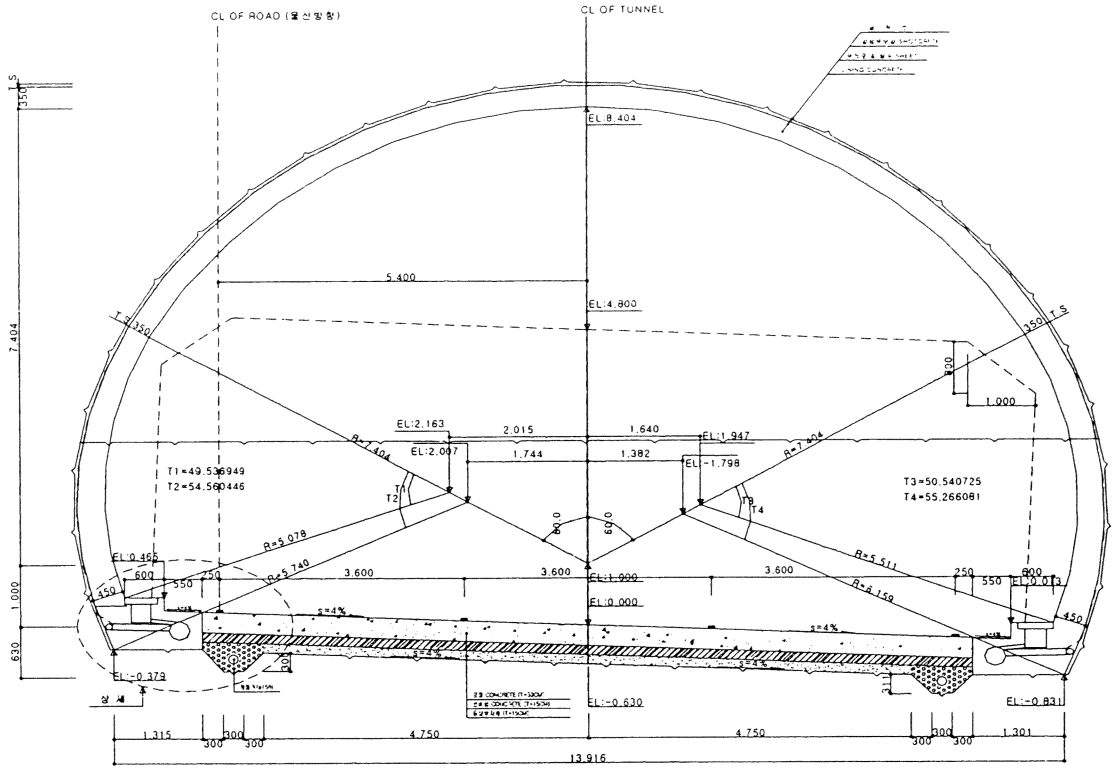
1) 콘크리트구조설계기준(건설교통부)

2) 콘크리트표준시방서(건설교통부)

3) 터널표준시방서(건설교통부)

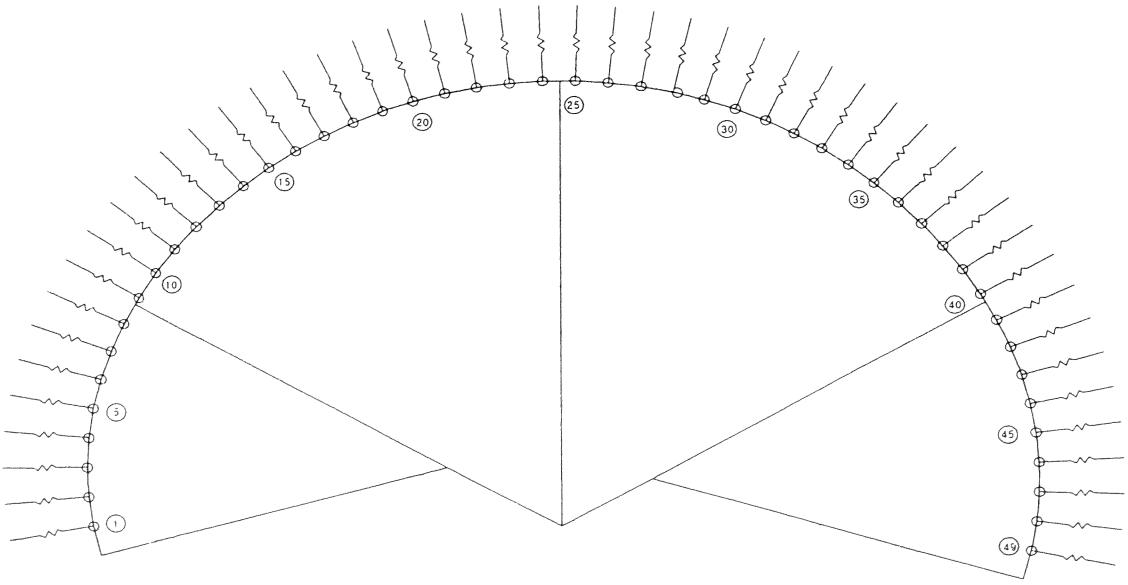
4) 도로교표준시방서(건설교통부)

다. 터널단면



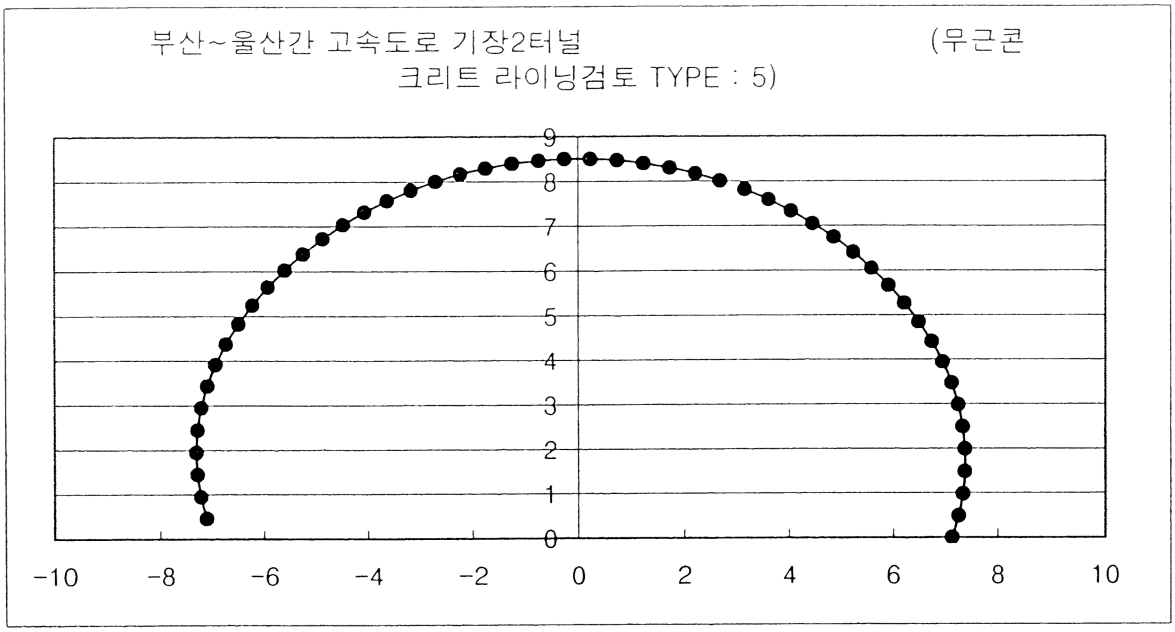
라. 모델링

1) Coordinate



2) 절점좌표

절 점	X(m)	Z(m)	절 점	X(m)	Z(m)
1	-7.110	0.457	31	2.693	8.010
2	-7.221	0.948	32	3.157	7.816
3	-7.288	1.446	33	3.607	7.591
4	-7.309	1.949	34	4.042	7.337
5	-7.285	2.452	35	4.458	7.055
6	-7.215	2.950	36	4.855	6.745
7	-7.101	3.440	37	5.230	6.410
8	-6.943	3.917	38	5.583	6.051
9	-6.743	4.379	39	5.911	5.670
10	-6.502	4.820	40	6.212	5.267
11	-6.229	5.243	41	6.487	4.845
12	-5.929	5.647	42	6.730	4.405
13	-5.602	6.030	43	6.937	3.946
14	-5.251	6.390	44	7.104	3.472
15	-4.877	6.727	45	7.231	2.985
16	-4.482	7.037	46	7.316	2.489
17	-4.066	7.321	47	7.359	1.988
18	-3.633	7.577	48	7.361	1.485
19	-3.184	7.803	49	7.319	0.984
20	-2.720	7.999	50	7.236	0.487
21	-2.245	8.164	51	7.112	0.000
22	-1.760	8.297			
23	-1.267	8.398			
24	-0.768	8.465			
25	-0.266	8.500			
26	0.237	8.500			
27	0.739	8.468			
28	1.238	8.403			
29	1.731	8.304			
30	2.217	8.173			



3) 부재단면

구분	B(m)	H(m)	A(m^2)	I(m^4)	부재번호
1	1.000	0.425	0.425	6.397E-03	1~3, 48~50
2	1.000	0.375	0.375	4.395E-03	4~9, 41~47
11	1.000	0.350	0.350	3.573E-03	10 ~ 40

4) 지반스프링계수

내부라이닝과 지반과의 실제 거동을 고려하기 위하여 모든 인장 스프링 요소는 반복계산을 통하여 제거시킴.

$$k = \frac{E}{R} \times A = \frac{E}{R} \times L \times 1.0$$

여기서,

E : 터널 주변 암반의 탄성계수 (43,000 $tonf/m^2$)

R : 터널라이닝 등가반경

L : 요소점유길이

구분	탄성계수 E($tonf/m^2$)	터널반경 R(m)	부재길이 L(m)	지반스프링계수 k($tonf/m^2$)	비 고 (스프링번호)
1	43,000	6.173	0.755	5,256	2, 50
2	43,000	6.173	0.503	3,504	3~4, 48~49
3	43,000	6.173	0.503	3,504	4~9, 42~47
4	43,000	6.173	0.503	3,504	10~41

마. 작용하중

1) 자 중

단위중량 γ_c = 2.35 $tonf/m^3$ (PROGRAM 내에서 자동계산)

2) 암반이완하중

- 수정된 Terzaghi의 암반하중

패턴 V,VI 구간을 보통 정도의 블록상,균열상의 암반상태로 분류하여 적용

Hp = 0.25B ~ 0.20(B+Ht)

= 0.25 × 13.92 ~ 0.2 (13.92 + 9.38)

= 3.48 ~ 4.66 m

∴ 암반이완하중고 Hp = 4.66 m를 고려

- $Pv = Hp \times \gamma_R$

이완하중 (Pv) = 4.66 m × 2.51 = 11.697 ton/m^3

절 점	암반이완 하중고(m)	암반이완하중 (tonf/m2)	절 점	암반이완 하중고(m)	암반이완하중 (tonf/m2)
1	-	-	27	4.692	11.776
2	-	-	28	4.758	11.941
3	-	-	29	4.856	12.189
4	-	-	30	4.987	12.518
5	10.709	26.878	31	5.150	12.927
6	10.210	25.628	32	5.345	13.415
7	9.720	24.398	33	5.569	13.979
8	9.243	23.199	34	5.823	14.616
9	8.781	22.041	35	6.106	15.325
10	8.340	20.933	36	6.415	16.101
11	7.917	19.872	37	6.750	16.942
12	7.513	18.858	38	7.109	17.843
13	7.130	17.897	39	7.491	18.801
14	6.770	16.992	40	7.893	19.812
15	6.434	16.148	41	8.315	20.870
16	6.123	15.368	42	8.755	21.975
17	5.839	14.655	43	9.214	23.126
18	5.583	14.014	44	9.688	24.317
19	5.357	13.446	45	10.175	25.539
20	5.161	12.953	46	10.671	26.784
21	4.996	12.539	47	-	-
22	4.863	12.206	48	-	-
23	4.762	11.953	49	-	-
24	4.695	11.784	50	-	-
25	4.660	11.697	51	-	-
26	4.660	11.697			

3) 내·외측 온도하중(T_1)

갱구부 구조물이 외부와 가까워 기상작용에 영향을 받으므로 온도에 대한 영향을 구조해석 단계에서 고려한다.

갱구부 콘크리트 라이닝의 내·외면 온도차(Δt) 는 ±5℃를 적용한다.

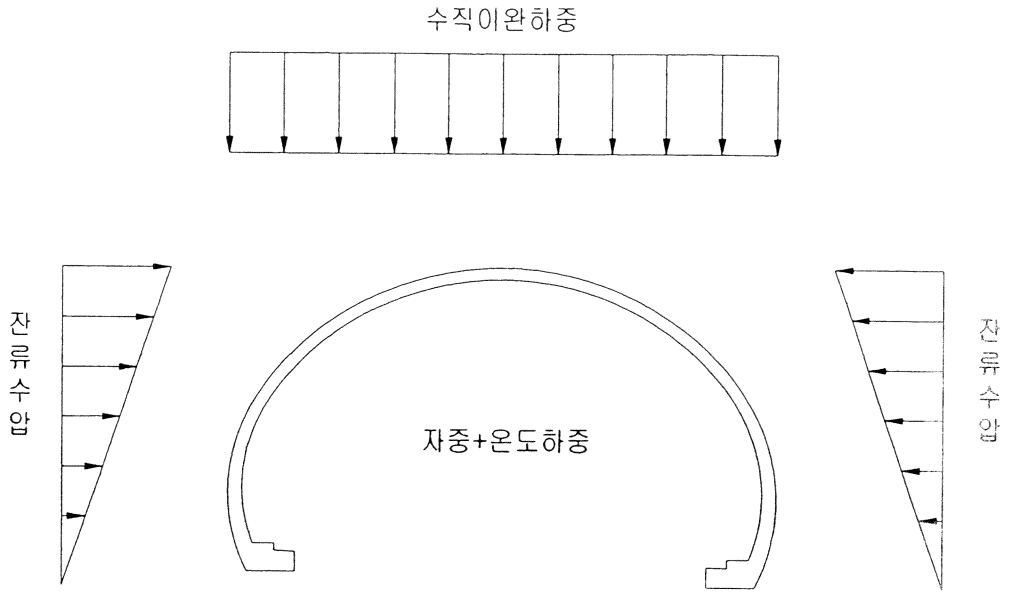
4) 잔류수압

본 터널은 배수형으로서 이론적으로는 수압이 작용하지 않으나, 유도배수층인 부직포가 시간의 경과에 따라 제 기능을 발휘하지 못할 경우 내부라이닝은 잔류수압을 받게 되므로 다음과 같이 잔류수압을 터널 높이에 적용 하였다.

$Q = 0.5 \times Ht \times \gamma w$

절 점	Z(m):보정	수압	절 점	Z(m):보정	수압
1	0.000	0.000	27	8.468	4.234
2	0.491	0.245	28	8.403	4.201
3	0.989	0.495	29	8.304	4.152
4	1.492	0.746	30	8.173	4.086
5	1.994	0.997	31	8.010	4.005
6	2.493	1.246	32	7.816	3.908
7	2.982	1.491	33	7.591	3.795
8	3.460	1.730	34	7.337	3.668
9	3.921	1.961	35	7.055	3.527
10	4.363	2.181	36	6.745	3.373
11	4.786	2.393	37	6.410	3.205
12	5.190	2.595	38	6.051	3.026
13	5.572	2.786	39	5.670	2.835
14	5.933	2.966	40	5.267	2.633
15	6.269	3.135	41	4.845	2.423
16	6.580	3.290	42	4.405	2.203
17	6.864	3.432	43	3.946	1.973
18	7.120	3.560	44	3.472	1.736
19	7.346	3.673	45	2.985	1.493
20	7.542	3.771	46	2.489	1.245
21	7.707	3.854	47	1.988	0.994
22	7.840	3.920	48	1.485	0.743
23	7.941	3.970	49	0.984	0.492
24	8.008	4.004	50	0.487	0.244
25	8.043	4.021	51	0.000	0.000
26	8.500	4.250			

5) 하중 작용도



바. 하중조합

CASE 1 = 1.0 × 자중 + 1.0 × 발파암반이완하중 + 1.0 x 온도하중(+5℃)

CASE 2 = 1.0 × 자중 + 1.0 × 발파암반이완하중 + 1.0 x 온도하중(-5℃)

CASE 3 = 1.0 × 자중 + 1.0 × 발파암반이완하중 + 1.0 x 온도하중(+5℃) + 1.0 x 잔류수압

CASE 4 = 1.0 × 자중 + 1.0 × 발파암반이완하중 + 1.0 x 온도하중(-5℃) + 1.0 x 잔류수압

사. 구조계산 결과

구 분	모멘트(tonf · m)	축 력(tonf)	전단력(tonf)	비 고
측벽부	24.9	207.63	36.75	2 번 부재
아치부	7.70	119.13	6.55	14번 부재
천단부	7.75	114.37	3.82	25번 부재

아. 단면력도

CASE 1 = 1.0 × 자중 + 1.0 × 발파암반이완하중 + 1.0 x 온도하중(+5℃)

CASE 2 = 1.0 × 자중 + 1.0 × 발파암반이완하중 + 1.0 x 온도하중(-5℃)

CASE 3 = 1.0 × 자중 + 1.0 × 발파암반이완하중 + 1.0 x 온도하중(+5℃) + 1.0 x 잔류수압

CASE 4 = 1.0 × 자중 + 1.0 × 발파암반이완하중 + 1.0 x 온도하중(-5℃) + 1.0 x 잔류수압

*별첨 참조

자. 단면 검토

1) 측벽부

P = 207.63 tonf M = 24.9 tonf · m V = 36.75 tonf

단 면 : A = 0.425 m^2 , Z = 0.030 m^3

$$f = \frac{P}{A} \pm \frac{M}{Z}$$

$$= \frac{207.63}{0.425} + \frac{24.9}{0.030} = 1318.541 \text{ tonf/m}^2 \quad (\text{압축})$$

$$= \frac{207.63}{0.425} - \frac{24.9}{0.030} = -341.459 \text{ tonf/m}^2 \quad (\text{인장})$$

∴ fc = 1318.541 $tonf/m^2$ > fca = 960 $tonf/m^2$ N.G

ft = 341.459 $tonf/m^2$ > fta = 65 $tonf/m^2$ N.G

$$\tau = \frac{V}{A}$$

$$= \frac{36.75}{0.425} = 86.471 \text{ tonf/m}^2 > \tau_a = 39 \text{ tonf/m}^2$$ N.G

2) 아치부

P = 119.13 tonf M = 7.70 tonf · m V = 6.55 tonf

단 면 : A = 0.350 m^2 , Z = 0.020 m^3

$$f = \frac{P}{A} \pm \frac{M}{Z}$$

$$= \frac{119.13}{0.350} + \frac{7.70}{0.020} = 725.371 \text{ tonf/m}^2 \quad (\text{압축})$$

$$= \frac{119.13}{0.350} - \frac{7.70}{0.020} = -44.629 \text{ tonf/m}^2 \quad (\text{인장})$$

∴ fc = 725.371 $tonf/m^2$ < fca = 960 $tonf/m^2$ O.K

ft = 44.629 $tonf/m^2$ < fta = 65 $tonf/m^2$ O.K

$$\tau = \frac{V}{A}$$

$$= \frac{6.55}{0.350} = 18.714 \text{ tonf/m}^2 < \tau_a = 39 \text{ tonf/m}^2$$ O.K

3) 천단부

P = 114.37 tonf　　M = 7.75 tonf · m　　V = 3.82 tonf

단 면 : A = 0.350 m^2 ,　　Z = 0.020 m^3

$$f = \frac{P}{A} \pm \frac{M}{Z}$$

$$= \frac{114.37}{0.350} + \frac{7.75}{0.020} = 714.271 \quad tonf/m^2 \quad (\text{압축})$$

$$= \frac{114.37}{0.350} - \frac{7.75}{0.020} = -60.729 \quad tonf/m^2 \quad (\text{인장})$$

$\therefore$ fc = 714.271 $tonf/m^2$ < fca = 960 $tonf/m^2$　　O.K

ft = 60.729 $tonf/m^2$ < fta = 65 $tonf/m^2$　　O.K

$$\tau = \frac{V}{A}$$

$$= \frac{3.82}{0.350} = 10.914 \quad tonf/m^2 < \tau_a = 39 \quad tonf/m^2 \qquad O.K$$

자. 검토결과

단면검토결과 인장응력이 허용응력을 초과하여 발생하므로 철근을 보강하여 인장응력에 저항하도록 설계에 반영함.

8.3.4 본선(3차로) 철근 콘크리트 라이닝 단면(패턴Ⅴ,Ⅵ)

가. 설계조건

1) 설계방법 : 강도설계법

2) 콘크리트

① 설계기준강도 : f_{ck} = 240 kgf/cm^2

② 탄 성 계 수 : $E_c = 15{,}000\sqrt{f_{ck}}$ = 2.32E+05 kgf/cm^2

③ 단 위 중 량 : γ_c = 2.50 tonf/m^3

④ 온도 선팽창계수 : $\alpha = 1.0\times10^{-5}$

3) 철 근(SD30)

① 항복강도 : f_y = 3000 kgf/cm^2

② 탄성계수 : E_s = 2.00E+06 kgf/cm^2

4) 지 반

① 단 위 중 량 : γ_R = 2.51 tonf/m^3

② 탄 성 계 수 : E_R = 4.30E+04 tonf/m^2

나. 참고문헌

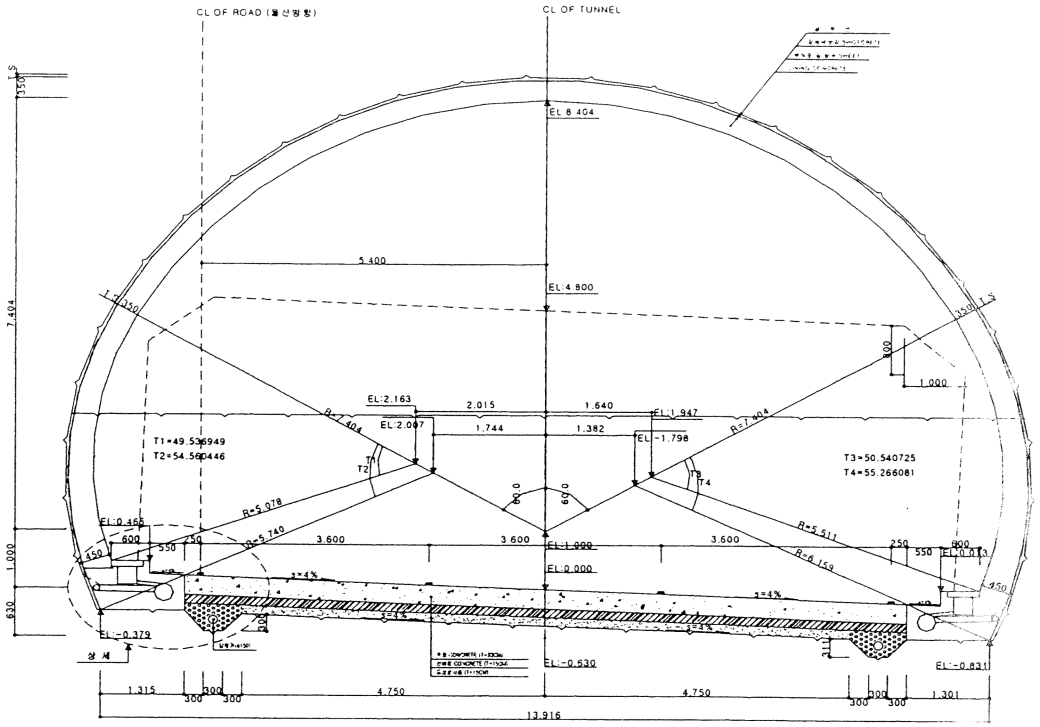
1) 콘크리트구조설계기준(건설교통부)

2) 콘크리트표준시방서(건설교통부)

3) 터널표준시방서(건설교통부)

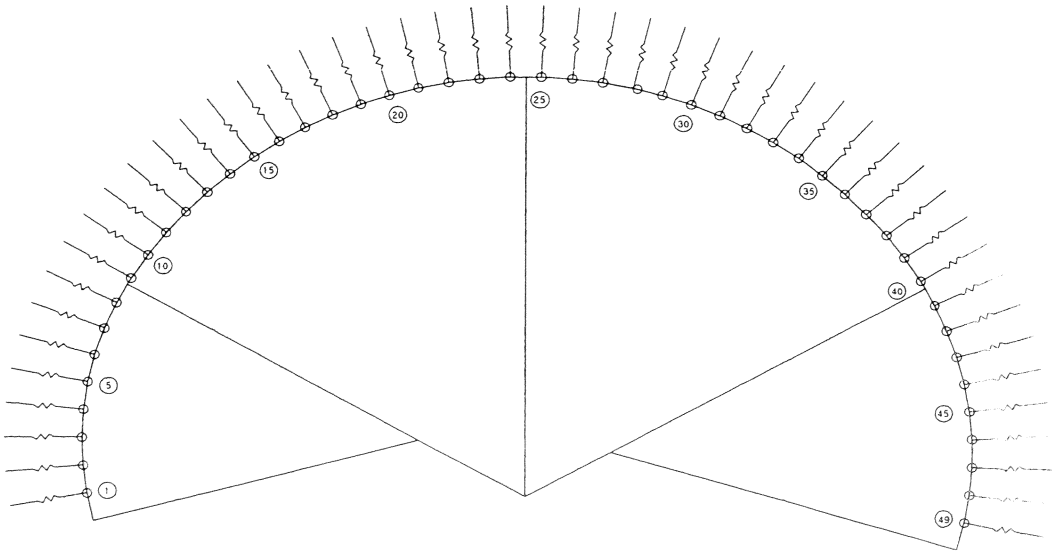
4) 도로교표준시방서(건설교통부)

다. 터널단면



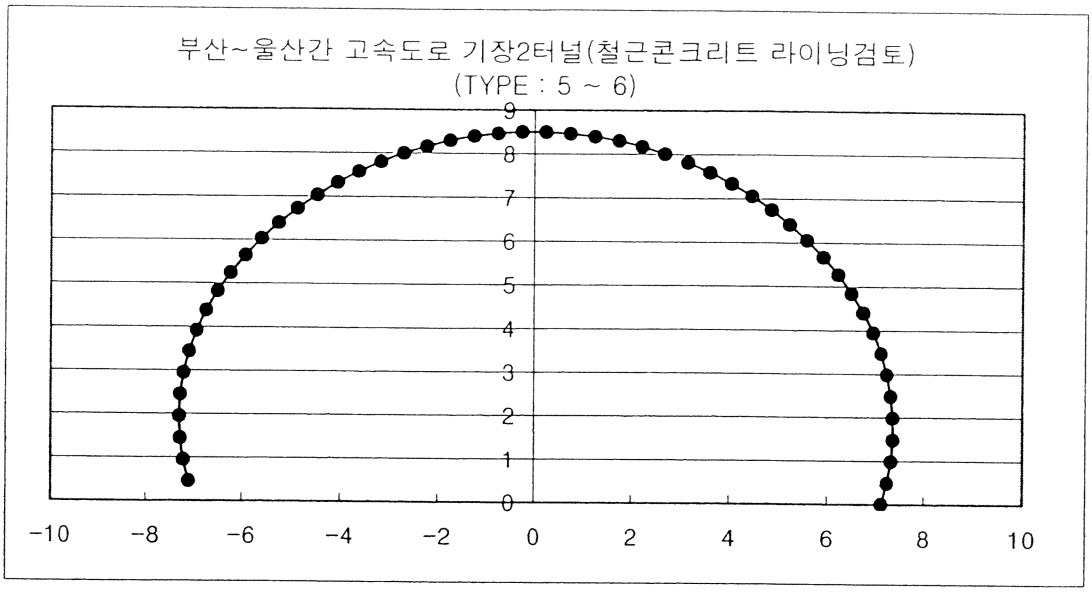
라. 모델링

1) Coordinate



2) 절점좌표

절 점	X(m)	Z(m)	절 점	X(m)	Z(m)
1	-7.110	0.457	31	2.693	8.010
2	-7.221	0.948	32	3.157	7.816
3	-7.288	1.446	33	3.607	7.591
4	-7.309	1.949	34	4.042	7.337
5	-7.285	2.452	35	4.458	7.055
6	-7.215	2.950	36	4.855	6.745
7	-7.101	3.440	37	5.230	6.410
8	-6.943	3.917	38	5.583	6.051
9	-6.743	4.379	39	5.911	5.670
10	-6.502	4.820	40	6.212	5.267
11	-6.229	5.243	41	6.487	4.845
12	-5.929	5.647	42	6.730	4.405
13	-5.602	6.030	43	6.937	3.946
14	-5.251	6.390	44	7.104	3.472
15	-4.877	6.727	45	7.231	2.985
16	-4.482	7.037	46	7.316	2.489
17	-4.066	7.321	47	7.359	1.988
18	-3.633	7.577	48	7.361	1.485
19	-3.184	7.803	49	7.319	0.984
20	-2.720	7.999	50	7.236	0.487
21	-2.245	8.164	51	7.112	0.000
22	-1.760	8.297			
23	-1.267	8.398			
24	-0.768	8.465			
25	-0.266	8.500			
26	0.237	8.500			
27	0.739	8.468			
28	1.238	8.403			
29	1.731	8.304			
30	2.217	8.173			



3) 부재단면

구분	B(m)	H(m)	A(m^2)	I(m^4)	부재번호
1	1.000	0.425	0.425	6.397E-03	1~3, 48~50
2	1.000	0.375	0.375	4.395E-03	4~9, 41~47
11	1.000	0.350	0.350	3.573E-03	10 ~ 40

4) 지반스프링계수

내부라이닝과 지반과의 실제 거동을 고려하기 위하여 모든 인장 스프링 요소는 반복계산을 통하여 제거시킴.

$$k = \frac{E}{R} \times A = \frac{E}{R} \times L \times 1.0$$

여기서,

E : 터널 주변 암반의 탄성계수 (4.30E+04 $tonf/m^2$)

R : 터널라이닝 등가반경

L : 요소점유길이

구분	탄성계수 E($tonf/m^2$)	터널반경 R(m)	부재길이 L(m)	지반스프링계수 k($tonf/m^2$)	비 고 (스프링번호)
1	4.30E+04	6.173	0.755	5,256	2, 50
2	4.30E+04	6.173	0.503	3,504	3~4, 48~49
3	4.30E+04	6.173	0.503	3,504	4~9, 42~47
4	4.30E+04	6.173	0.503	3,504	10~41

마. 작용하중

1) 자 중(D)

단위중량 γ_c = 2.50 tonf/m^3 (PROGRAM 내에서 자동계산)

2) 암반이완하중

– 수정된 Terzaghi의 암반하중

패턴 V,VI 구간을 보통 정도의 블록상,균열상의 암반상태로 분류하여 적용

Hp = 0.25B ~ 0.20(B+Ht)

= 0.25 × 13.92 ~ 0.2 (13.92 + 9.38)

= 3.48 ~ 4.66 m

∴ 암반이완하중고 Hp = 4.66 m를 고려

– Pv = Hp × γ_R

이완하중 (Pv) = 4.66 m × 2.51 = 11.697 ton/m^3

절 점	암반이완 하중고(m)	암반이완하중 (tonf/m2)	절 점	암반이완 하중고(m)	암반이완하중 (tonf/m2)
1	–	–	27	4.692	11.776
2	–	–	28	4.758	11.941
3	–	–	29	4.856	12.189
4	–	–	30	4.987	12.518
5	10.709	26.878	31	5.150	12.927
6	10.210	25.628	32	5.345	13.415
7	9.720	24.398	33	5.569	13.979
8	9.243	23.199	34	5.823	14.616
9	8.781	22.041	35	6.106	15.325
10	8.340	20.933	36	6.415	16.101
11	7.917	19.872	37	6.750	16.942
12	7.513	18.858	38	7.109	17.843
13	7.130	17.897	39	7.491	18.801
14	6.770	16.992	40	7.893	19.812
15	6.434	16.148	41	8.315	20.870
16	6.123	15.368	42	8.755	21.975
17	5.839	14.655	43	9.214	23.126
18	5.583	14.014	44	9.688	24.317
19	5.357	13.446	45	10.175	25.539
20	5.161	12.953	46	10.671	26.784
21	4.996	12.539	47	–	–
22	4.863	12.206	48	–	–
23	4.762	11.953	49	–	–
24	4.695	11.784	50	–	–
25	4.660	11.697	51	–	–
26	4.660	11.697			

3) 내·외측 온도하중(T_1)

갱구부 구조물이 외부와 가까워 기상작용에 영향을 받으므로 온도에 대한 영향을 구조해석 단계에서 고려한다.

갱구부 콘크리트 라이닝의 내·외면 온도차(Δt) 는 ±5℃를 적용한다.

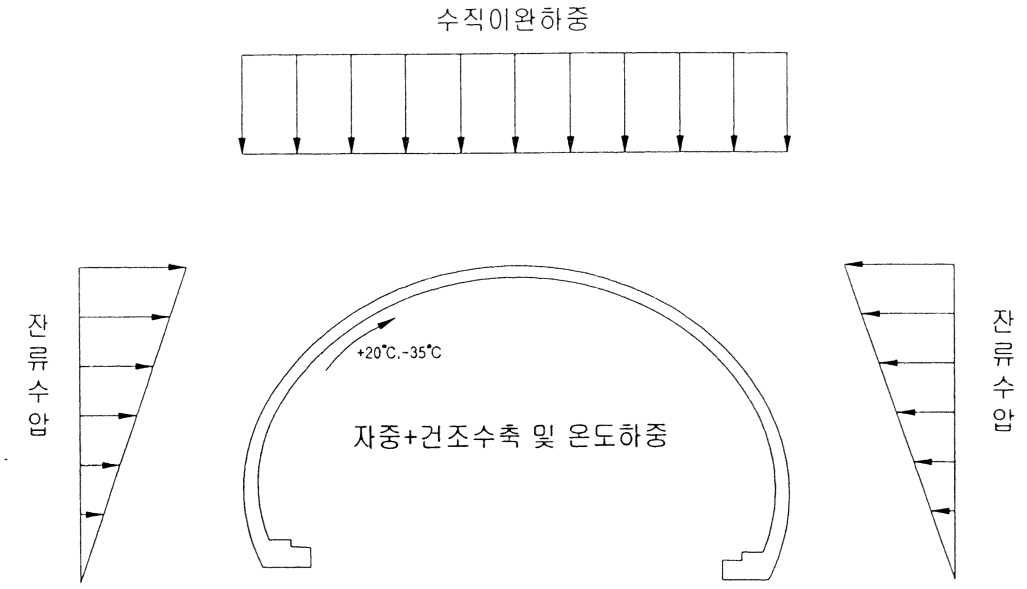
4) 잔류수압(H)

본 터널은 배수형으로서 이론적으로는 수압이 작용하지 않으나, 유도배수층인 부직포가 시간의 경과에 따라 제 기능을 발휘하지 못할 경우 내부라이닝은 잔류수압을 받게 되므로 다음과 같이 잔류수압을 터널 높이에 적용 하였다.

$Q = 0.5 \times Ht \times \gamma w$

절 점	Z(m):보정	수압	절 점	Z(m):보정	수압
1	0.000	0.000	27	8.468	4.234
2	0.491	0.245	28	8.403	4.201
3	0.989	0.495	29	8.304	4.152
4	1.492	0.746	30	8.173	4.086
5	1.994	0.997	31	8.010	4.005
6	2.493	1.246	32	7.816	3.908
7	2.982	1.491	33	7.591	3.795
8	3.460	1.730	34	7.337	3.668
9	3.921	1.961	35	7.055	3.527
10	4.363	2.181	36	6.745	3.373
11	4.786	2.393	37	6.410	3.205
12	5.190	2.595	38	6.051	3.026
13	5.572	2.786	39	5.670	2.835
14	5.933	2.966	40	5.267	2.633
15	6.269	3.135	41	4.845	2.423
16	6.580	3.290	42	4.405	2.203
17	6.864	3.432	43	3.946	1.973
18	7.120	3.560	44	3.472	1.736
19	7.346	3.673	45	2.985	1.493
20	7.542	3.771	46	2.489	1.245
21	7.707	3.854	47	1.988	0.994
22	7.840	3.920	48	1.485	0.743
23	7.941	3.970	49	0.984	0.492
24	8.008	4.004	50	0.487	0.244
25	8.043	4.021	51	0.000	0.000
26	8.500	4.250			

5) 하중 작용도



바. 하중조합

CASE 1 = 1.54 × 자중 + 1.8 × 발파암반이완하중 + 1.5 x 온도하중(+5℃)

CASE 2 = 1.54 × 자중 + 1.8 × 발파암반이완하중 + 1.5 x 온도하중(-5℃)

CASE 3 = 1.54 × 자중 + 1.8 × 발파암반이완하중 + 1.5 x 온도하중(+5℃)
+ 1.8 x 잔류수압 + 1.5 x 건조수축 및 계절별온도하중(+20℃)

CASE 4 = 1.54 × 자중 + 1.8 × 발파암반이완하중 + 1.5 x 온도하중(-5℃)
+ 1.8 x 잔류수압 + 1.5 x 건조수축 및 계절별온도하중(-35℃)

CASE 5 = 1.0 × 자중 + 1.0 × 발파암반이완하중 + 1.0 x 온도하중(+5℃)

CASE 6 = 1.0 × 자중 + 1.0 × 발파암반이완하중 + 1.0 x 온도하중(-5℃)

CASE 7 = 1.0 × 자중 + 1.0 × 발파암반이완하중 + 1.0 x 온도하중(+5℃)
+ 1.0 x 잔류수압 + 1.0 x 온도수축 및 계절별온도하중(+20℃)

CASE 8 = 1.0 × 자중 + 1.0 × 발파암반이완하중 + 1.0 x 온도하중(-5℃)
+ 1.0 x 잔류수압 + 1.0 x 온도수축 및 계절별온도하중(-35℃)

사. 구조계산 결과

구 분	모멘트 (tonf · m)	축 력 (tonf)	전단력 (tonf)	사용하중 모멘트 (tonf · m)
측벽부	32.68	378.31	20.66	18.34
아치부	29.29	376.36	18.65	15.21
천단부	16.18	187.64	17.90	9.19

아. 단면력도

1) CASE 1 = 1.54 × 자중 + 1.8 × 발파암반이완하중 + 1.5 x 온도하중(+5℃)

2) CASE 2 = 1.54 × 자중 + 1.8 × 발파암반이완하중 + 1.5 x 온도하중(-5℃)

3) CASE 3 = 1.54 × 자중 + 1.8 × 발파암반이완하중 + 1.5 x 온도하중(+5℃)
+ 1.8 x 잔류수압 + 1.5 x 건조수축 및 계절별온도하중(+20℃)

4) CASE 4 = 1.54 × 자중 + 1.8 × 발파암반이완하중 + 1.5 x 온도하중(-5℃)
+ 1.8 x 잔류수압 + 1.5 x 건조수축 및 계절별온도하중(-35℃)

5) CASE 5 = 1.0 × 자중 + 1.0 × 발파암반이완하중 + 1.0 x 온도하중(+5℃)

6) CASE 6 = + 1.0 x 잔류수압 + 1.0 x 온도수축 및 계절별온도하중(+20℃)

7) CASE 7 = 1.0 × 자중 + 1.0 × 발파암반이완하중 + 1.0 x 온도하중(-5℃)
+ 1.0 x 잔류수압 + 1.0 x 온도수축 및 계절별온도하중(-35℃)

8) CASE 8 = 1.0 × 자중 + 1.0 × 발파암반이완하중 + 1.0 x 온도하중(-5℃)
+ 1.0 x 잔류수압 + 1.0 x 온도수축 및 계절별온도하중(-35℃)

자. 단면검토

콘크리트 설계기준강도 f_{ck} = 240 kgf/cm^2 , 철근항복강도 f_y = 3000 kgf/cm^2
등가직사각형 응력분포의 깊이를 구하기 위한 유효길이 계수 β_1 = 0.85
압축 강도감소계수 Φ_c = 0.70 휨 강도감소계수 Φ_f = 0.85
전단 강도감소계수 Φ_v = 0.80

1) 측벽부

설계단면력 : 모멘트 Mu = 32.68 tonf.m 축 력 Pu = 378.31 tonf
전단력 Vu = 20.66 tonf

편심 e = Mu*100/Pu = 8.64 cm

사용단면 : 두께 H = 42.50 cm 폭 B = 100.00 cm

인장철근 : D 22 @ 125 (8.00 EA , As = 30.97 cm^2)
철근중심 dc = 6.00 cm , 유효두께 d = H - dc = 36.50 cm

압축철근 : D 22 @ 125 (8.00 EA , As' = 30.97 cm^2)
철근중심 d' = 6.00 cm

◎ 평형하중 산정

- 소성중심

Cc = 0.85*fck*Ag = 867000 kgf
C_{s1} = As*fy = 92910 kgf C_{s2} = As'*(fy-0.85*fck) = 86592 kgf
Xp = [Cc*H/2+Cs1*dc+Cs2*(H-d')]/(Cc+Cs1+Cs2) = 21.16 cm
d" = Xp - h + d = 15.16 cm

- 평형상태

c_b = 6000/(6000+fy)*d = 24.33 cm a_b = β_1 * c_b = 20.68 cm
fs' = 6000*(cb-d')/cb = 4520 kgf/cm^2 > fy ⇒ fs' = fy
Cc = 0.85*fck*ab*B = 421872 kgf
T = As * fy = 92910 kgf
Cs = As' *(fs' - 0.85*fck) = 86592 kgf

- 평형하중 및 편심

Pb = Cc + Cs + T = 415554 kgf = 415.55 tonf
Mb = Cc*(d - a_b/2 - d") + Cs*(d - d' - d") + T*d" = 7377429 kgf.cm
= 73.77 tonf.m
e_b = Mb/Pb = 17.75 cm
e_b > e ⇒ 압축파괴

◎ 공칭강도

c = 33.69 cm , a = β_1 * c = 28.64 cm 라 가정하면

fs = 6000*(d-c)/c = 500.45 kgf/cm^2 < fy

fs' = 6000*(c-d')/c = 4931.43 kgf/cm^2 > fy ⇒ fs' = fy

Cc = 0.85 * fck * a * B = 584195 kgf

Cs = As'*(fs' - 0.85*fck) = 86592 kgf

T = As * fs = 15499 kgf

Pn = Cc + Cs - T = 655288 kgf = 655.29 tonf

$M_{n'}$ = Cc *(d - a/2) + Cs *(d - d') = 15599377 kgf.cm = 155.99 tonf.m

e' = e + d" = 23.80 cm

오차 = | e' - Mn'/Pn | = 0.005 cm < 0.01 --------가정만족

◎ 강도 검토

Φc * Pn = 458.7 tonf > Pu = 378.31 tonf ---- 만 족

Φc * Mn = Φc *(Pn*e) = 39.63 tonf.m > Mu = 32.68 tonf.m -- 만 족

◎ 철근비 검토

- 최소철근비 검토

철근항복강도 fy < 4000 kg/cm^2 사용 철근직경 (D22) > 16 mm(최소철근직경)

사용 철근비 ρ = (As+As')/(B*H) = 0.0146 ≥ 최소철근비 = 0.0015

----- 만 족

◎ 전단 설계

Φ_v * Vc = Φv*0.53*(1+0.0071*Pu/Ag)*√(fck)*B*d/1000 = 39.13 tonf

Vu ≤ Φ_v * Vc ------- 전단보강철근 필요없음.

2) 아치부

설계단면력 : 모멘트 Mu = 29.29 tonf.m 축 력 Pu = 376.36 tonf
전단력 Vu = 18.65 tonf

편심 e = Mu*100/Pu = 7.78 cm

사용단면 : 두께 H = 37.50 cm 폭 B = 100.00 cm

인장철근 : D 22 @ 125 (8.00 EA , As = 30.97 cm^2)
철근중심 dc = 6.00 cm , 유효두께 d = H - dc = 31.50 cm

압축철근 : D 22 @ 125 (8.00 EA , As' = 30.97 cm^2)
철근중심 d' = 6.00 cm

◎ 평형하중 산정

- 소성중심

Cc = 0.85*fck*Ag = 765000 kgf
C_{s1} = As*fy = 92910 kgf C_{s2} = As'*(fy-0.85*fck) = 86592 kgf
Xp = [Cc*H/2+Cs1*dc+Cs2*(H-d')]/(Cc+Cs1+Cs2) = 18.66 cm
d" = Xp - h + d = 12.66 cm

- 평형상태

c_b = 6000/(6000+fy)*d = 21.00 cm a_b = β_1 * c_b = 17.85 cm
fs' = 6000*(cb-d')/cb = 4286 kgf/cm^2 > fy ⇒ fs' = fy
Cc = 0.85*fck*a_b*B = 364140 kgf
T = As * fy = 92910 kgf
Cs = As' *(fs' - 0.85*fck) = 86592 kgf

- 평형하중 및 편심

Pb = Cc + Cs + T = 357822 kgf = 357.82 tonf
Mb = Cc*(d - a_b/2 - d") + Cs*(d - d' - d") + T*d" = 5898530 kgf.cm
= 58.99 tonf.m

e_b = Mb/Pb = 16.48 cm

e_b > e ⇒ 압축파괴

◎ 공칭강도

c = 29.33 cm , a = β_1 * c = 24.93 cm 라 가정하면

fs = 6000*(d-c)/c = 444.13 kgf/cm^2 < fy

fs' = 6000*(c-d')/c = 4772.55 kgf/cm^2 > fy ⇒ fs' = fy

Cc = 0.85 * fck * a * B = 508572 kgf

Cs = As'*(fs' - 0.85*fck) = 86592 kgf

T = As * fs = 13755 kgf

Pn = Cc + Cs - T = 581409 kgf = 581.41 tonf

$M_{n'}$ = Cc *(d - a/2) + Cs *(d - d') = 11888764 kgf.cm = 118.89 tonf.m

e' = e + d" = 20.44 cm

오차 = | e' - Mn'/Pn | = 0.008 cm < 0.01 --------가정만족

◎ 강도 검토

Φc * Pn = 406.99 tonf > Pu = 376.36 tonf ---- 만 족

Φc * Mn = Φc *(Pn*e) = 31.66 tonf.m > Mu = 29.29 tonf.m -- 만 족

◎ 철근비 검토

- 최소철근비 검토

철근항복강도 fy < 4000 kg/cm^2 사용 철근직경 (D22) > 16 mm(최소철근직경)

사용 철근비 ρ = (As+As')/(B*H) = 0.0165 > 최소철근비 = 0.0015

----- 만 족

◎ 전단 설계

Φ_v * Vc = Φv*0.53*(1+0.0071*Pu/Ag)*√(fck)*B*d/1000 = 35.43 tonf

Vu ≤ Φ_v * Vc ------- 전단보강철근 필요없음.

3) 천단부

설계단면력 : 모멘트 Mu = 16.18 tonf.m 축 력 Pu = 187.64 tonf
전단력 Vu = 17.90 tonf

편심 e = Mu*100/Pu = 8.62 cm

사용단면 : 두께 H = 35.0 cm 폭 B = 100.0 cm

인장철근 : D 22 @ 125 (8.00 EA , As = 30.97 cm^2)
철근중심 dc = 6.00 cm , 유효두께 d = H - dc = 29.00 cm

압축철근 : D 22 @ 125 (8.00 EA , As' = 30.97 cm^2)
철근중심 d' = 6.00 cm

◎ 평형하중 산정

- 소성중심

Cc = 0.85*fck*Ag = 714000 kgf

C_{s1} = As*fy = 92910 kgf C_{s2} = As'*(fy-0.85*fck) = 86592 kgf

Xp = [Cc*H/2+Cs1*dc+Cs2*(H-d')]/(Cc+Cs1+Cs2) = 17.42 cm

d" = Xp - h + d = 11.42 cm

- 평형상태

c_b = 6000/(6000+fy)*d = 19.33 cm a_b = β_1 * c_b = 16.43 cm

fs' = 6000*(cb-d')/cb = 4138 kgf/cm^2 > fy ⇒ fs' = fy

Cc = 0.85*fck*ab*B = 335172 kgf

T = As * fy = 92910 kgf

Cs = As' *(fs' - 0.85*fck) = 86592 kgf

- 평형하중 및 편심

Pb = Cc + Cs + T = 328854 kgf = 328.85 tonf

Mb = Cc*(d - ab/2 - d") + Cs*(d - d' - d") + T*d" = 5202653 kgf.cm
= 52.03 tonf.m

e_b = Mb/Pb = 15.82 cm

e_b > e ⇒ 압축파괴

◎ 공칭강도

c = 25.35 cm , a = β_1 * c = 21.55 cm 라 가정하면

fs = 6000*(d-c)/c = 864.85 kgf/cm^2 < fy

fs' = 6000*(c-d')/c = 4579.69 kgf/cm^2 > fy ⇒ fs' = fy

Cc = 0.85 * fck * a * B = 439518 kgf

Cs = As'*(fs' - 0.85*fck) = 86592 kgf

T = As * fs = 26784 kgf

Pn = Cc + Cs - T = 499326 kgf = 499.33 tonf

$M_{n'}$ = Cc *(d - a/2) + Cs *(d - d') = 10002930 kgf.cm = 100.03 tonf.m

e' = e + d" = 20.04 cm

오차 = | e' - Mn'/Pn | = 0.007 cm < 0.01 --------가정만족

◎ 강도 검토

Φc * Pn = 349.53 tonf > Pu = 187.64 tonf ---- 만 족

Φc * Mn = Φc *(Pn*e) = 30.13 tonf.m > Mu = 16.18 tonf.m -- 만 족

◎ 철근비 검토

- 최소철근비 검토

철근항복강도 fy < 4000 kg/cm^2 사용 철근직경 (D22) > 16 mm(최소철근직경)

사용 철근비 ρ = (As+As')/(B*H) = 0.0177 > 최소철근비 = 0.0015

----- 만 족

◎ 전단 설계

Φ_v * Vc = Φv*0.53*(1+0.0071*Pu/Ag)*√(fck)*B*d/1000 = 26.30 tonf

Vu ≤ Φ_v * Vc ------- 전단보강철근 필요없음.

차. 균열 검토

콘크리트 설계기준강도 fck = 240 kgf/cm^2

철근항복강도 fy = 3000 kgf/cm^2

콘크리트 탄성계수 Ec = $15{,}000\sqrt{f_{ck}}$ = 2.32E+05 kgf/cm^2

철근의 탄성계수 Es = 2.00E+06 kgf/cm^2 탄성계수비 n = Es/Ec = 9

1) 측벽부

사용하중 모멘트 : Mo = 18.34 tonf.m

사용단면 두께 : H = 42.50 cm 폭 : B = 100.00 cm

부식에 대한 환경조건 : 습윤 환경 (0.005tc)

허용 균열폭 Wa = 0.005tc = 0.245 mm

----> t_c = 최외단철근덮개 = dc - 주철근D/2 - 전단철근D = 49.00 mm

인장철근 : D 22 @ 125 (8.00 EA , As = 30.97 cm^2)

철근중심 dc = 6.00 cm , 유효두께 d = H - dc = 36.5 cm

압축철근 : D 22 @ 125 (8.00 EA , As' = 30.97 cm^2)

철근중심 d' = 6.00 cm

인장철근비 $p = As/[(H-dc)*B]$ = 0.0085

압축철근비 $p' = As'/[(H-d')*B]$ = 0.0085

중립축비 $k = -n(p+2p') + \sqrt{[n^2(p+2p')^2 + 2n(p + 2p'*(d'/d)]}$ = 0.2764

$j = (1-d'/d) - k^2 * (k/3 - d'/d)/[2np*(1-k)]$ = 0.8855

휨균열폭 $W = 1.08 * \beta_c * f_s * \sqrt[3]{(dc*A)} / 100000$ = 0.234 mm

----> $\beta_c = (H-k*d)/(d-k*d)$ = 1.227

$f_s = Mo/(As*j*d)$ = 1832.22 kgf/cm^2

$A = 2*dc*B/$철근총갯수 = 150.00 cm^2

휨균열폭 W = 0.234 mm < 허용휨균열폭 Wa = 0.245 mm ----- 만 족

2) 아치부

사용하중 모멘트 : Mo = 15.21 tonf.m

사용단면 두께 : H = 37.50 cm 폭 : B = 100.00 cm

부식에 대한 환경조건 : 습윤 환경 (0.005tc)

허용 균열폭 Wa = 0.005tc = 0.245 mm

----> t_c = 최외단철근덮개 = dc - 주철근D/2 - 전단철근D = 49.00 mm

인장철근 : D 22 @ 125 (8.00 EA , As = 30.97 cm^2)

철근중심 dc = 6.00 cm , 유효두께 d = H - dc = 31.5 cm

압축철근 : D 22 @ 125 (8.00 EA , As' = 30.97 cm^2)

철근중심 d' = 6.00 cm

인장철근비 $p = As/[(H-dc)*B]$ = 0.0098

압축철근비 $p' = As'/[(H-d')*B]$ = 0.0098

중립축비 $k = -n(p+2p') + \sqrt{[n^2(p+2p')^2 + 2n(p + 2p'*(d'/d)]}$ = 0.2954

$j = (1-d'/d) - k^2 * (k/3 - d'/d)/[2np*(1-k)]$ = 0.8741

휨균열폭 $W = 1.08 * \beta_c * f_s * \sqrt[3]{(dc*A)} / 100000$ = 0.236 mm

----> $\beta_c = (H-k*d)/(d-k*d)$ = 1.270

$f_s = Mo/(As*j*d)$ = 1783.68 kgf/cm^2

$A = 2*dc*B/$철근총갯수 = 150.00 cm^2

휨균열폭 W = 0.236 mm < 허용휨균열폭 Wa = 0.245 mm ----- 만 족

3) 천단부

사용하중 모멘트 : Mo = 9.19 tonf.m

사용단면 두께 : H = 35.00 cm 폭 : B = 100.00 cm

부식에 대한 환경조건 : 습윤 환경 (0.005tc)

허용 균열폭 Wa = 0.005tc = 0.245 mm

----> t_c = 최외단철근덮개 = dc - 주철근D/2 - 전단철근D = 49.00 mm

인장철근 : D 22 @ 125 (8.00 EA , As = 30.97 cm^2)

철근중심 dc = 6.00 cm , 유효두께 d = H - dc = 29.0 cm

압축철근 : D 22 @ 125 (8.00 EA , As' = 30.97 cm^2)

철근중심 d' = 6.00 cm

인장철근비 $p = As/[(H-dc)*B]$ = 0.0107

압축철근비 $p' = As'/[(H-d')*B]$ = 0.0107

중립축비 $k = -n(p+2p') + \sqrt{[n^2(p+2p')^2 + 2n(p + 2p'*(d'/d)]}$ = 0.3076

$j = (1-d'/d) - k^2 * (k/3 - d'/d)/[2np*(1-k)]$ = 0.8672

휨균열폭 $W = 1.08 * \beta_c * f_s * \sqrt[3]{(dc*A)} / 100000$ = 0.160 mm

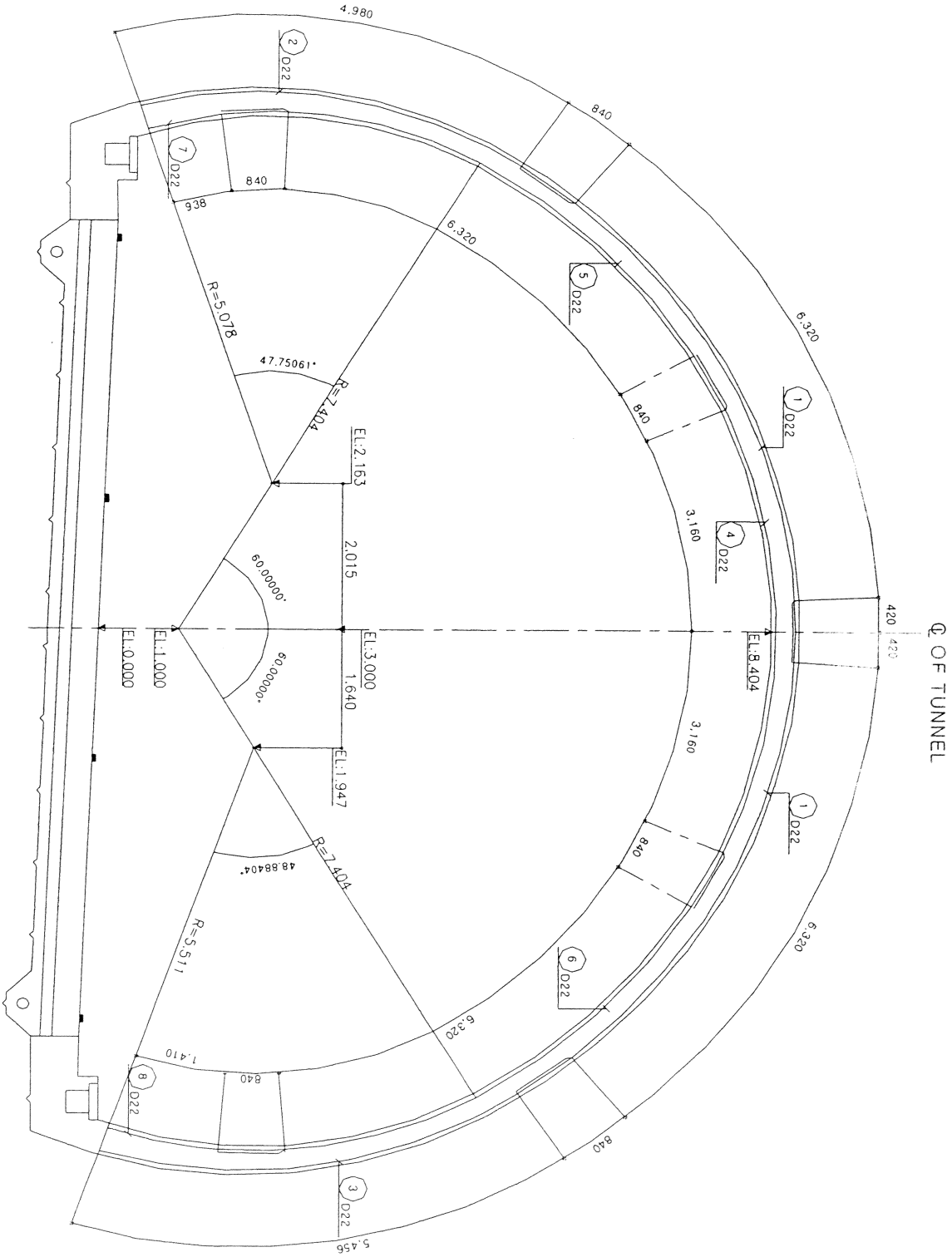
----> $\beta_c = (H-k*d)/(d-k*d)$ = 1.299

$f_s = Mo/(As*j*d)$ = 1179.93 kgf/cm^2

$A = 2*dc*B/$철근총갯수 = 150.00 cm^2

휨균열폭 W = 0.160 mm < 허용휨균열폭 Wa = 0.245 mm ----- 만 족

카. 주철근 조립도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6.320
6.320
840
938
840
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R=7.404
EL:2.163
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60.00000°
EL:0.000
EL:1.000
EL:3.000
1.640
60.00000°
EL:1.947
R=7.404
48.88404°
R=5.511
1.410
840
840
840
6.320
6.320
3.160
3.160
EL:8.404
420
420
℄ OF TUNNEL
5.456
D22

8.3.5 개착터널 구간 라이닝 검토 (토피고 = 3.0m)

가. 설계조건

1) 설계방법 : 강도설계법

2) 콘크리트

① 설계기준강도 : f_{ck} = 240 kgf/cm^2

② 탄 성 계 수 : E_c = 15,000$\sqrt{f_{ck}}$ = 2.32E+05 kgf/cm^2

③ 단 위 중 량 : γ_c = 2.50 tonf/m^3

④ 온도 선팽창계수 : α = 1.0×10^{-5}

3) 철 근(SD30)

① 항복강도 : f_y = 3000 kgf/cm^2

② 탄성계수 : E_s = 2.00E+06 kgf/cm^2

4) 지 반

① 단 위 중 량 : γ_R = 1.95 tonf/m^3

② 탄 성 계 수 : E_R = 5.60E+03 tonf/m^2

나. 참고문헌

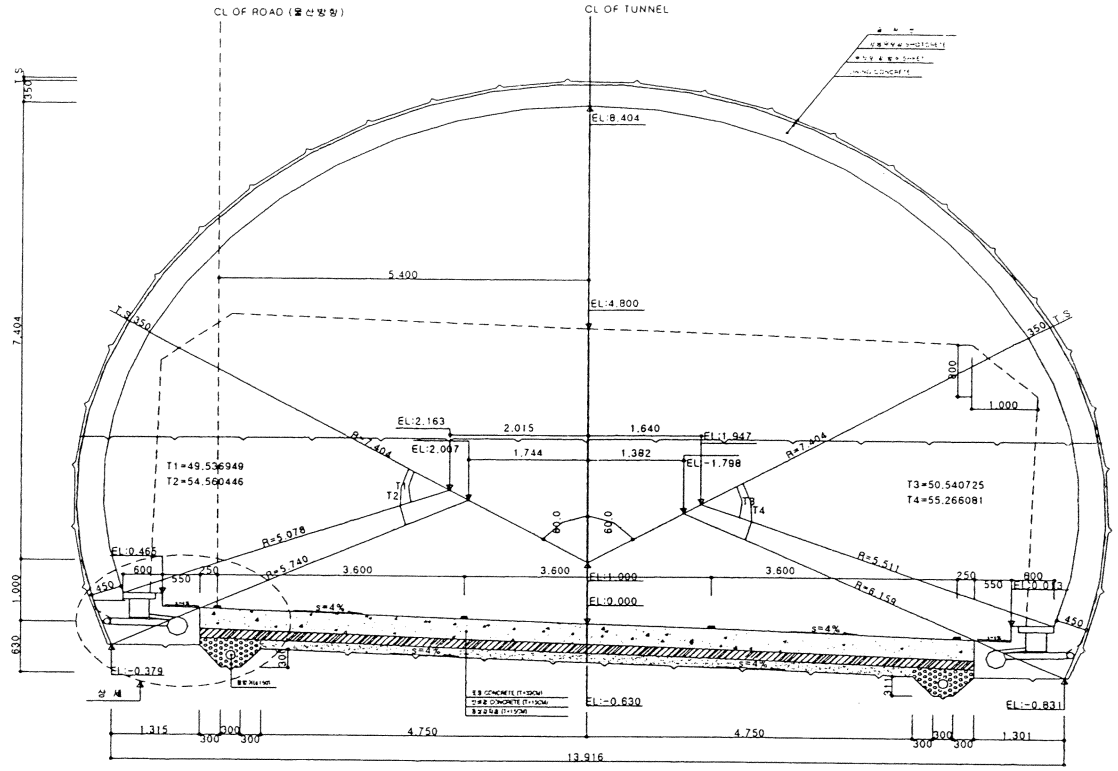
1) 콘크리트구조설계기준(건설교통부)

2) 콘크리트표준시방서(건설교통부)

3) 터널표준시방서(건설교통부)

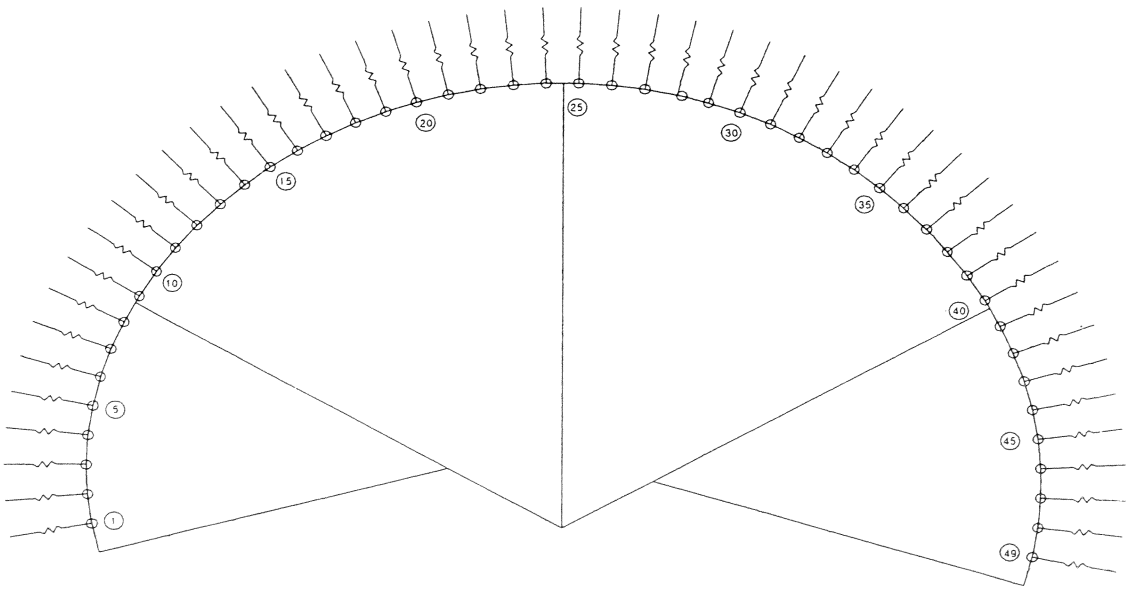
4) 도로교표준시방서(건설교통부)

다. 터널단면



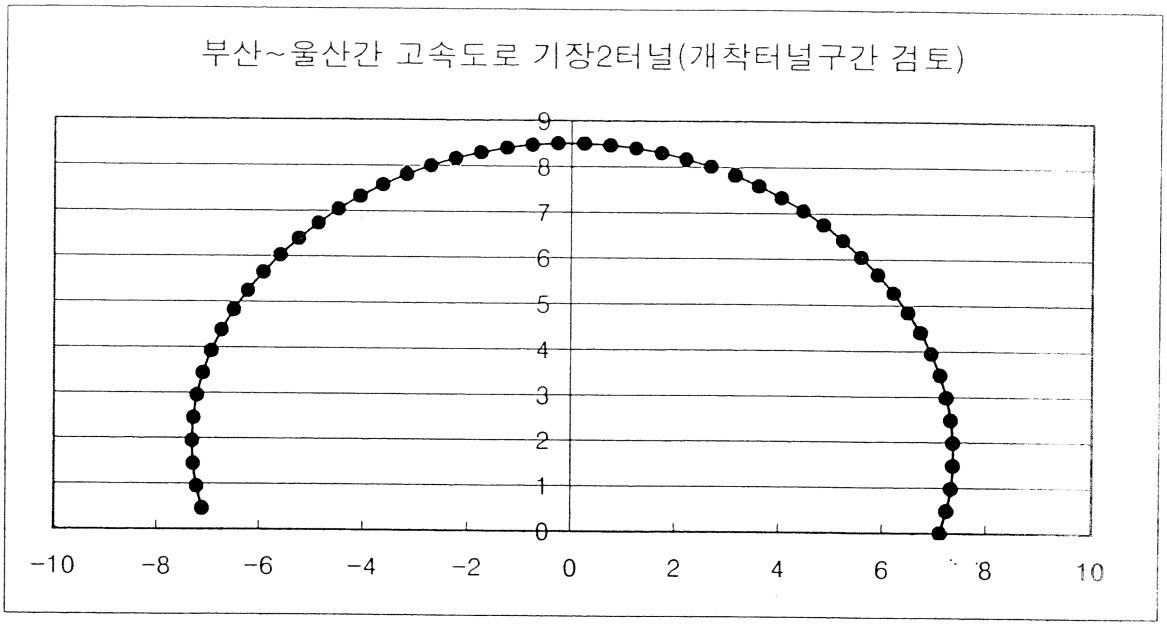
라. 모델링

1) Coordinate



2) 절점좌표

절 점	X(m)	Z(m)	절 점	X(m)	Z(m)
1	-7.110	0.457	31	2.693	8.010
2	-7.221	0.948	32	3.157	7.816
3	-7.288	1.446	33	3.607	7.591
4	-7.309	1.949	34	4.042	7.337
5	-7.285	2.452	35	4.458	7.055
6	-7.215	2.950	36	4.855	6.745
7	-7.101	3.440	37	5.230	6.410
8	-6.943	3.917	38	5.583	6.051
9	-6.743	4.379	39	5.911	5.670
10	-6.502	4.820	40	6.212	5.267
11	-6.229	5.243	41	6.487	4.845
12	-5.929	5.647	42	6.730	4.405
13	-5.602	6.030	43	6.937	3.946
14	-5.251	6.390	44	7.104	3.472
15	-4.877	6.727	45	7.231	2.985
16	-4.482	7.037	46	7.316	2.489
17	-4.066	7.321	47	7.359	1.988
18	-3.633	7.577	48	7.361	1.485
19	-3.184	7.803	49	7.319	0.984
20	-2.720	7.999	50	7.236	0.487
21	-2.245	8.164	51	7.112	0.000
22	-1.760	8.297			
23	-1.267	8.398			
24	-0.768	8.465			
25	-0.266	8.500			
26	0.237	8.500			
27	0.739	8.468			
28	1.238	8.403			
29	1.731	8.304			
30	2.217	8.173			



3) 부재단면

구분	B(m)	H(m)	A(m^2)	I(m^4)	부재번호
1	1.000	0.425	0.425	6.397E-03	1~3, 48~50
2	1.000	0.375	0.375	4.395E-03	4~7, 41~47
11	1.000	0.350	0.350	3.573E-03	10 ~ 40

4) 지반스프링계수

내부라이닝과 지반과의 실제 거동을 고려하기 위하여 모든 인장 스프링 요소는 반복계산을 통하여 제거시킴.

$$k = \frac{E}{R} \times A = \frac{E}{R} \times L \times 1.0$$

여기서,

E : 터널 주변 암반의 탄성계수 (5.60E+03 $tonf/m^2$)

R : 터널라이닝 등가반경

L : 요소점유길이

구분	탄성계수 E($tonf/m^2$)	터널반경 R(m)	부재길이 L(m)	지반스프링계수 k($tonf/m^2$)	비 고 (스프링번호)
1	5.60E+03	6.173	0.755	684	2, 50
2	5.60E+03	6.173	0.503	456	3~4, 48~49
3	5.60E+03	6.173	0.503	456	4~9, 42~47
4	5.60E+03	6.173	0.503	456	10~41

마. 작용하중

1) 자 중(D)

단위중량 γ_c = 2.50 tonf/m^3 (PROGRAM 내에서 자동계산)

2) 토압 (토피고 H = 3.0m)

- 수직토압 = γ_t x H

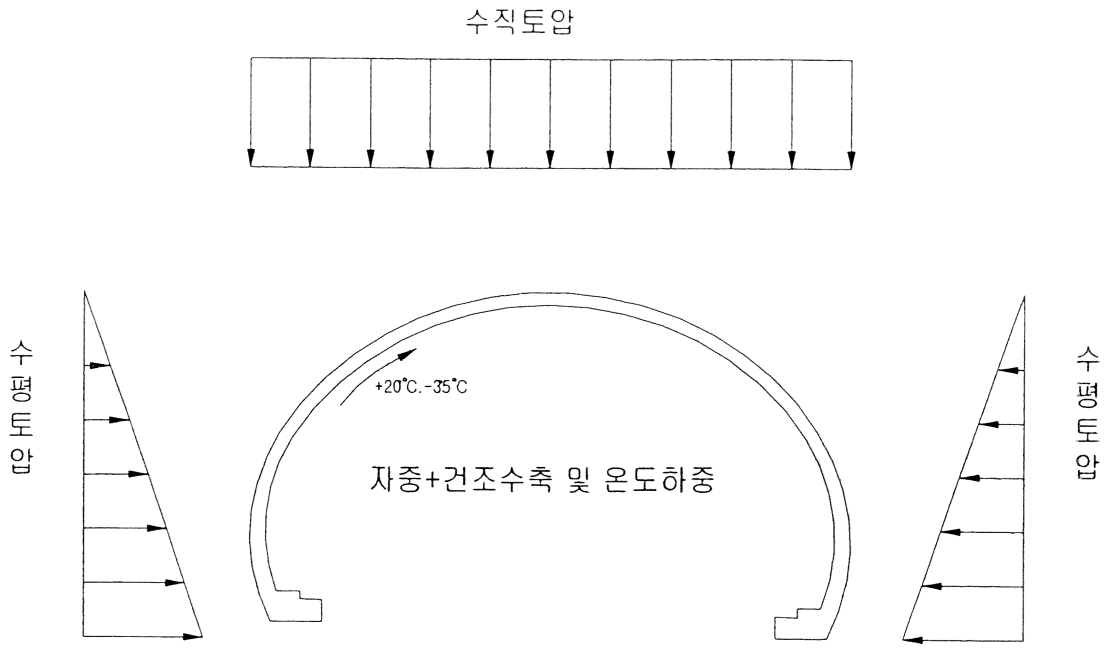
- 수평토압 = K_0 x γ_t x H

절 점	수직토압 (tonf/m2)	수평토압 (tonf/m2)	절 점	수직토압 (tonf/m2)	수평토압 (tonf/m2)
1	21.533	10.767	27	5.912	2.956
2	20.577	10.288	28	6.040	3.020
3	19.605	9.802	29	6.232	3.116
4	18.624	9.312	30	6.488	3.244
5	17.645	8.822	31	6.806	3.403
6	16.673	8.337	32	7.185	3.592
7	15.718	7.859	33	7.623	3.811
8	14.786	7.393	34	8.118	4.059
9	13.887	6.943	35	8.669	4.334
10	13.026	6.513	36	9.272	4.636
11	12.201	6.101	37	9.925	4.962
12	11.414	5.707	38	10.625	5.313
13	10.667	5.334	39	11.369	5.685
14	9.964	4.982	40	12.155	6.077
15	9.308	4.654	41	12.977	6.488
16	8.702	4.351	42	13.835	6.917
17	8.149	4.074	43	14.730	7.365
18	7.650	3.825	44	15.655	7.827
19	7.209	3.604	45	16.604	8.302
20	6.826	3.413	46	17.571	8.786
21	6.505	3.252	47	18.548	9.274
22	6.245	3.123	48	19.529	9.765
23	6.049	3.025	49	20.507	10.253
24	5.918	2.959	50	21.475	10.737
25	5.850	2.925	51	22.425	11.213
26	5.850	2.925			

3) 건조수축 및 온도하중

- 접속부는 온도 변화에 따른 균열이 발생하기 쉽기 때문에 이에 대한 고려를 하기위해 기후의 변화를 하중으로 적용한다.

5) 하중 작용도



바. 하중조합

CASE 1 = 1.54 × 자중 + 1.54 × 수직토압 + 1.8 x 수평토압

CASE 2 = 1.54 × 자중 + 1.54 × 수직토압 + 0.9 x 수평토압

CASE 3 = 0.75{1.54 × 자중 + 1.54 × 수직토압 + 0.9 x 수평토압
+ 1.5 x 건조수축 및 계절별온도하중(+20℃)}

CASE 4 = 0.75{1.54 × 자중 + 1.54 × 수직토압 + 0.9 x 수평토압
+ 1.5 x 건조수축 및 계절별온도하중(-35℃)}

CASE 5 = 1.0 × 자중 + 1.0 × 수직토압 + 1.0 × 수평토압

CASE 6 = 1.0×자중+1.0×수직토압+1.0×수평토압+1.0×온도수축 및 계절별온도하중(+20℃)

CASE 7 = 1.0×자중+1.0×수직토압+1.0×수평토압+1.0×온도수축 및 계절별온도하중(-35℃)

사. 구조계산 결과

구 분	모멘트 (tonf · m)	축 력 (tonf)	전단력 (tonf)	사용하중 모멘트 (tonf · m)
측벽부	36.03	175.51	28.94	14.55
아치부	23.63	139.80	15.53	11.15
천단부	14.01	112.24	6.55	6.94

아. 단면력도

1) CASE 1 = 1.54 × 자중 + 1.54 × 수직토압 + 1.8 x 수평토압

CASE 2 = 1.54 × 자중 + 1.54 × 수직토압 + 0.9 x 수평토압

3) CASE 3 = 0.75{1.54 × 자중 + 1.54 × 수직토압 + 0.9 x 수평토압
+ 1.5 x 건조수축 및 계절별온도하중(+20℃)}

4) CASE 4 = 0.75{1.54 × 자중 + 1.54 × 수직토압 + 0.9 x 수평토압
+ 1.5 x 건조수축 및 계절별온도하중(-35℃)}

5) CASE 5 = 1.0 × 자중 + 1.0 × 수직토압 + 1.0 × 수평토압

6) CASE 6 = 1.0×자중+1.0×수직토압+1.0×수평토압+1.0×온도수축 및 계절별온도하중(+20℃)

CASE 7 = 1.0×자중+1.0×수직토압+1.0×수평토압+1.0×온도수축 및 계절별온도하중(-35℃)

*별첨 참조

자. 단면검토

콘크리트 설계기준강도 f_{ck} = 240 kgf/cm^2 , 철근항복강도 f_y = 3000 kgf/cm^2
등가직사각형 응력분포의 깊이를 구하기 위한 유효길이 계수 β_1 = 0.85
압축 강도감소계수 Φ_c = 0.70 휨 강도감소계수 Φ_f = 0.85
전단 강도감소계수 Φ_v = 0.80

1) 측벽부

설계단면력 : 모멘트 Mu = 36.03 tonf.m 축 력 Pu = 175.51 tonf
전단력 Vu = 28.94 tonf

편심 e = Mu*100/Pu = 20.53 cm

사용단면 : 두께 H = 42.50 cm 폭 B = 100.00 cm

인장철근 : D 22 @ 125 (8.00 EA , As = 30.97 cm^2)
철근중심 dc = 6.00 cm , 유효두께 d = H - dc = 36.50 cm

압축철근 : D 22 @ 125 (8.00 EA , As' = 30.97 cm^2)
철근중심 d' = 6.00 cm

◎ 평형하중 산정

- 소성중심

Cc = 0.85*fck*Ag = 867000 kgf
C_{s1} = As*fy = 92910 kgf C_{s2} = As'*(fy-0.85*fck) = 86592 kgf
Xp = [Cc*H/2+Cs1*dc+Cs2*(H-d')]/(Cc+Cs1+Cs2) = 21.16 cm
d" = Xp - h + d = 15.16 cm

- 평형상태

c_b = 6000/(6000+fy)*d = 24.33 cm a_b = β_1 * c_b = 20.68 cm
fs' = 6000*(cb-d')/cb = 4520 kgf/cm^2 > fy ⇒ fs' = fy
Cc = 0.85*fck*ab*B = 421872 kgf
T = As * fy = 92910 kgf
Cs = As' *(fs' - 0.85*fck) = 86592 kgf

- 평형하중 및 편심

Pb = Cc + Cs + T = 415554 kgf = 415.55 tonf
Mb = Cc*(d - a_b/2 - d") + Cs*(d - d' - d") + T*d" = 7377429 kgf.cm
= 73.77 tonf.m
e_b = Mb/Pb = 17.75 cm
e_b < e ⇒ 인장파괴

◎ 공칭강도

c = 20.69 cm , a = β_1 * c = 17.59 cm 라 가정하면

fs = 6000*(d-c)/c = 4582.78 kgf/cm^2 > fy ⇒ fs = fy

fs' = 6000*(c-d')/c = 4260.37 kgf/cm^2 > fy ⇒ fs' = fy

Cc = 0.85 * fck * a * B = 358836 kgf

Cs = As'*(fs' - 0.85*fck) = 86592 kgf

T = As * fs = 92910 kgf

Pn = Cc + Cs - T = 352518 kgf = 352.52 tonf

$M_{n'}$ = Cc *(d - a/2) + Cs *(d - d') = 12582607 kgf.cm = 125.83 tonf.m

e' = e + d" = 35.69 cm

오차 = | e' - Mn'/Pn | = 0.004 cm < 0.01 --------가정만족

◎ 강도 검토

Φc*Pn = 246.76 tonf > (0.1*fck*Ag와 Φc*Pb 중 작은값) = 102.00 tonf

Φ = Φc = 0.70

Φ * Pn = 246.76 tonf > Pu = 175.51 tonf ---- 만 족

Φ * Mn = Φ *(Pn*e) = 50.66 tonf.m > Mu = 36.03 tonf.m -- 만 족

◎ 철근비 검토

- 최소철근비 검토

철근항복강도 fy < 4000 kg/cm^2 사용 철근직경 (D22) > 16 mm(최소철근직경)

사용 철근비 ρ = (As+As')/(B*H) = 0.0146 ≥ 최소철근비 = 0.0015

----- 만 족

◎ 전단 설계

Φ_v * Vc = Φv*0.53*(1+0.0071*Pu/Ag)*√(fck)*B*d/1000 = 31.00 tonf

Vu ≤ Φ_v * Vc -------- 전단보강철근 필요없음.

2) 아치부

설계단면력 : 모멘트 Mu = 23.63 tonf.m 축 력 Pu = 139.8 tonf
전단력 Vu = 15.53 tonf

편심 e = Mu*100/Pu = 16.90 cm

사용단면 : 두께 H = 37.50 cm 폭 B = 100.00 cm

인장철근 : D 22 @ 125 (8.00 EA , As = 30.97 cm^2)
철근중심 dc = 6.00 cm , 유효두께 d = H - dc = 31.50 cm

압축철근 : D 22 @ 125 (8.00 EA , As' = 30.97 cm^2)
철근중심 d' = 6.00 cm

◎ 평형하중 산정

- 소성중심

Cc = 0.85*fck*Ag = 765000 kgf

C_{s1} = As*fy = 92910 kgf C_{s2} = As'*(fy-0.85*fck) = 86592 kgf

Xp = [Cc*H/2+Cs1*dc+Cs2*(H-d')]/(Cc+Cs1+Cs2) = 18.66 cm

d" = Xp - h + d = 12.66 cm

- 평형상태

c_b = 6000/(6000+fy)*d = 21.00 cm a_b = β_1 * c_b = 17.85 cm

fs' = 6000*(cb-d')/cb = 4286 kgf/cm^2 > fy ⇒ fs' = fy

Cc = 0.85*fck*a_b*B = 364140 kgf

T = As * fy = 92910 kgf

Cs = As' *(fs' - 0.85*fck) = 86592 kgf

- 평형하중 및 편심

Pb = Cc + Cs + T = 357822 kgf = 357.82 tonf

Mb = Cc*(d - a_b/2 - d") + Cs*(d - d' - d") + T*d" = 5898530 kgf.cm
= 58.99 tonf.m

e_b = Mb/Pb = 16.48 cm

e_b < e ⇒ 인장파괴

◎ 공칭강도

c = 20.46 cm , a = β_1 * c = 17.39 cm 라 가정하면

fs = 6000*(d-c)/c = 3238.44 kgf/cm^2 > fy ⇒ fs = fy

fs' = 6000*(c-d')/c = 4240.3 kgf/cm^2 > fy ⇒ fs' = fy

Cc = 0.85 * fck * a * B = 354756 kgf

Cs = As'*(fs' - 0.85*fck) = 86592 kgf

T = As * fs = 92910 kgf

Pn = Cc + Cs - T = 348438 kgf = 348.44 tonf

$M_{n'}$ = Cc *(d - a/2) + Cs *(d - d') = 10298307 kgf.cm = 102.98 tonf.m

e' = e + d" = 29.56 cm

오차 = | e' - Mn'/Pn | = 0.004 cm < 0.01 --------가정만족

◎ 강도 검토

Φc*Pn = 243.91 tonf > (0.1*fck*Ag와 Φc*Pb 중 작은값) = 90.00 tonf

Φ = Φc = 0.70

Φ * Pn = 243.91 tonf > Pu = 139.8 tonf ---- 만 족

Φ * Mn = Φ *(Pn*e) = 41.22 tonf.m > Mu = 23.63 tonf.m -- 만 족

◎ 철근비 검토

- 최소철근비 검토

철근항복강도 fy < 4000 kg/cm^2 사용 철근직경 (D22) > 16 mm(최소철근직경)

사용 철근비 ρ = (As+As')/(B*H) = 0.0165 > 최소철근비 = 0.0015

----- 만 족

◎ 전단 설계

Φ_v * Vc = Φv*0.53*(1+0.0071*Pu/Ag)*√(fck)*B*d/1000 = 26.17 tonf

Vu ≤ Φ_v * Vc ------- 전단보강철근 필요없음.

3) 천단부

설계단면력 : 모멘트 Mu = 14.01 tonf.m 축 력 Pu = 112.24 tonf
전단력 Vu = 6.55 tonf

편심 e = Mu*100/Pu = 12.48 cm

사용단면 : 두께 H = 35.0 cm 폭 B = 100.0 cm

인장철근 : D 22 @ 125 (8.00 EA , As = 30.97 cm^2)
철근중심 dc = 6.00 cm , 유효두께 d = H - dc = 29.00 cm

압축철근 : D 22 @ 125 (8.00 EA , As' = 30.97 cm^2)
철근중심 d' = 6.00 cm

◎ 평형하중 산정

- 소성중심

Cc = 0.85*fck*Ag = 714000 kgf
C_{s1} = As*fy = 92910 kgf C_{s2} = As'*(fy-0.85*fck) = 86592 kgf
Xp = [Cc*H/2+Cs1*dc+Cs2*(H-d')]/(Cc+Cs1+Cs2) = 17.42 cm
d" = Xp - h + d = 11.42 cm

- 평형상태

c_b = 6000/(6000+fy)*d = 19.33 cm a_b = β_1 * c_b = 16.43 cm
fs' = 6000*(cb-d')/cb = 4138 kgf/cm^2 > fy ⇒ fs' = fy
Cc = 0.85*fck*ab*B = 335172 kgf
T = As * fy = 92910 kgf
Cs = As' *(fs' - 0.85*fck) = 86592 kgf

- 평형하중 및 편심

Pb = Cc + Cs + T = 328854 kgf = 328.85 tonf
Mb = Cc*(d - ab/2 - d") + Cs*(d - d' - d") + T*d" = 5202653 kgf.cm
= 52.03 tonf.m
e_b = Mb/Pb = 15.82 cm

e_b > e ⇒ 압축파괴

◎ 공칭강도

c = 21.43 cm , a = β_1 * c = 18.22 cm 라 가정하면

fs = 6000*(d-c)/c = 2119.46 kgf/cm^2 < fy

fs' = 6000*(c-d')/c = 4320.11 kgf/cm^2 > fy ⇒ fs' = fy

Cc = 0.85 * fck * a * B = 371606 kgf

Cs = As'*(fs' - 0.85*fck) = 86592 kgf

T = As * fs = 65640 kgf

Pn = Cc + Cs - T = 392558 kgf = 392.56 tonf

$M_{n'}$ = Cc *(d - a/2) + Cs *(d - d') = 9383603 kgf.cm = 93.84 tonf.m

e' = e + d" = 23.90 cm

오차 = | e' - Mn'/Pn | = 0.004 cm < 0.01 --------가정만족

◎ 강도 검토

Φc * Pn = 274.79 tonf > Pu = 112.24 tonf ---- 만 족

Φc * Mn = Φc *(Pn*e) = 34.29 tonf.m > Mu = 14.01 tonf.m -- 만 족

◎ 철근비 검토

- 최소철근비 검토

철근항복강도 fy < 4000 kg/cm^2 사용 철근직경 (D22) > 16 mm(최소철근직경)

사용 철근비 ρ = (As+As')/(B*H) = 0.0177 > 최소철근비 = 0.0015

----- 만 족

◎ 전단 설계

Φ_v * Vc = Φv*0.53*(1+0.0071*Pu/Ag)*√(fck)*B*d/1000 = 23.39 tonf

Vu ≤ Φ_v * Vc ------- 전단보강철근 필요없음.

차. 균열 검토

콘크리트 설계기준강도 fck = 240 kgf/cm^2

철근항복강도 fy = 3000 kgf/cm^2

콘크리트 탄성계수 Ec = $15{,}000\sqrt{f_{ck}}$ = 2.32E+05 kgf/cm^2

철근의 탄성계수 Es = 2.00E+06 kgf/cm^2 탄성계수비 n = Es/Ec = 9

1) 측벽부

사용하중 모멘트 : Mo = 14.55 tonf.m

사용단면 두께 : H = 42.50 cm 폭 : B = 100.00 cm

부식에 대한 환경조건 : 습윤 환경 (0.005tc)

허용 균열폭 Wa = 0.005tc = 0.245 mm

----> t_c = 최외단철근덮개 = dc - 주철근D/2 - 전단철근D = 49.00 mm

인장철근 : D 22 @ 125 (8.00 EA , As = 30.97 cm^2)

철근중심 dc = 6.00 cm , 유효두께 d = H - dc = 36.50 cm

압축철근 : D 22 @ 125 (8.00 EA , As' = 30.97 cm^2)

철근중심 d' = 6.00 cm

인장철근비 $p = As/[(H-dc)*B]$ = 0.0085

압축철근비 $p' = As'/[(H-d')*B]$ = 0.0085

중립축비 $k = -n(p+2p') + \sqrt{[n^2(p+2p')^2 + 2n(p + 2p'*(d'/d)]}$ = 0.2764

$j = (1-d'/d) - k^2 * (k/3 - d'/d)/[2np*(1-k)]$ = 0.8855

휨균열폭 $W = 1.08 * \beta_c * f_s * \sqrt[3]{(dc*A)} / 100000$ = 0.186 mm

----> $\beta_c = (H-k*d)/(d-k*d)$ = 1.227

$f_s = Mo/(As*j*d)$ = 1453.58 kgf/cm^2

$A = 2*dc*B/$철근총갯수 = 150.00 cm^2

휨균열폭 W = 0.186 mm < 허용휨균열폭 Wa = 0.245 mm ----- 만 족

2) 아치부

사용하중 모멘트 : Mo = 11.15 tonf.m

사용단면 두께 : H = 37.50 cm 폭 : B = 100.00 cm

부식에 대한 환경조건 : 습윤 환경 (0.005tc)

허용 균열폭 Wa = 0.005tc = 0.245 mm

----> t_c = 최외단철근덮개 = dc - 주철근D/2 - 전단철근D = 49.00 mm

인장철근 : D 22 @ 125 (8.00 EA , As = 30.97 cm^2)

철근중심 dc = 6.00 cm , 유효두께 d = H - dc = 31.5 cm

압축철근 : D 22 @ 125 (8.00 EA , As' = 30.97 cm^2)

철근중심 d' = 6.00 cm

인장철근비 $p = As/[(H-dc)*B]$ = 0.0098

압축철근비 $p' = As'/[(H-d')*B]$ = 0.0098

중립축비 $k = -n(p+2p') + \sqrt{[n^2(p+2p')^2 + 2n(p + 2p'*(d'/d)]}$ = 0.2954

$j = (1-d'/d) - k^2 * (k/3 - d'/d)/[2np*(1-k)]$ = 0.8741

휨균열폭 $W = 1.08 * \beta_c * f_s * \sqrt[3]{(dc*A)} / 100000$ = 0.173 mm

----> $\beta_c = (H-k*d)/(d-k*d)$ = 1.270

$f_s = Mo/(As*j*d)$ = 1307.56 kgf/cm^2

$A = 2*dc*B/$철근총갯수 = 150.00 cm^2

휨균열폭 W = 0.173 mm < 허용휨균열폭 Wa = 0.245 mm ----- 만 족

3) 천단부

사용하중 모멘트 : Mo = 6.94 tonf.m

사용단면 두께 : H = 35.00 cm 폭 : B = 100.00 cm

부식에 대한 환경조건 : 습윤 환경 (0.005tc)

허용 균열폭 Wa = 0.005tc = 0.245 mm

----> t_c = 최외단철근덮개 = dc - 주철근D/2 - 전단철근D = 49.00 mm

인장철근 : D 22 @ 125 (8.00 EA , As = 30.97 cm^2)

철근중심 dc = 6.00 cm , 유효두께 d = H - dc = 29.0 cm

압축철근 : D 22 @ 125 (8.00 EA , As' = 30.97 cm^2)

철근중심 d' = 6.00 cm

인장철근비 $p = As/[(H-dc)*B] = 0.0107$

압축철근비 $p' = As'/[(H-d')*B] = 0.0107$

중립축비 $k = -n(p+2p') + \sqrt{[n^2(p+2p')^2 + 2n(p + 2p'*(d'/d)]} = 0.3076$

$j = (1-d'/d) - k^2 * (k/3 - d'/d)/[2np*(1-k)] = 0.8672$

휨균열폭 $W = 1.08 * \beta_c * f_s * \sqrt[3]{(dc*A)} / 100000 = 0.121$ mm

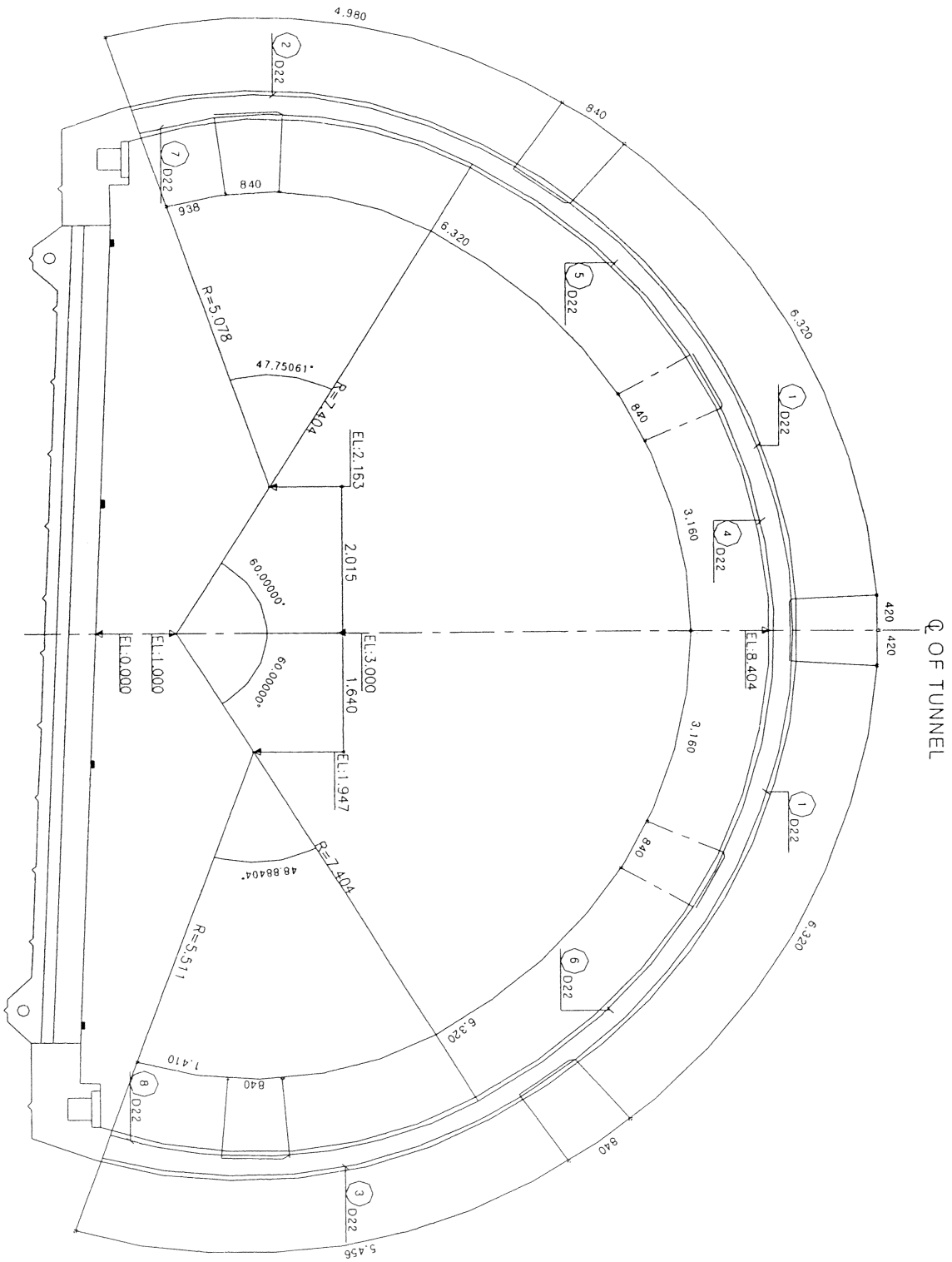
----> $\beta_c = (H-k*d)/(d-k*d) = 1.299$

$f_s = Mo/(As*j*d) = 891.05$ kgf/cm^2

$A = 2*dc*B/$철근총갯수 $= 150.00$ cm^2

휨균열폭 W = 0.121 mm < 허용휨균열폭 Wa = 0.245 mm ----- 만 족

카. 주철근 조립도



4.980
840
6.320
6.320
840
938
840
R=5.078
47.75061°
R=7.404
EL:2.163
2.015
60.00000°
EL:0.000
EL:1.000
EL:3.000
1.640
60.00000°
EL:1.947
R=7.404
48.88404°
R=5.511
1.410
840
840
840
3.160
3.160
EL:8.404
420
420
℄ OF TUNNEL
5.456
D22

8.4 구조물(벨마우스) 계산(리핑암)

8.4.1 설계개요 및 기준

1) 설계기준 강도

◦ 콘크리트 강도 : f_{ck} = 240 kgf/cm^2

◦ 철근 항복강도 : f_y = 3000 kgf/cm^2

2) 하중

◦ 토사 단위중량 : r_s = 2.0 tonf/m^3

◦ 철근 콘크리트 단위중량 : r_c = 2.5 tonf/m^3

◦ 토압계수 (정지토압) : k_o = 1 - sin30 = 0.5

3) 하중계수

◦ 고정하중 : 1.54

- 구체자중, 토사 사하중

◦ 측하중 : 1.8

- 토사측압

4) 강도감소계수

◦ 휨 : $\varnothing_B$ = 0.85

◦ 전단 : $\varnothing_s$ = 0.80

5) 설계기준도서

◦ 터널 설계기준

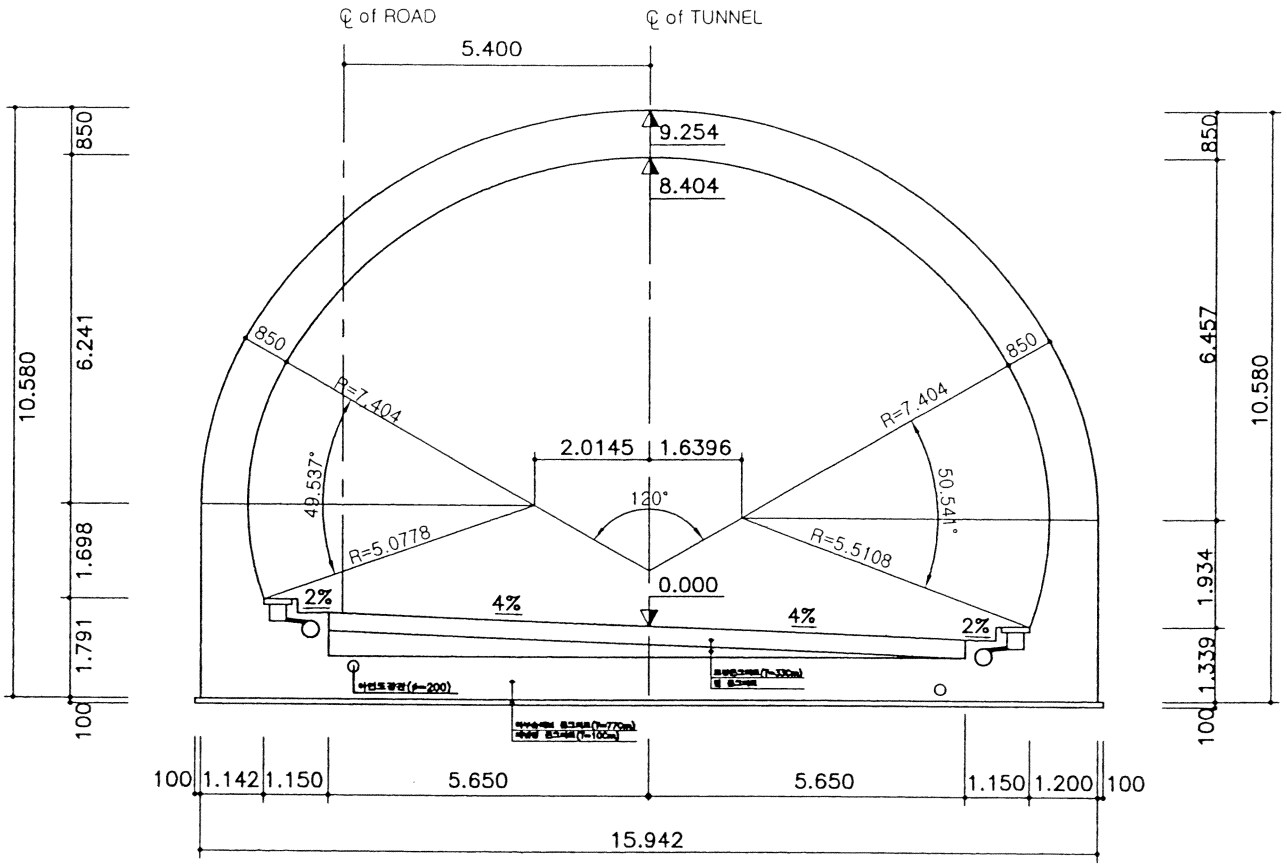
◦ 콘크리트 구조 설계기준

◦ 도로교 설계기준

◦ 구조물 기초 설계기준

8.4.2 원통형 구조계산

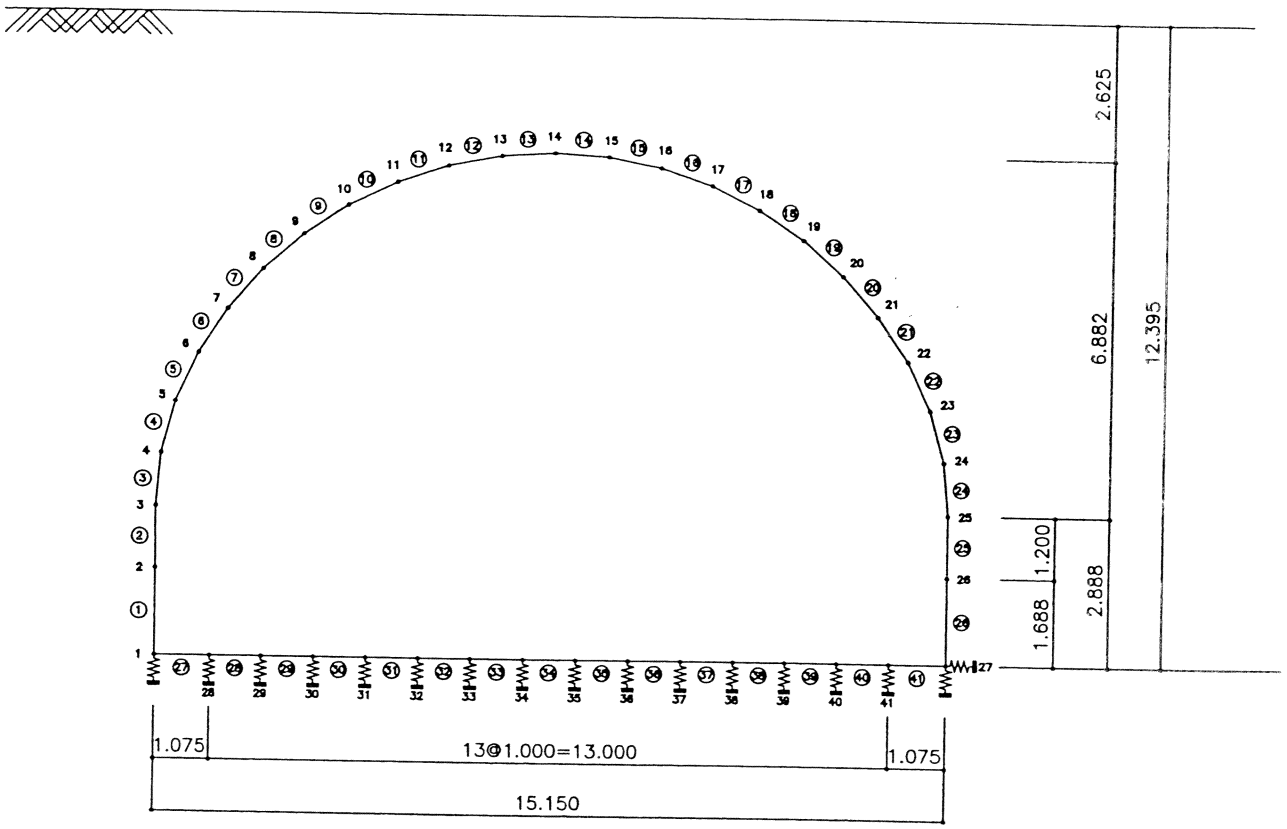
1) 단면도



2) 모델링 및 하중계산

※ 토사 상재 하중은 2.2m 로 한다.

가) 모델링



나) 단면특성

구 분	B(m)	H(m)	1m당 중량	해당요소	비 고
1	1.00	1.00	2.5	1,26,27, 28,40,41	
2	1.00	0.85	2.125	2 ~ 25	
3	1.00	0.77	1.925	29 ~ 39	

다) 하중계산

(1) CASE 1 : 자중 - 프로그램 내에서 자동고려

(2) CASE 2 : 연직토압(라이닝 상단 2.2m 적용)

$$H = 2.888 + 6.882 + 0.425 + 2.2 = 12.395\ m$$

<각 절점별 하중크기 계산>

번 호	절 점	절점작용 연직 토압 (tf / m^2)	대칭절점
	3	(12.395 - 2.888) × 2.0 = 19.014	25
	4	(12.395 - 3.919) × 2.0 = 16.952	24
	5	(12.395 - 4.918) × 2.0 = 14.954	23
	6	(12.395 - 5.856) × 2.0 = 13.078	22
	7	(12.395 - 6.707) × 2.0 = 11.376	21
	8	(12.395 - 7.477) × 2.0 = 9.836	20
	9	(12.395 - 8.152) × 2.0 = 8.486	19
	10	(12.395 - 8.721) × 2.0 = 7.348	18
	11	(12.395 - 9.174) × 2.0 = 6.442	17
	12	(12.395 - 9.504) × 2.0 = 5.782	16
	13	(12.395 - 9.703) × 2.0 = 5.384	15
	14	(12.395 - 9.770) × 2.0 = 5.250	14

(3) CASE 3 : 수평토압 - 정지토압으로 산정

$K_o = 1 - \sin 30 = 0.5$

<각 절점별 하중크기 계산>

절 점	절점작용 수평 토압 (tf / m^2)	대칭절점
1	(12.395 - 0.00) × 2.0 × 0.5 = 12.395	27
2	(12.395 - 1.688) × 2.0 × 0.5 = 10.707	26
3	(12.395 - 2.888) × 2.0 × 0.5 = 9.507	25
4	(12.395 - 3.919) × 2.0 × 0.5 = 8.476	24
5	(12.395 - 4.918) × 2.0 × 0.5 = 7.477	23
6	(12.395 - 5.856) × 2.0 × 0.5 = 6.539	22
7	(12.395 - 6.707) × 2.0 × 0.5 = 5.688	21
8	(12.395 - 7.477) × 2.0 × 0.5 = 4.918	20
9	(12.395 - 8.152) × 2.0 × 0.5 = 4.243	19
10	(12.395 - 8.721) × 2.0 × 0.5 = 3.674	18
11	(12.395 - 9.174) × 2.0 × 0.5 = 3.221	17
12	(12.395 - 9.504) × 2.0 × 0.5 = 2.891	16
13	(12.395 - 9.703) × 2.0 × 0.5 = 2.692	15
14	(12.395 - 9.770) × 2.0 × 0.5 = 2.625	14

(4) CASE 4 : 콘크리트 내외면 온도차 $\Delta T = \pm 5^\circ C$ 적용

(5) CASE 5 : 건조수축하중 $T = -20^\circ C$ 적용

(6) 하중조합

COMB1 : 1.54×CASE1+1.54×CASE2+1.8×CASE3

COMB2 : 0.99×CASE1+0.99×CASE2+1.8×CASE3

COMB3 : 1.54×CASE1+1.54×CASE2+1.8×CASE3 × 1/2

COMB4 : 1.155×CASE1+1.155×CASE2+1.35×CASE3+1.125×CASE4(+)+1.125×CASE5

COMB5 : 1.155×CASE1+1.155×CASE2+1.135×CASE3+1.125×CASE4(-)

COMB6 : 1.0×CASE1+1.0×CASE2+1.0×CASE3

COMB7 : 0.75×CASE1+0.75×CASE2+0.75×CASE3+0.75×CASE4(+)+0.75×CASE5

COMB8 : 0.75×CASE1+0.75×CASE2+0.75×CASE3+0.75×CASE4(-)

(7) 지반 반력 계수

$$K_v = K_{vo} \cdot \left(\frac{B_v}{30}\right)^{-\frac{3}{4}}$$

$$K_{vo} = \frac{1}{30}\alpha \cdot E_o$$

$E_o = 4.0 \times 10^4$ tf/m^2 $= 4.0 \times 10^3$ kgf/cm^2 (리핑암)

$B_v = \sqrt{A_v}$

$\alpha = 4$

$B_v = \sqrt{100 \times 235} = 153.3$ cm

$K_{vo} = \frac{1}{30} \times 4.0 \times 4.0 \times 10^3 = 533.3$ kgf/cm^2

$K_v = 533.3 \times \left(\frac{153.3}{30}\right)^{-\frac{3}{4}} = 156.912$ kgf/cm^3

$= 156912$ tf/m^3

$K_{v1} = 156912 \times 0.963 = 151106$ tf/m^2 : 1, 27

$K_{v2} = 156912 \times 1.038 = 162875$ tf/m^2 : 28, 41

$K_{v3} = 156912 \times 1.00 = 156912$ tf/m^2 : 29 ~ 40

4) 최대 부재력 집계 및 부재설계

가) 부재력 집계

구 분	부 재	두께(cm)		휨모멘트 (tonf · m)		전단력 (tonf)	균열검토 (tonf · m)	비 고
단면 검토용	천단부 2~25	85.0		외측	54.92	31.52	19.89	
				내측	28.55	31.52	7.64	
	벽체하단 1, 26	100.0		외측	79.42	59.31	20.26	
				내측	15.66	59.31	0.000	
	기초 27~28, 40~41	하면	100.0	79.42		74.79	20.26	
		상면	100.0	62.33		74.79	24.61	
	차도부 슬래브 29~39	77.0		39.31		27.49	20.44	

나) 부재설계

* 전단부 여장

1. 휨 응 력 검 토

1) 단 면 및 입 력 자 료

fck = 240.000 (kgf/㎠) fy = 3000.000 (kgf/㎠) Φ = 0.850 (bending)

Mu = 54.920 (tonf.m) Vu = 31.520 (tonf) Φ = 0.800 (shear)

b = 100.000 (cm) d = 77.000 (cm) d' = 8.000(cm)

2) 철 근 비 검 토

req. As = 28.763 (㎠) req. As'= 0.000 (㎠)

Use. As = D 0 X 0.000 = 0.000 (㎠)
D25 X 8.000 = 40.536 (㎠) Total As = 40.536 (㎠)

P = As / (b * d) = 0.00526

Pmax = 0.75 * K1 * 0.85 * fck / fy * 6000 / (6000 + fy) = 0.02890

Pmin = 14 / fy = 0.00467

As max = Pmax * b * d = 222.530 (㎠), As min = Pmin * b * d = 35.933 (㎠)

Pmin = 0.467 (%) < P = 0.526 (%) < pmax = 2.890 (%) ∵ 과 소 철 근 보

3) 휨 응 력 검 토

a = (As * fy) / (0.85 * fck * b) = 5.961 (cm) : 단철근 사용

Cc = 0.85 * fck * a * b = 121.61 (tonf), Cs = 0.0, T = As * fy = 121.61 (tonf)

Φ Mn = Φ * As * fy * (d - a / 2) = 76.511 tonf.m > Mu = 54.920 tonf.m O.K

---

2. 전 단 응 력 검토

Vc = 0.53 * √ fck * b * d = 63.223 (tonf)

Vu = 31.520 (tonf) < Φ * Vc = 50.578 (tonf)

∴ 전 단 보 강 불 필 요

3. 균 열 폭 검 토

M = 19.890 (tonf.m), d= 77.00 (cm),b=100.00 (cm),d'= 8.00 (cm),dc= 8.00 (cm), n= 9

$P = As/(b.d) = 0.0053$, $K = -n.P + \{(n.p)^2 + 2.n.P\}^{\frac{1}{2}} = 0.2641$, $J = 1-K/3 = 0.9120$

$fs = M / (P * J * b * d^2) = 698.7$ (kgf/cm²) < $0.6 * fy = 1800.0$ (kgf/cm²) O. K

$Z = fs * (dc * A)^{1/3} = 698.7 * [8.0 * \{ 2 * 8.00 * 100.00 / (40.536 / 5.067)\}]^{1/3}$

$= 8172.6$ (Kgf/cm)

$x = K * d = 0.2641 * 77.0 = 20.334$ (Cm)

$\beta c = (77.00 - 20.33 + 8.00) / (77.00 - 20.33) = 1.141$

$Wa = 0.0050 * (80.00 - 25.40 / 2) = 0.336$ (mm)

$W = 1.08 * \beta c * fs * (dc * A)^{1/3} = 1.08 * \beta c * Z$

$= 1.08 * 1.141 * 8172.6 / 100000 = 0.101$ (mm) < $Wa = 0.336$ (mm) ∴ O. K

* 전단부 내측

1. 휨 응 력 검 토

1) 단 면 및 입 력 자 료

fck = 240.000 (kgf/㎠) fy = 3000.000 (kgf/㎠) Φ = 0.850 (bending)

Mu = 28.550 (tonf.m) Vu = 31.520 (tonf) Φ = 0.800 (shear)

b = 100.000 (cm) d = 77.000 (cm) d' = 8.000(cm)

2) 철 근 비 검 토

req. As = 14.749 (㎠) req. As'= 0.000 (㎠)

Use. As = D 0 X 0.000 = 0.000 (㎠)
D19 X 8.000 = 22.920 (㎠) Total As = 22.920 (㎠)

P = As / (b * d) = 0.00298

Pmax = 0.75 * K1 * 0.85 * fck / fy * 6000 / (6000 + fy) = 0.02890

Pmin = 14 / fy = 0.00467

As max = Pmax * b * d = 222.530 (㎠), As min = Pmin * b * d = 35.933 (㎠)

req. As * (1 + ⅓) = 19.665 (㎠), 온도 철근: 0.002 * b * d = 15.400 (㎠)

As = 22.920 (㎠) > req.As (1 + ⅓)= 19.665 (㎠) ∵ 과 소 철 근 보

3) 휨 응 력 검 토

a = (As * fy) / (0.85 * fck * b) = 3.371 (cm) : 단철근 사용

Cc = 0.85 * fck * a * b = 68.76 (tonf), Cs = 0.0, T = As * fy = 68.76 (tonf)

Φ Mn = Φ * As * fy * (d - a / 2) = 44.018 tonf.m > Mu = 28.550 tonf.m 0.K

---

2. 전 단 응 력 검토

Vc = 0.53 * √ fck * b * d = 63.223 (tonf)

Vu = 31.520 (tonf) < Φ * Vc = 50.578 (tonf)

∴ 전 단 보 강 불 필 요

3. 균 열 폭 검 토

M = 7.640 (tonf.m), d= 77.00 (cm),b=100.00 (cm),d'= 8.00 (cm),dc= 8.00 (cm), n= 9

P = As/(b.d) = 0.0030 , K = -n.P + {(n.p)² + 2.n.P}^½ = 0.2062 , J = 1-K/3 = 0.9313

fs = M / (P * J * b * d²) = 464.9 (kgf/cm²) < 0.6 * fy = 1800.0 (kgf/cm²) O. K

Z = fs * (dc * A)^⅓ = 464.9 * [8.0 * { 2 * 8.00 * 100.00 / (22.920 / 2.865)}]^⅓

= 5437.0 (Kgf/cm)

x = K * d = 0.2062 * 77.0 = 15.880 (Cm)

β c = (77.00 - 15.88 + 8.00) / (77.00 - 15.88) = 1.131

Wa = 0.0050 * (80.00 - 19.10 / 2) = 0.352 (mm)

W = 1.08 * β c * fs * (dc * A)^⅓ = 1.08 * β c * Z

= 1.08 * 1.131 * 5437.0 / 100000 = 0.066 (mm) < Wa = 0.352 (mm) ∴ O. K

* 벽체하단 인장

1. 휨 응 력 검 토

1) 단 면 및 입 력 자 료

fck = 240.000 (kgf/㎠) fy = 3000.000 (kgf/㎠) Φ = 0.850 (bending)

Mu = 79.420 (tonf.m) Vu = 59.310 (tonf) Φ = 0.800 (shear)

b = 100.000 (cm) d = 92.000 (cm) d' = 8.000(cm)

2) 철 근 비 검 토

req. As = 34.826 (㎠) req. As'= 0.000 (㎠)

Use. As = D 0 X 0.000 = 0.000 (㎠)
D29 X 8.000 = 51.392 (㎠) Total As = 51.392 (㎠)

P = As / (b * d) = 0.00559

Pmax = 0.75 * K1 * 0.85 * fck / fy * 6000 / (6000 + fy) = 0.02890

Pmin = 14 / fy = 0.00467

As max = Pmax * b * d = 265.880 (㎠), As min = Pmin * b * d = 42.933 (㎠)

Pmin = 0.467 (%) < P = 0.559 (%) < pmax = 2.890 (%) ∵ 과 소 철 근 보

3) 휨 응 력 검 토

a = (As * fy) / (0.85 * fck * b) = 7.558 (cm) : 단철근 사용

Cc = 0.85 * fck * a * b = 154.18 (tonf), Cs = 0.0, T = As * fy = 154.18 (tonf)

Φ Mn = Φ * As * fy * (d - a / 2) = 115.614 tonf.m > Mu = 79.420 tonf.m 0.K

---

2. 전 단 응 력 검토

Vc = 0.53 * √ fck * b * d = 75.539 (tonf)

Φ * 1/2 * Vc = 30.215 (tonf) < Vu = 59.310 (tonf) < Φ * Vc = 60.431 (tonf)

∴ 최 소 전 단 보 강 필 요

전단 철근 간격 : {Smin = 10.00 (cm),Smax = 46.00 (cm),60.0 (cm)}에서 s= 30.00 (cm)

소요 전단철근량 : Req Av = 3.5 * b * s /fy = 3.500 (㎠)

사용 전단철근량 : Use Av = D13 X 4.000 = 5.068 (㎠)

3. 균 열 폭 검 토

M = 20.260 (tonf.m), d= 92.00 (cm),b=100.00 (cm),d'= 8.00 (cm),dc= 8.00 (cm), n= 9

P = As/(b.d) = 0.0056 , K = $-n.P + \{(n.p)^2 + 2.n.P\}^{\frac{1}{2}}$ = 0.2708 , J = 1-K/3 = 0.9097

fs = M / (P * J * b * d^2) = 471.0 (kgf/cm^2) < 0.6 * fy = 1800.0 (kgf/cm^2) O. K

Z = fs * (dc * A)$^{1/3}$ = 471.0 * [8.0 * { 2 * 8.00 * 100.00 / (51.392 / 6.424)}]$^{1/3}$

= 5509.1 (Kgf/cm)

x = K * d = 0.2708 * 92.0 = 24.912 (Cm)

β c = (92.00 - 24.91 + 8.00) / (92.00 - 24.91) = 1.119

Wa = 0.0050 * (80.00 - 28.60 / 2) = 0.329 (mm)

W = 1.08 * β c * fs * (dc * A)$^{1/3}$ = 1.08 * β c * Z

= 1.08 * 1.119 * 5509.1 / 100000 = 0.067 (mm) < Wa = 0.329 (mm) ∴ O. K

* 벽체하단 내측

1. 휨 응 력 검 토

1) 단 면 및 입 력 자 료

fck = 240.000 (kgf/㎠) fy = 3000.000 (kgf/㎠) Φ = 0.850 (bending)

Mu = 15.660 (tonf.m) Vu = 59.310 (tonf) Φ = 0.800 (shear)

b = 100.000 (cm) d = 92.000 (cm) d' = 8.000(cm)

2) 철 근 비 검 토

req. As = 6.711 (㎠) req. As'= 0.000 (㎠)

Use. As = D 0 X 0.000 = 0.000 (㎠)
D19 X 8.000 = 22.920 (㎠) Total As = 22.920 (㎠)

P = As / (b * d) = 0.00249

Pmax = 0.75 * K1 * 0.85 * fck / fy * 6000 / (6000 + fy) = 0.02890

Pmin = 14 / fy = 0.00467

As max = Pmax * b * d = 265.880 (㎠), As min = Pmin * b * d = 42.933 (㎠)

req. As * (1 + ⅓) = 8.948 (㎠), 온도 철근: 0.002 * b * d = 18.400 (㎠)

As = 22.920 (㎠) > 0.002 * b * d = 18.400 (㎠ : 온도철근) ∵ 과 소 철 근 보

3) 휨 응 력 검 토

a = (As * fy) / (0.85 * fck * b) = 3.371 (cm) : 단철근 사용

Cc = 0.85 * fck * a * b = 68.76 (tonf), Cs = 0.0, T = As * fy = 68.76 (tonf)

Φ Mn = Φ * As * fy * (d - a / 2) = 52.785 tonf.m > Mu = 15.660 tonf.m 0.K

---

2. 전 단 응 력 검토

Vc = 0.53 * √ fck * b * d = 75.539 (tonf)

Φ * 1/2 * Vc = 30.215 (tonf) < Vu = 59.310 (tonf) < Φ * Vc = 60.431 (tonf)

∴ 최 소 전 단 보 강 필 요

전단 철근 간격 : {Smin = 10.00 (cm),Smax = 46.00 (cm),60.0 (cm)}에서 s= 30.00 (cm)

소요 전단철근량 : Req Av = 3.5 * b * s /fy = 3.500 (㎠)

사용 전단철근량 : Use Av = D13 X 4.000 = 5.068 (㎠)

3. 균 열 폭 검 토

M = 0.000 (tonf.m), d= 92.00 (cm),b=100.00 (cm),d'= 8.00 (cm),dc= 8.00 (cm), n= 9

P = As/(b.d) = 0.0025 , K = $-n.P + \{(n.p)^2 + 2.n.P\}^{\frac{1}{2}}$ = 0.1905 , J = 1-K/3 = 0.9365

fs = M / (P * J * b * d^2) = 0.0 (kgf/cm^2) < 0.6 * fy = 1800.0 (kgf/cm^2) O. K

Z = fs * (dc * A)$^{1/3}$ = 0.0 * [8.0 * { 2 * 8.00 * 100.00 / (22.920 / 2.865)}]$^{1/3}$

= 0.0 (Kgf/cm)

x = K * d = 0.1905 * 92.0 = 17.528 (Cm)

β c = (92.00 - 17.53 + 8.00) / (92.00 - 17.53) = 1.107

Wa = 0.0050 * (80.00 - 28.60 / 2) = 0.329 (mm)

W = 1.08 * β c * fs * (dc * A)$^{1/3}$ = 1.08 * β c * Z

= 1.08 * 1.107 * 0.0 / 100000 = 0.000 (mm) < Wa = 0.329 (mm) ∴ O. K

* 기 초 하 면

1. 휨 응 력 검 토

1) 단 면 및 입 력 자 료

fck = 240.000 (kgf/㎠) fy = 3000.000 (kgf/㎠) Φ = 0.850 (bending)

Mu = 79.420 (tonf.m) Vu = 74.790 (tonf) Φ = 0.800 (shear)

b = 100.000 (cm) d = 92.000 (cm) d' = 8.000(cm)

2) 철 근 비 검 토

req. As = 34.826 (㎠) req. As'= 0.000 (㎠)

Use. As = 0 0 X 0.000 = 0.000 (㎠)
D29 X 8.000 = 51.392 (㎠) Total As = 51.392 (㎠)

P = As / (b * d) = 0.00559

Pmax = 0.75 * K1 * 0.85 * fck / fy * 6000 / (6000 + fy) = 0.02890

Pmin = 14 / fy = 0.00467

As max = Pmax * b * d = 265.880 (㎠), As min = Pmin * b * d = 42.933 (㎠)

Pmin = 0.467 (%) < P = 0.559 (%) < pmax = 2.890 (%) ∵ 과 소 철 근 보

3) 휨 응 력 검 토

a = (As * fy) / (0.85 * fck * b) = 7.558 (cm) : 단철근 사용

Cc = 0.85 * fck * a * b = 154.18 (tonf), Cs = 0.0, T = As * fy = 154.18 (tonf)

Φ Mn = Φ * As * fy * (d - a / 2) = 115.614 tonf.m > Mu = 79.420 tonf.m O.K

---

2. 전 단 응 력 검토

Vc = 0.53 * √ fck * b * d = 75.539 (tonf)

Vu = 74.790 (tonf) > Φ * Vc = 60.431 (tonf) ∴ 전 단 보 강 필 요

Φ Vs = Vu - Φ Vc = 14.359 (tonf)

전단 철근 간격 : {Smin = 10.00 (cm),Smax = 46.00 (cm),60.00 (cm)}에서 s= 30.00 (cm)

소요 전단철근량 : Req Av =Φ Vs * s / (Φ * fy * d)= 1.951 (㎠)

최소 전단철근량 : Req Av = 3.5 * b * s / fy = 3.5 (㎠)

사용 전단철근량 : Use Av = D13 X 4.000 = 5.068 (㎠)

Φ * Vs'= 37.300 (tonf) > Φ Vs = 14.359 (tonf) ∴ O. K.

Vs'= Av * fy * d / s = 46.626 (tonf) < 2.1 * √ fck * b * d = 299.304 (tonf)

3. 균 열 폭 검 토

M = 20.260 (tonf.m), d= 92.00 (cm),b=100.00 (cm),d'= 8.00 (cm),dc= 8.00 (cm), n= 9

P = As/(b.d) = 0.0056 , K = -n.P + {(n.p)² + 2.n.P}^½ = 0.2708 , J = 1-K/3 = 0.9097

fs = M / (P * J * b * d²) = 471.0 (kgf/㎠) < 0.6 * fy = 1800.0 (kgf/㎠) O. K

Z = fs * (dc * A)^⅓ = 471.0 * [8.0 * { 2 * 8.00 * 100.00 / (51.392 / 6.424)}]^⅓

= 5509.1 (Kgf/cm)

x = K * d = 0.2708 * 92.0 = 24.912 (Cm)

β c = (92.00 - 24.91 + 8.00) / (92.00 - 24.91) = 1.119

Wa = 0.0050 * (80.00 - 28.60 / 2) = 0.329 (mm)

W = 1.08 * β c * fs * (dc * A)^⅓ = 1.08 * β c * Z

= 1.08 * 1.119 * 5509.1 / 100000 = 0.067 (mm) < Wa = 0.329 (mm) ∴ O. K

* 기 초 상 면

1. 휨 응 력 검 토

1) 단 면 및 입 력 자 료

fck = 240.000 (kgf/㎠) fy = 3000.000 (kgf/㎠) Φ = 0.850 (bending)

Mu = 62.330 (tonf.m) Vu = 74.790 (tonf) Φ = 0.800 (shear)

b = 100.000 (cm) d = 92.000 (cm) d' = 8.000(cm)

2) 철 근 비 검 토

req. As = 27.160 (㎠) req. As'= 0.000 (㎠)

Use. As = D 0 X 0.000 = 0.000 (㎠)
D25 X 8.000 = 40.536 (㎠) Total As = 40.536 (㎠)

P = As / (b * d) = 0.00441

Pmax = 0.75 * K1 * 0.85 * fck / fy * 6000 / (6000 + fy) = 0.02890

Pmin = 14 / fy = 0.00467

As max = Pmax * b * d = 265.880 (㎠), As min = Pmin * b * d = 42.933 (㎠)

req. As * (1 + ⅓) = 36.213 (㎠), 온도 철근: 0.002 * b * d = 18.400 (㎠)

As = 40.536 (㎠) > req.As (1 + ⅓)= 36.213 (㎠) ∵ 과 소 철 근 보

3) 휨 응 력 검 토

a = (As * fy) / (0.85 * fck * b) = 5.961 (cm) : 단철근 사용

Cc = 0.85 * fck * a * b = 121.61 (tonf), Cs = 0.0, T = As * fy = 121.61 (tonf)

Φ Mn = Φ * As * fy * (d - a / 2) = 92.017 tonf.m > Mu = 62.330 tonf.m 0.K

---

2. 전 단 응 력 검토

Vc = 0.53 * √ fck * b * d = 75.539 (tonf)

Vu = 74.790 (tonf) > Φ * Vc = 60.431 (tonf) ∴ 전 단 보 강 필 요

Φ Vs = Vu - Φ Vc = 14.359 (tonf)

전단 철근 간격 : {Smin = 10.00 (cm),Smax = 46.00 (cm),60.00 (cm)}에서 s= 30.00 (cm)

소요 전단철근량 : Req Av =Φ Vs * s / (Φ * fy * d)= 1.951 (㎠)

최소 전단철근량 : Req Av = 3.5 * b * s / fy = 3.5 (㎠)

사용 전단철근량 : Use Av = D13 X 4.000 = 5.068 (㎠)

Φ * Vs'= 37.300 (tonf) > Φ Vs = 14.359 (tonf) ∴ 0. K.

Vs'= Av * fy * d / s = 46.626 (tonf) < 2.1 * √ fck * b * d = 299.304 (tonf)

3. 균 열 폭 검 토

M = 24.610 (tonf.m), d= 92.00 (cm),b=100.00 (cm),d'= 8.00 (cm),dc= 8.00 (cm), n= 9

P = As/(b.d) = 0.0044 , K = -n.P + {(n.p)² + 2.n.P}^½ = 0.2447 , J = 1-K/3 = 0.9184

fs = M / (P * J * b * d²) = 718.5 (kgf/㎠) < 0.6 * fy = 1800.0 (kgf/㎠) O. K

Z = fs * (dc * A)^⅓ = 718.5 * [8.0 * { 2 * 8.00 * 100.00 / (40.536 / 5.067)}]^⅓

= 8403.9 (Kgf/cm)

x = K * d = 0.2447 * 92.0 = 22.516 (Cm)

β c = (92.00 - 22.52 + 8.00) / (92.00 - 22.52) = 1.115

Wa = 0.0050 * (80.00 - 25.40 / 2) = 0.336 (mm)

W = 1.08 * β c * fs * (dc * A)^⅓ = 1.08 * β c * Z

= 1.08 * 1.115 * 8403.9 / 100000 = 0.101 (mm) < Wa = 0.336 (mm) ∴ O. K

*차도부슬래브

1. 휨 응 력 검 토

1) 단 면 및 입 력 자 료

fck = 240.000 (kgf/㎠) fy = 3000.000 (kgf/㎠) Φ = 0.850 (bending)

Mu = 39.310 (tonf.m) Vu = 27.490 (tonf) Φ = 0.800 (shear)

b = 100.000 (cm) d = 69.000 (cm) d' = 8.000(cm)

2) 철 근 비 검 토

req. As = 22.902 (㎠) req. As'= 0.000 (㎠)

Use. As = D 0 X 0.000 = 0.000 (㎠)
D22 X 8.000 = 30.968 (㎠) Total As = 30.968 (㎠)

P = As / (b * d) = 0.00449

Pmax = 0.75 * K1 * 0.85 * fck / fy * 6000 / (6000 + fy) = 0.02890

Pmin = 14 / fy = 0.00467

As max = Pmax * b * d = 199.410 (㎠), As min = Pmin * b * d = 32.200 (㎠)

req. As * (1 + ⅓) = 30.536 (㎠), 온도 철근: 0.002 * b * d = 13.800 (㎠)

As = 30.968 (㎠) > req.As (1 + ⅓)= 30.536 (㎠) ∵ 과 소 철 근 보

3) 휨 응 력 검 토

a = (As * fy) / (0.85 * fck * b) = 4.554 (cm) : 단철근 사용

Cc = 0.85 * fck * a * b = 92.90 (tonf), Cs = 0.0, T = As * fy = 92.90 (tonf)

Φ Mn = Φ * As * fy * (d - a / 2) = 52.690 tonf.m > Mu = 39.310 tonf.m O.K

---

2. 전 단 응 력 검토

Vc = 0.53 * √ fck * b * d = 56.654 (tonf)

Vu = 27.490 (tonf) < Φ * Vc = 45.323 (tonf)

∴ 전 단 보 강 불 필 요

3. 균 열 폭 검 토

M = 20.440 (tonf.m), d= 69.00 (cm),b=100.00 (cm),d'= 8.00 (cm),dc= 8.00 (cm), n= 9

P = As/(b.d) = 0.0045 , K = -n.P + $\{(n.p)^2 + 2.n.P\}^{\frac{1}{2}}$ = 0.2467 , J = 1-K/3 = 0.9178

fs = M / (P * J * b * d^2) = 1042.3 (kgf/cm^2) < 0.6 * fy = 1800.0 (kgf/cm^2) O. K

Z = fs * (dc * A)$^{1/3}$ = 1042.3 * [8.0 * { 2 * 8.00 * 100.00 / (30.968 / 3.871)}]$^{1/3}$

= 12190.6 (Kgf/cm)

x = K * d = 0.2467 * 69.0 = 17.022 (Cm)

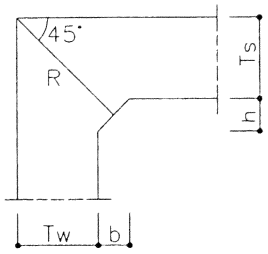
β c = (69.00 - 17.02 + 8.00) / (69.00 - 17.02) = 1.154

Wa = 0.0050 * (80.00 - 22.20 / 2) = 0.345 (mm)

W = 1.08 * β c * fs * (dc * A)$^{1/3}$ = 1.08 * β c * Z

= 1.08 * 1.154 * 12190.6 / 100000 = 0.152 (mm) < Wa = 0.345 (mm) ∴ O. K

◎ 우각부 검토



f_{ck} = 240 kgf/cm^2
f_y = 3000 kgf/cm^2

Ts = 100 cm M_0 = 79.42 tonf/m^2
Tw = 100 cm

1) 우각부 대각선 길이(R)

$R = \sqrt{(Ts^2 + Tw^2)}$ = $\sqrt{}$ (100.0 ² + 100 ²) = 141.421 cm

2) 절점부에 생기는 최대 인장응력

f_{tmax}= (5 × M_0) / (W × R^2)

= (5 × 79.420) / (100.0 × 141.421 ²) = 19.855 kgf/cm^2

> 0.25 × $\sqrt{f_{ck}}$ = 3.873 kgf/cm^2 ∴ 보강철근 필요

3) 보강철근량 계산(요구량)

A_{st} = (2 × M_0) / (R × f_{sa})

= (2 × 79.420) /(141.421 × 1500) = 74.878 cm^2

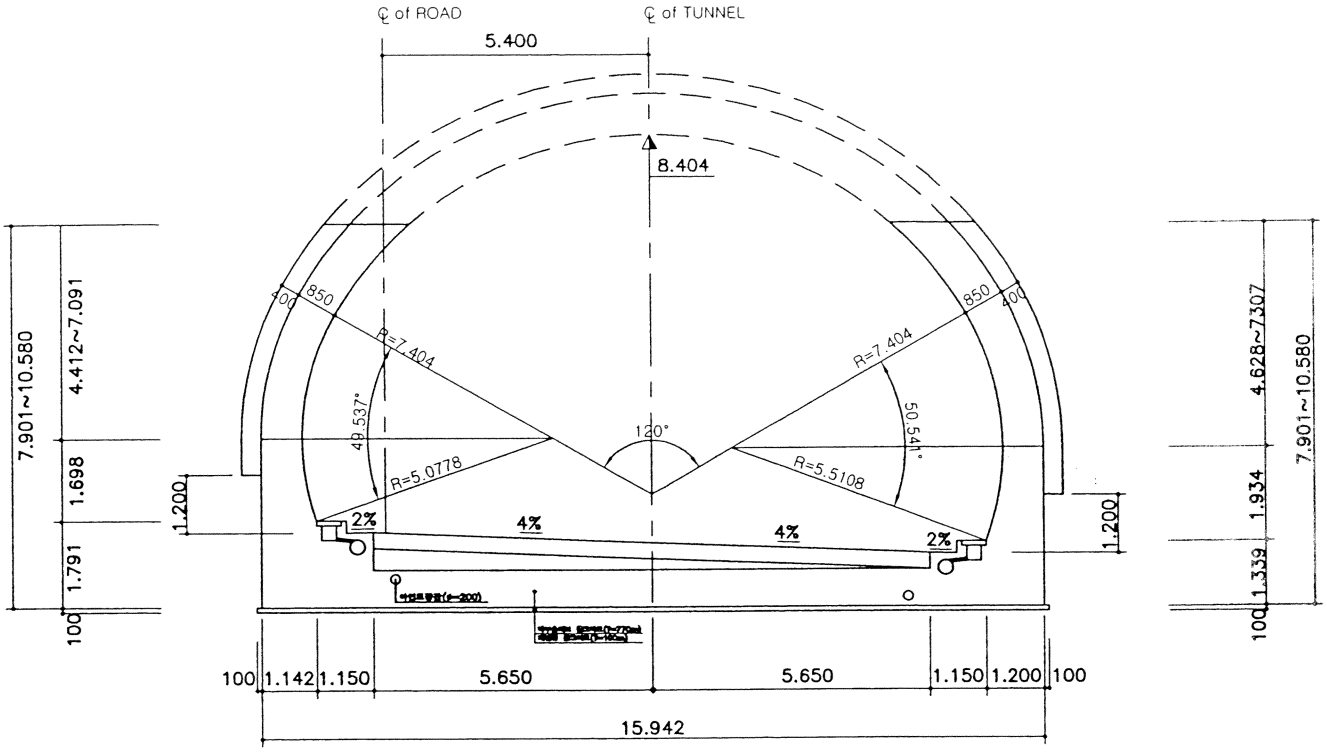
4) 사용철근량 계산

사용철근량 As = D25 @ 125 = 40.536 cm^2

2 EA × 40.536 = 81.072 > 74.878 ∴ OK

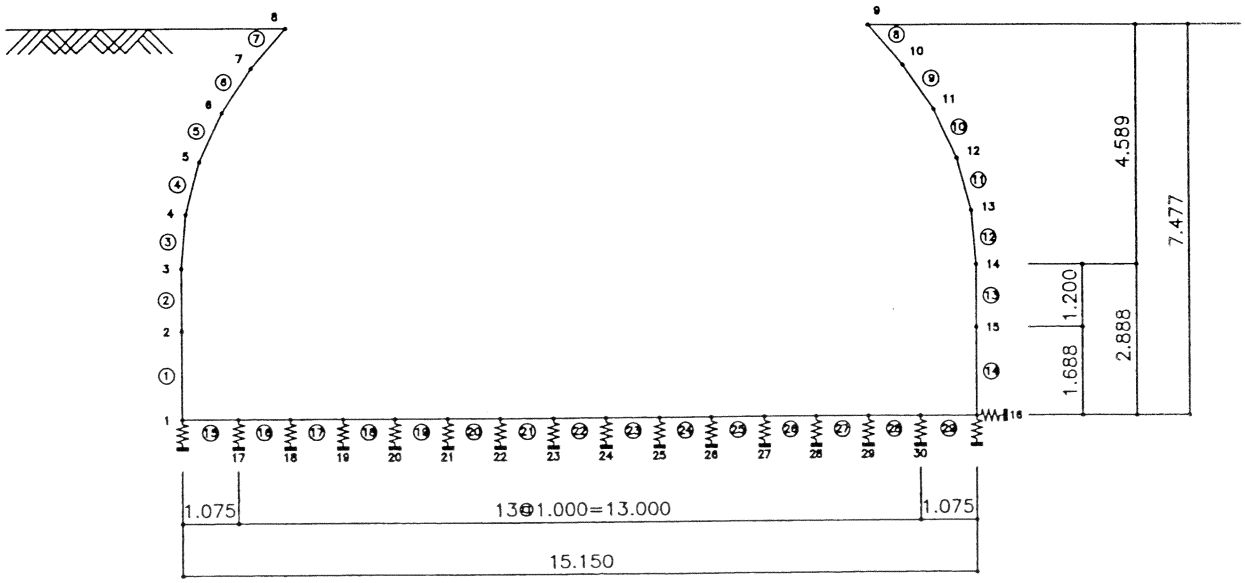
8.4.3 U - TYPE 구조계산

1) 단면도



2) 모델링 및 하중계산

가) 모델링



나) 단면특성

구 분	B(m)	H(m)	1m당 중량	해당요소	비 고
1	1.00	1.00	2.5	1, 14, 15, 16, 28, 29	
2	1.00	0.85	2.125	2~7, 8~13	
3	1.00	0.77	1.925	17 ~ 27	

다) 하중계산

(1) CASE 1 : 자중 - 프로그램 내에서 자동고려

(2) CASE 2 : 연직토압 H = 7.477 m

<각 절점별 하중크기 계산>

절 점	절점작용 연직 토압 (tf / m^2)	대칭절점
3	(7.477 - 2.888) × 2.0 = 9.178	14
4	(7.477 - 3.919) × 2.0 = 7.116	13
5	(7.477 - 4.918) × 2.0 = 5.118	12
6	(7.477 - 5.856) × 2.0 = 3.242	11
7	(7.477 - 6.707) × 2.0 = 1.540	10
8	(7.477 - 7.477) × 2.0 = 0.000	9

(3) CASE 3 : 수평토압 - 주동토압으로 산정

$$K_a = \frac{1 - \sin 30}{1 + \sin 30} = 0.333$$

<각 절점별 하중크기 계산>

절 점	절점작용 수평 토압 (tf / m^2)	대칭절점
1	(7.477 - 0.00) × 2.0 × 0.333 = 4.980	16
2	(7.477 - 1.688) × 2.0 × 0.333 = 3.855	15
3	(7.477 - 2.888) × 2.0 × 0.333 = 3.056	14
4	(7.477 - 3.919) × 2.0 × 0.333 = 2.370	13
5	(7.477 - 4.918) × 2.0 × 0.333 = 1.704	12
6	(7.477 - 5.856) × 2.0 × 0.333 = 1.080	11
7	(7.477 - 6.707) × 2.0 × 0.333 = 0.513	10
8	(7.477 - 7.477) × 2.0 × 0.333 = 0.000	9

(4) 하중조합

① 자중 + 연직토합 + 수평토합

a) 1.54 × CASE 1 + 1.54 × CASE 2 + 1.8 × CASE 3

b) 0.99 × CASE 1 + 0.99 × CASE 2 + 1.8 × CASE 3

② 자중 + 연직토압 + 수평토압 × $\frac{1}{2}$

a) 1.54 × CASE 1 + 1.54 × CASE 2 + 1.8 × CASE 3 × $\frac{1}{2}$

(5) 지반 반력 계수

$$K_v = K_{vo} \cdot \left(\frac{B_v}{30}\right)^{-\frac{3}{4}}$$

$$K_{vo} = \frac{1}{30}\alpha \cdot E_o$$

$E_o = 4.0 \times 10^4$ tf/m^2 $= 4.0 \times 10^3$ kgf/cm^2 (리핑암)

$$B_v = \sqrt{A_v}$$

$\alpha = 4$

$B_v = \sqrt{100 \times 235} = 153.3$ cm

$K_{vo} = \frac{1}{30} \times 4.0 \times 4.0 \times 10^3 = 533.3$ kgf/cm^2

$K_v = 533.3 \times \left(\frac{153.3}{30}\right)^{-\frac{3}{4}} = 156.912$ kgf/cm^3

$= 156912$ tf/m^3

$K_{v1} = 156912 \times 0.963 = 151106$ tf/m^2 : 1, 16

$K_{v2} = 156912 \times 1.038 = 162875$ tf/m^2 : 17, 30

$K_{v3} = 156912 \times 1.00 = 156912$ tf/m^2 : 18 ~ 29

4) 최대 부재력 집계 및 부재설계

가) 부재력 집계

구 분	부 재	두께(cm)	휨모멘트 (tonf · m)	전단력 (tonf)	균열검토 (tonf · m)	비 고
단면 검토용	측면부 2~8, 9~15	85.0	65.730	20.840	38.790	
	벽체하단 1, 16	100.0	111.800	34.260	64.360	
	기초 17~30	100.0	111.800	65.260	64.360	

4) 부재 설계

* 측면보 외측

1. 휨 응 력 검 토

1) 단 면 및 입 력 자 료

fck = 240.000 (kgf/㎠) fy = 3000.000 (kgf/㎠) Φ = 0.850 (bending)

Mu = 65.730 (tonf.m) Vu = 20.840 (tonf) Φ = 0.800 (shear)

b = 100.000 (cm) d = 77.000 (cm) d' = 8.000(cm)

2) 철 근 비 검 토

req. As = 34.624 (㎠) req. As'= 0.000 (㎠)

Use. As = D 0 X 0.000 = 0.000 (㎠)
D25 X 8.000 = 40.536 (㎠) Total As = 40.536 (㎠)

P = As / (b * d) = 0.00526

Pmax = 0.75 * K1 * 0.85 * fck / fy * 6000 / (6000 + fy) = 0.02890

Pmin = 14 / fy = 0.00467

As max = Pmax * b * d = 222.530 (㎠), As min = Pmin * b * d = 35.933 (㎠)

Pmin = 0.467 (%) < P = 0.526 (%) < pmax = 2.890 (%) ∵ 과 소 철 근 보

3) 휨 응 력 검 토

a = (As * fy) / (0.85 * fck * b) = 5.961 (cm) : 단철근 사용

Cc = 0.85 * fck * a * b = 121.61 (tonf), Cs = 0.0, T = As * fy = 121.61 (tonf)

Φ Mn = Φ * As * fy * (d - a / 2) = 76.511 tonf.m > Mu = 65.730 tonf.m 0.K

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2. 전 단 응 력 검토

Vc = 0.53 * √ fck * b * d = 63.223 (tonf)

Vu = 20.840 (tonf) < Φ * Vc = 50.578 (tonf)

∴ 전 단 보 강 불 필 요

3. 균 열 폭 검 토

M = 38.790 (tonf.m), d= 77.00 (cm),b=100.00 (cm),d'= 8.00 (cm),dc= 8.00 (cm), n= 9

P = As/(b.d) = 0.0053 , K = -n.P + {(n.p)² + 2.n.P}^½ = 0.2641 , J = 1-K/3 = 0.9120

fs = M / (P * J * b * d²) = 1362.7 (kgf/cm²) < 0.6 * fy = 1800.0 (kgf/cm²) O. K

Z = fs * (dc * A)^⅓ = 1362.7 * [8.0 * { 2 * 8.00 * 100.00 / (40.536 / 5.067)}]^⅓

= 15938.4 (Kgf/cm)

x = K * d = 0.2641 * 77.0 = 20.334 (Cm)

β c = (77.00 - 20.33 + 8.00) / (77.00 - 20.33) = 1.141

Wa = 0.0050 * (80.00 - 25.40 / 2) = 0.336 (mm)

W = 1.08 * β c * fs * (dc * A)^⅓ = 1.08 * β c * Z

= 1.08 * 1.141 * 15938.4 / 100000 = 0.196 (mm) < Wa = 0.336 (mm) ∴ O. K

* 벽체하단 외측

1. 휨 응 력 검 토

1) 단 면 및 입 력 자 료

fck = 240.000 (kgf/㎠) fy = 3000.000 (kgf/㎠) Φ = 0.850 (bending)

Mu = 111.800 (tonf.m) Vu = 34.260 (tonf) Φ = 0.800 (shear)

b = 100.000 (cm) d = 92.000 (cm) d' = 8.000(cm)

2) 철 근 비 검 토

req. As = 49.630 (㎠) req. As'= 0.000 (㎠)

Use. As = D 0 X 0.000 = 0.000 (㎠)
D29 X 8.000 = 51.392 (㎠) Total As = 51.392 (㎠)

P = As / (b * d) = 0.00559

Pmax = 0.75 * K1 * 0.85 * fck / fy * 6000 / (6000 + fy) = 0.02890

Pmin = 14 / fy = 0.00467

As max = Pmax * b * d = 265.880 (㎠), As min = Pmin * b * d = 42.933 (㎠)

Pmin = 0.467 (%) < P = 0.559 (%) < pmax = 2.890 (%) ∵ 과 소 철 근 보

3) 휨 응 력 검 토

a = (As * fy) / (0.85 * fck * b) = 7.558 (cm) : 단철근 사용

Cc = 0.85 * fck * a * b = 154.18 (tonf), Cs = 0.0, T = As * fy = 154.18 (tonf)

Φ Mn = Φ * As * fy * (d - a / 2) = 115.614 tonf.m > Mu = 111.800 tonf.m O.K

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2. 전 단 응 력 검토

Vc = 0.53 * √ fck * b * d = 75.539 (tonf)

Φ * 1/2 * Vc = 30.215 (tonf) < Vu = 34.260 (tonf) < Φ * Vc = 60.431 (tonf)

∴ 최 소 전 단 보 강 필 요

전단 철근 간격 : {Smin = 10.00 (cm),Smax = 46.00 (cm),60.0 (cm)}에서 s= 30.00 (cm)

소요 전단철근량 : Req Av = 3.5 * b * s /fy = 3.500 (㎠)

사용 전단철근량 : Use Av = D13 X 4.000 = 5.068 (㎠)

3. 균 열 폭 검 토

M = 64.360 (tonf.m), d= 92.00 (cm),b=100.00 (cm),d'= 8.00 (cm),dc= 8.00 (cm), n= 9

P = As/(b.d) = 0.0056 , K = $-n.P + \{(n.p)^2 + 2.n.P\}^{\frac{1}{2}}$ = 0.2708 , J = 1-K/3 = 0.9097

fs = M / (P * J * b * d^2) = 1496.3 (kgf/cm^2) < 0.6 * fy = 1800.0 (kgf/cm^2) O. K

Z = fs * (dc * A)^⅓ = 1496.3 * [8.0 * { 2 * 8.00 * 100.00 / (51.392 / 6.424)}]^⅓

= 17500.7 (Kgf/cm)

x = K * d = 0.2708 * 92.0 = 24.912 (Cm)

β c = (92.00 - 24.91 + 8.00) / (92.00 - 24.91) = 1.119

Wa = 0.0050 * (80.00 - 28.60 / 2) = 0.329 (mm)

W = 1.08 * β c * fs * (dc * A)^⅓ = 1.08 * β c * Z

= 1.08 * 1.119 * 17500.7 / 100000 = 0.212 (mm) < Wa = 0.329 (mm) ∴ O. K

* 기 초 하 면

1. 휨 응 력 검 토

1) 단 면 및 입 력 자 료

fck = 240.000 (kgf/㎠) fy = 3000.000 (kgf/㎠) Φ = 0.850 (bending)

Mu = 111.800 (tonf.m) Vu = 65.260 (tonf) Φ = 0.800 (shear)

b = 100.000 (cm) d = 92.000 (cm) d' = 8.000(cm)

2) 철 근 비 검 토

req. As = 49.630 (㎠) req. As'= 0.000 (㎠)

Use. As = D 0 X 0.000 = 0.000 (㎠)
D29 X 8.000 = 51.392 (㎠) Total As = 51.392 (㎠)

P = As / (b * d) = 0.00559

Pmax = 0.75 * K1 * 0.85 * fck / fy * 6000 / (6000 + fy) = 0.02890

Pmin = 14 / fy = 0.00467

As max = Pmax * b * d = 265.880 (㎠), As min = Pmin * b * d = 42.933 (㎠)

Pmin = 0.467 (%) < P = 0.559 (%) < pmax = 2.890 (%) ∵ 과 소 철 근 보

3) 휨 응 력 검 토

a = (As * fy) / (0.85 * fck * b) = 7.558 (cm) : 단철근 사용

Cc = 0.85 * fck * a * b = 154.18 (tonf), Cs = 0.0, T = As * fy = 154.18 (tonf)

Φ Mn = Φ * As * fy * (d - a / 2) = 115.614 tonf.m > Mu = 111.800 tonf.m 0.K

---

2. 전 단 응 력 검토

Vc = 0.53 * √ fck * b * d = 75.539 (tonf)

Vu = 65.260 (tonf) > Φ * Vc = 60.431 (tonf) ∴ 전 단 보 강 필 요

Φ Vs = Vu - Φ Vc = 4.829 (tonf)

전단 철근 간격 : {Smin = 10.00 (cm),Smax = 46.00 (cm),60.00 (cm)}에서 s= 30.00 (cm)

소요 전단철근량 : Req Av =Φ Vs * s / (Φ * fy * d)= 0.656 (㎠)

최소 전단철근량 : Req Av = 3.5 * b * s / fy = 3.5 (㎠)

사용 전단철근량 : Use Av = D13 X 4.000 = 5.068 (㎠)

Φ * Vs'= 37.300 (tonf) > Φ Vs = 4.829 (tonf) ∴ O. K.

Vs'= Av * fy * d / s = 46.626 (tonf) < 2.1 * √ fck * b * d = 299.304 (tonf)

3. 균 열 폭 검 토

M = 64.360 (tonf.m), d= 92.00 (cm),b=100.00 (cm),d'= 8.00 (cm),dc= 8.00 (cm), n= 9

P = As/(b.d) = 0.0056 , K = -n.P + {(n.p)² + 2.n.P}^½ = 0.2708 , J = 1-K/3 = 0.9097

fs = M / (P * J * b * d²) = 1496.3 (kgf/cm²) < 0.6 * fy = 1800.0 (kgf/cm²) O. K

Z = fs * (dc * A)^⅓ = 1496.3 * [8.0 * { 2 * 8.00 * 100.00 / (51.392 / 6.424)}]^⅓

= 17500.7 (Kgf/cm)

x = K * d = 0.2708 * 92.0 = 24.912 (Cm)

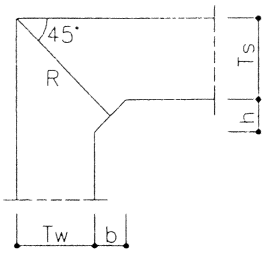
β c = (92.00 - 24.91 + 8.00) / (92.00 - 24.91) = 1.119

Wa = 0.0050 * (80.00 - 28.60 / 2) = 0.329 (mm)

W = 1.08 * β c * fs * (dc * A)^⅓ = 1.08 * β c * Z

= 1.08 * 1.119 * 17500.7 / 100000 = 0.212 (mm) < Wa = 0.329 (mm) ∴ O K

◎ 우각부 검토



f_{ck} = 240 kgf/cm^2
f_y = 3000 kgf/cm^2

Ts = 100 cm M_0 = 111.8 tonf/m^2
Tw = 100 cm

1) 우각부 대각선 길이(R)

$R = \sqrt{(Ts^2 + Tw^2)}$ = $\sqrt{}$ (100.0 ² + 100 ²) = 141.421 cm

2) 절점부에 생기는 최대 인장응력

f_{tmax}= (5 × M_0) / (W × R^2)

= (5 × 111.80) / (100.0 × 141.421 ²) = 27.950 kgf/cm^2

> 0.25 × $\sqrt{f_{ck}}$ = 3.873 kgf/cm^2 ∴ 보강철근 필요

3) 보강철근량 계산(요구량)

A_{st} = (2 × M_0) / (R × f_{sa})

= (2 × 111.80) /(141.421 × 1500) = 105.406 cm^2

4) 사용철근량 계산

사용철근량 As = D25 @ 125 = 40.536 cm^2

3 EA × 40.536 = 121.608 > 105.406 ∴ OK

8.5 구조물(벨마우스) 계산(발파암)

8.5.1 설계개요 및 기준

1) 설계기준 강도

◦ 콘크리트 강도 : f_{ck} = 240 kgf/cm^2

◦ 철근 항복강도 : f_y = 3000 kgf/cm^2

2) 하중

◦ 토사 단위중량 : r_s = 2.0 tonf/m^3

◦ 철근 콘크리트 단위중량 : r_c = 2.5 tonf/m^3

◦ 토압계수 (정지토압) : k_o = 1 - sin30 = 0.5

3) 하중계수

◦ 고정하중 : 1.54

- 구체자중, 토사 사하중

◦ 측하중 : 1.8

- 토사측압

4) 강도감소계수

◦ 휨 : $\varnothing_B$ = 0.85

◦ 전단 : $\varnothing_s$ = 0.80

5) 설계기준도서

◦ 터널 설계기준

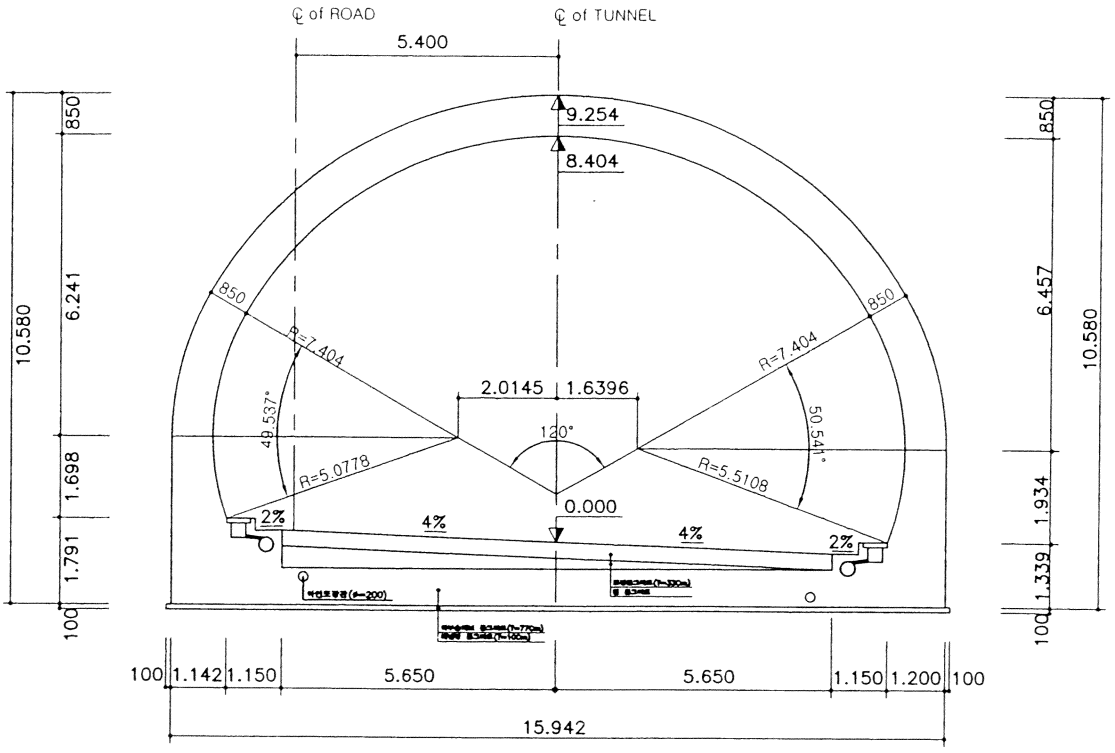
◦ 콘크리트 구조 설계기준

◦ 도로교 설계기준

◦ 구조물 기초 설계기준

8.5.2 원통형 구조계산

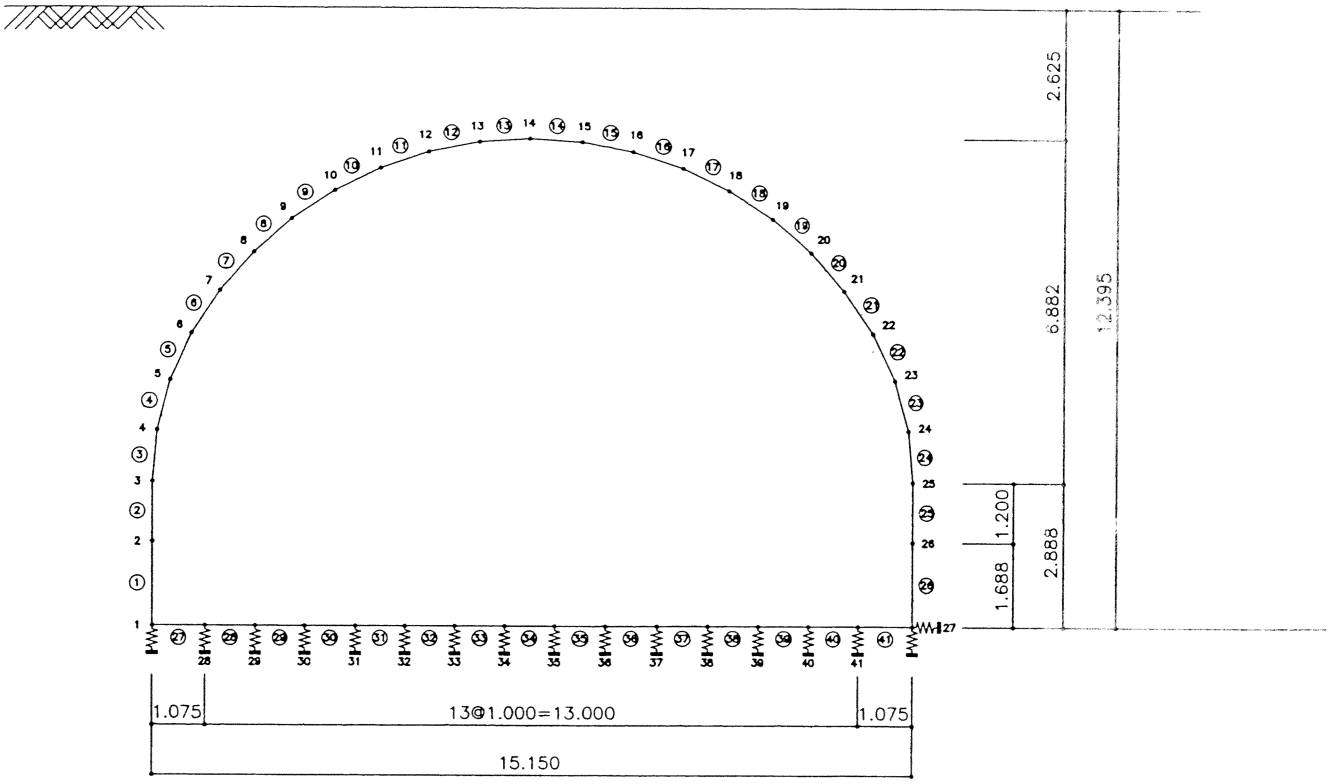
1) 단면도



2) 모델링 및 하중계산

※ 토사 상재 하중은 2.2m 로 한다.

가) 모델링



나) 단면특성

구 분	B(m)	H(m)	1m당 중량	해당요소	비 고
1	1.00	1.00	2.5	1,26,27, 28,40,41	
2	1.00	0.85	2.125	2 ~ 25	
3	1.00	0.77	1.925	29 ~ 39	

다) 하중계산

(1) CASE 1 : 자중 - 프로그램 내에서 자동고려

(2) CASE 2 : 연직토압(라이닝 상단 2.2m 적용)

$$H = 2.888 + 6.882 + 0.425 + 2.2 = 12.395\ m$$

<각 절점별 하중크기 계산>

번 호	절 점	절점작용 연직 토압 (tf / m^2)	대칭절점
	3	(12.395 - 2.888) × 2.0 = 19.014	25
	4	(12.395 - 3.919) × 2.0 = 16.952	24
	5	(12.395 - 4.918) × 2.0 = 14.954	23
	6	(12.395 - 5.856) × 2.0 = 13.078	22
	7	(12.395 - 6.707) × 2.0 = 11.376	21
	8	(12.395 - 7.477) × 2.0 = 9.836	20
	9	(12.395 - 8.152) × 2.0 = 8.486	19
	10	(12.395 - 8.721) × 2.0 = 7.348	18
	11	(12.395 - 9.174) × 2.0 = 6.442	17
	12	(12.395 - 9.504) × 2.0 = 5.782	16
	13	(12.395 - 9.703) × 2.0 = 5.384	15
	14	(12.395 - 9.770) × 2.0 = 5.250	14

(3) CASE 3 : 수평토압 - 정지토압으로 산정

K_o = 1 - sin30 = 0.5

<각 절점별 하중크기 계산>

절 점	절점작용 수평 토압 (tf / m^2)	대칭절점
1	(12.395 - 0.00) × 2.0 × 0.5 = 12.395	27
2	(12.395 - 1.688) × 2.0 × 0.5 = 10.707	26
3	(12.395 - 2.888) × 2.0 × 0.5 = 9.507	25
4	(12.395 - 3.919) × 2.0 × 0.5 = 8.476	24
5	(12.395 - 4.918) × 2.0 × 0.5 = 7.477	23
6	(12.395 - 5.856) × 2.0 × 0.5 = 6.539	22
7	(12.395 - 6.707) × 2.0 × 0.5 = 5.688	21
8	(12.395 - 7.477) × 2.0 × 0.5 = 4.918	20
9	(12.395 - 8.152) × 2.0 × 0.5 = 4.243	19
10	(12.395 - 8.721) × 2.0 × 0.5 = 3.674	18
11	(12.395 - 9.174) × 2.0 × 0.5 = 3.221	17
12	(12.395 - 9.504) × 2.0 × 0.5 = 2.891	16
13	(12.395 - 9.703) × 2.0 × 0.5 = 2.692	15
14	(12.395 - 9.770) × 2.0 × 0.5 = 2.625	14

(4) CASE 4 : 콘크리트 내외면 온도차 $\Delta T = \pm 5^\circ C$ 적용

(5) CASE 5 : 건조수축하중 $T = -20^\circ C$ 적용

(6) 하중조합

COMB1 : 1.54×CASE1+1.54×CASE2+1.8×CASE3

COMB2 : 0.99×CASE1+0.99×CASE2+1.8×CASE3

COMB3 : 1.54×CASE1+1.54×CASE2+1.8×CASE3 × 1/2

COMB4 : 1.155×CASE1+1.155×CASE2+1.35×CASE3+1.125×CASE4(+)+1.125×CASE5

COMB5 : 1.155×CASE1+1.155×CASE2+1.135×CASE3+1.125×CASE4(-)

COMB6 : 1.0×CASE1+1.0×CASE2+1.0×CASE3

COMB7 : 0.75×CASE1+0.75×CASE2+0.75×CASE3+0.75×CASE4(+)+0.75×CASE5

COMB8 : 0.75×CASE1+0.75×CASE2+0.75×CASE3+0.75×CASE4(-)

(7) 지반 반력 계수

$$K_v = K_{vo} \cdot \left(\frac{B_v}{30}\right)^{-\frac{3}{4}}$$

$$K_{vo} = \frac{1}{30}\alpha \cdot E_o$$

$E_o = 4.3 \times 10^5$ tf/m^2 $= 4.3 \times 10^4$ kgf/cm^2 (발파암)

$$B_v = \sqrt{A_v}$$

$\alpha = 4$

$B_v = \sqrt{100 \times 235} = 153.3$ cm

$K_{vo} = \frac{1}{30} \times 4.0 \times 4.3 \times 10^4 = 5733.3$ kgf/cm^2

$K_v = 5733.3 \times \left(\frac{153.3}{30}\right)^{-\frac{3}{4}} = 1686.900$ kgf/cm^3

$= 1686900$ tf/m^3

$K_{v1} = 1686900 \times 0.963 = 1624484$ tf/m^2 : 1, 27

$K_{v2} = 1686900 \times 1.038 = 1751002$ tf/m^2 : 28, 41

$K_{v3} = 1686900 \times 1.00 = 1686900$ tf/m^2 : 29 ~ 40

4) 최대 부재력 집계 및 부재설계

가) 부재력 집계

구 분	부 재	두께(cm)		휨모멘트 (tonf · m)		전단력 (tonf)	균열검토 (tonf · m)	비 고
단면 검토용	천단부 2~25	85.0		외측	44.05	35.11	13.50	
				내측	27.28	35.11	13.26	
	벽체하단 1, 26	100.0		외측	72.09	58.35	13.27	
				내측	33.83	58.35	6.03	
	기초 27~28, 40~41	하면	100.0	72.09		64.17	13.27	
		상면	100.0	43.22		64.17	12.93	
	차도부 슬래브 29~39	77.0		10.76		8.25	7.11	

나) 부재설계

*천단부 인장

1. 휨 응 력 검 토

1) 단 면 및 입 력 자 료

fck = 240.000 (kgf/㎠) fy = 3000.000 (kgf/㎠) Φ = 0.850 (bending)

Mu = 44.050 (tonf.m) Vu = 35.110 (tonf) Φ = 0.800 (shear)

b = 100.000 (cm) d = 77.000 (cm) d' = 8.000(cm)

2) 철 근 비 검 토

req. As = 22.938 (㎠) req. As'= 0.000 (㎠)

Use. As = D 0 X 0.000 = 0.000 (㎠)
D25 X 8.000 = 40.536 (㎠) Total As = 40.536 (㎠)

P = As / (b * d) = 0.00526

Pmax = 0.75 * K1 * 0.85 * fck / fy * 6000 / (6000 + fy) = 0.02890

Pmin = 14 / fy = 0.00467

As max = Pmax * b * d = 222.530 (㎠), As min = Pmin * b * d = 35.933 (㎠)

Pmin = 0.467 (%) < P = 0.526 (%) < pmax = 2.890 (%) ∵ 과 소 철 근 보

3) 휨 응 력 검 토

a = (As * fy) / (0.85 * fck * b) = 5.961 (cm) : 단철근 사용

Cc = 0.85 * fck * a * b = 121.61 (tonf), Cs = 0.0, T = As * fy = 121.61 (tonf)

Φ Mn = Φ * As * fy * (d - a / 2) = 76.511 tonf.m > Mu = 44.050 tonf.m O.K

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2. 전 단 응 력 검토

Vc = 0.53 * √ fck * b * d = 63.223 (tonf)

Vu = 35.110 (tonf) < Φ * Vc = 50.578 (tonf)

∴ 전 단 보 강 불 필 요

3. 균 열 폭 검 토

M = 13.500 (tonf.m), d= 77.00 (cm),b=100.00 (cm),d'= 8.00 (cm),dc= 8.00 (cm), n= 9

P = As/(b.d) = 0.0053 , K = $-n.P + \{(n.p)^2 + 2.n.P\}^{\frac{1}{2}}$ = 0.2641 , J = 1-K/3 = 0.9120

fs = M / (P * J * b * d^2) = 474.3 (kgf/cm^2) < 0.6 * fy = 1800.0 (kgf/cm^2) O. K

Z = fs * (dc * A)^⅓ = 474.3 * [8.0 * { 2 * 8.00 * 100.00 / (40.536 / 5.067)}]^⅓

= 5547.0 (Kgf/cm)

x = K * d = 0.2641 * 77.0 = 20.334 (Cm)

β c = (77.00 - 20.33 + 8.00) / (77.00 - 20.33) = 1.141

Wa = 0.0050 * (80.00 - 25.40 / 2) = 0.336 (mm)

W = 1.08 * β c * fs * (dc * A)^⅓ = 1.08 * β c * Z

= 1.08 * 1.141 * 5547.0 / 100000 = 0.068 (mm) < Wa = 0.336 (mm) ∴ O. K

* 천안부 내측

1. 휨 응 력 검 토

1) 단 면 및 입 력 자 료

fck = 240.000 (kgf/㎠) fy = 3000.000 (kgf/㎠) Φ = 0.850 (bending)

Mu = 27.280 (tonf.m) Vu = 35.110 (tonf) Φ = 0.800 (shear)

b = 100.000 (cm) d = 77.000 (cm) d' = 8.000(cm)

2) 철 근 비 검 토

req. As = 14.084 (㎠) req. As'= 0.000 (㎠)

Use. As = D 0 X 0.000 = 0.000 (㎠)
D19 X 8.000 = 22.920 (㎠) Total As = 22.920 (㎠)

P = As / (b * d) = 0.00298

Pmax = 0.75 * K1 * 0.85 * fck / fy * 6000 / (6000 + fy) = 0.02890

Pmin = 14 / fy = 0.00467

As max = Pmax * b * d = 222.530 (㎠), As min = Pmin * b * d = 35.933 (㎠)

req. As * (1 + ⅓) = 18.778 (㎠), 온도 철근: 0.002 * b * d = 15.400 (㎠)

As = 22.920 (㎠) > req.As (1 + ⅓)= 18.778 (㎠) ∵ 과 소 철 근 보

3) 휨 응 력 검 토

a = (As * fy) / (0.85 * fck * b) = 3.371 (cm) : 단철근 사용

Cc = 0.85 * fck * a * b = 68.76 (tonf), Cs = 0.0, T = As * fy = 68.76 (tonf)

Φ Mn = Φ * As * fy * (d - a / 2) = 44.018 tonf.m > Mu = 27.280 tonf.m 0.K

---

2. 전 단 응 력 검토

Vc = 0.53 * √ fck * b * d = 63.223 (tonf)

Vu = 35.110 (tonf) < Φ * Vc = 50.578 (tonf)

∴ 전 단 보 강 불 필 요

3. 균 열 폭 검 토

M = 13.260 (tonf.m), d= 77.00 (cm),b=100.00 (cm),d'= 8.00 (cm),dc= 8.00 (cm), n= 9

P = As/(b.d) = 0.0030 , K = -n.P + {(n.p)² + 2.n.P}^½ = 0.2062 , J = 1-K/3 = 0.9313

fs = M / (P * J * b * d²) = 806.8 (kgf/cm²) < 0.6 * fy = 1800.0 (kgf/cm²) O. K

Z = fs * (dc * A)^⅓ = 806.8 * [8.0 * { 2 * 8.00 * 100.00 / (22.920 / 2.865)}]^⅓

= 9436.4 (Kgf/cm)

x = K * d = 0.2062 * 77.0 = 15.880 (Cm)

β c = (77.00 - 15.88 + 8.00) / (77.00 - 15.88) = 1.131

Wa = 0.0050 * (80.00 - 19.10 / 2) = 0.352 (mm)

W = 1.08 * β c * fs * (dc * A)^⅓ = 1.08 * β c * Z

= 1.08 * 1.131 * 9436.4 / 100000 = 0.115 (mm) < Wa = 0.352 (mm) ∴ O. K

* 벽체하단 휨응력

1. 휨 응 력 검 토

1) 단 면 및 입 력 자 료

fck = 240.000 (kgf/㎠) fy = 3000.000 (kgf/㎠) Φ = 0.850 (bending)

Mu = 72.090 (tonf.m) Vu = 58.350 (tonf) Φ = 0.800 (shear)

b = 100.000 (cm) d = 92.000 (cm) d' = 8.000(cm)

2) 철 근 비 검 토

req. As = 31.526 (㎠) req. As'= 0.000 (㎠)

Use. As = D 0 X 0.000 = 0.000 (㎠)
D29 X 8.000 = 51.392 (㎠) Total As = 51.392 (㎠)

P = As / (b * d) = 0.00559

Pmax = 0.75 * K1 * 0.85 * fck / fy * 6000 / (6000 + fy) = 0.02890

Pmin = 14 / fy = 0.00467

As max = Pmax * b * d = 265.880 (㎠), As min = Pmin * b * d = 42.933 (㎠)

Pmin = 0.467 (%) < P = 0.559 (%) < pmax = 2.890 (%) ∵ 과 소 철 근 보

3) 휨 응 력 검 토

a = (As * fy) / (0.85 * fck * b) = 7.558 (cm) : 단철근 사용

Cc = 0.85 * fck * a * b = 154.18 (tonf), Cs = 0.0, T = As * fy = 154.18 (tonf)

Φ Mn = Φ * As * fy * (d - a / 2) = 115.614 tonf.m > Mu = 72.090 tonf.m 0.K

---

2. 전 단 응 력 검토

Vc = 0.53 * √ fck * b * d = 75.539 (tonf)

Φ * 1/2 * Vc = 30.215 (tonf) < Vu = 58.350 (tonf) < Φ * Vc = 60.431 (tonf)

∴ 최 소 전 단 보 강 필 요

전단 철근 간격 : {Smin = 10.00 (cm),Smax = 46.00 (cm),60.0 (cm)}에서 s= 30.00 (cm)

소요 전단철근량 : Req Av = 3.5 * b * s /fy = 3.500 (㎠)

사용 전단철근량 : Use Av = D13 X 4.000 = 5.068 (㎠)

3. 균 열 폭 검 토

M = 13.270 (tonf.m), d= 92.00 (cm),b=100.00 (cm),d'= 8.00 (cm),dc= 8.00 (cm), n= 9

P = As/(b.d) = 0.0056 , K = -n.P + {(n.p)² + 2.n.P}^½ = 0.2708 , J = 1-K/3 = 0.9097

fs = M / (P * J * b * d²) = 308.5 (kgf/cm²) < 0.6 * fy = 1800.0 (kgf/cm²) O. K

Z = fs * (dc * A)^⅓ = 308.5 * [8.0 * { 2 * 8.00 * 100.00 / (51.392 / 6.424)}]^⅓

= 3608.4 (Kgf/cm)

x = K * d = 0.2708 * 92.0 = 24.912 (Cm)

β c = (92.00 - 24.91 + 8.00) / (92.00 - 24.91) = 1.119

Wa = 0.0050 * (80.00 - 28.60 / 2) = 0.329 (mm)

W = 1.08 * β c * fs * (dc * A)^⅓ = 1.08 * β c * Z

= 1.08 * 1.119 * 3608.4 / 100000 = 0.044 (mm) < Wa = 0.329 (mm) ∴ O. K

* 벽체하단 내측

1. 휨 응 력 검 토

1) 단 면 및 입 력 자 료

fck = 240.000 (kgf/㎠) fy = 3000.000 (kgf/㎠) Φ = 0.850 (bending)

Mu = 33.830 (tonf.m) Vu = 58.350 (tonf) Φ = 0.800 (shear)

b = 100.000 (cm) d = 92.000 (cm) d' = 8.000(cm)

2) 철 근 비 검 토

req. As = 14.591 (㎠) req. As'= 0.000 (㎠)

Use. As = D 0 X 0.000 = 0.000 (㎠)
D19 X 8.000 = 22.920 (㎠) Total As = 22.920 (㎠)

P = As / (b * d) = 0.00249

Pmax = 0.75 * K1 * 0.85 * fck / fy * 6000 / (6000 + fy) = 0.02890

Pmin = 14 / fy = 0.00467

As max = Pmax * b * d = 265.880 (㎠), As min = Pmin * b * d = 42.933 (㎠)

req. As * (1 + 1/3) = 19.455 (㎠), 온도 철근: 0.002 * b * d = 18.400 (㎠)

As = 22.920 (㎠) > req.As (1 + 1/3)= 19.455 (㎠) ∵ 과 소 철 근 보

3) 휨 응 력 검 토

a = (As * fy) / (0.85 * fck * b) = 3.371 (cm) : 단철근 사용

Cc = 0.85 * fck * a * b = 68.76 (tonf), Cs = 0.0, T = As * fy = 68.76 (tonf)

Φ Mn = Φ * As * fy * (d - a / 2) = 52.785 tonf.m > Mu = 33.830 tonf.m 0.K

---

2. 전 단 응 력 검토

Vc = 0.53 * √ fck * b * d = 75.539 (tonf)

Φ * 1/2 * Vc = 30.215 (tonf) < Vu = 58.350 (tonf) < Φ * Vc = 60.431 (tonf)

∴ 최 소 전 단 보 강 필 요

전단 철근 간격 : {Smin = 10.00 (cm),Smax = 46.00 (cm),60.0 (cm)}에서 s= 30.00 (cm)

소요 전단철근량 : Req Av = 3.5 * b * s /fy = 3.500 (㎠)

사용 전단철근량 : Use Av = D13 X 4.000 = 5.068 (㎠)

3. 균 열 폭 검 토

M = 6.030 (tonf.m), d= 92.00 (cm),b=100.00 (cm),d'= 8.00 (cm),dc= 8.00 (cm), n= 9

P = As/(b.d) = 0.0025 , K = $-n.P + \{(n.p)^2 + 2.n.P\}^{\frac{1}{2}}$ = 0.1905 , J = 1-K/3 = 0.9365

fs = M / (P * J * b * d^2) = 305.4 (kgf/cm^2) < 0.6 * fy = 1800.0 (kgf/cm^2) O. K

Z = fs * (dc * A)^⅓ = 305.4 * [8.0 * { 2 * 8.00 * 100.00 / (22.920 / 2.865)}]^⅓

= 3571.5 (Kgf/cm)

x = K * d = 0.1905 * 92.0 = 17.528 (Cm)

β c = (92.00 - 17.53 + 8.00) / (92.00 - 17.53) = 1.107

Wa = 0.0050 * (80.00 - 19.10 / 2) = 0.352 (mm)

W = 1.08 * β c * fs * (dc * A)^⅓ = 1.08 * β c * Z

= 1.08 * 1.107 * 3571.5 / 100000 = 0.043 (mm) < Wa = 0.352 (mm) ∴ O. K

* 기초하면

1. 휨 응 력 검 토

1) 단 면 및 입 력 자 료

fck = 240.000 (kgf/㎠) fy = 3000.000 (kgf/㎠) Φ = 0.850 (bending)

Mu = 72.090 (tonf.m) Vu = 64.170 (tonf) Φ = 0.800 (shear)

b = 100.000 (cm) d = 92.000 (cm) d' = 8.000(cm)

2) 철 근 비 검 토

req. As = 31.526 (㎠) req. As'= 0.000 (㎠)

Use. As = D 0 X 0.000 = 0.000 (㎠)
D29 X 8.000 = 51.392 (㎠) Total As = 51.392 (㎠)

P = As / (b * d) = 0.00559

Pmax = 0.75 * K1 * 0.85 * fck / fy * 6000 / (6000 + fy) = 0.02890

Pmin = 14 / fy = 0.00467

As max = Pmax * b * d = 265.880 (㎠), As min = Pmin * b * d = 42.933 (㎠)

Pmin = 0.467 (%) < P = 0.559 (%) < pmax = 2.890 (%) ∵ 과 소 철 근 보

3) 휨 응 력 검 토

a = (As * fy) / (0.85 * fck * b) = 7.558 (cm) : 단철근 사용

Cc = 0.85 * fck * a * b = 154.18 (tonf), Cs = 0.0, T = As * fy = 154.18 (tonf)

Φ Mn = Φ * As * fy * (d - a / 2) = 115.614 tonf.m > Mu = 72.090 tonf.m O.K

---

2. 전 단 응 력 검토

Vc = 0.53 * √ fck * b * d = 75.539 (tonf)

Vu = 64.170 (tonf) > Φ * Vc = 60.431 (tonf) ∴ 전 단 보 강 필 요

Φ Vs = Vu - Φ Vc = 3.739 (tonf)

전단 철근 간격 : {Smin = 10.00 (cm),Smax = 46.00 (cm),60.00 (cm)}에서 s= 30.00 (cm)

소요 전단철근량 : Req Av =Φ Vs * s / (Φ * fy * d)= 0.508 (㎠)

최소 전단철근량 : Req Av =Φ 3.5 * b * s / fy = 3.500 (㎠)

사용 전단철근량 : Use Av = D13 X 4.000 = 5.068 (㎠)

Φ * Vs'= 37.300 (tonf) > Φ Vs = 3.739 (tonf) ∴ O. K.

Vs'= Av * fy * d / s = 46.626 (tonf) < 2.1 * √ fck * b * d = 299.304 (tonf)

3. 균 열 폭 검 토

M = 13.270 (tonf.m), d= 92.00 (cm),b=100.00 (cm),d'= 8.00 (cm),dc= 8.00 (cm), n= 9

P = As/(b.d) = 0.0056 , K = -n.P + {(n.p)² + 2.n.P}^½ = 0.2708 , J = 1-K/3 = 0.9097

fs = M / (P * J * b * d²) = 308.5 (kgf/㎠) < 0.6 * fy = 1800.0 (kgf/㎠) O. K

Z = fs * (dc * A)^⅓ = 308.5 * [8.0 * { 2 * 8.00 * 100.00 / (51.392 / 6.424)}]^⅓

= 3608.4 (Kgf/cm)

x = K * d = 0.2708 * 92.0 = 24.912 (Cm)

β c = (92.00 - 24.91 + 8.00) / (92.00 - 24.91) = 1.119

Wa = 0.0050 * (80.00 - 28.60 / 2) = 0.329 (mm)

W = 1.08 * β c * fs * (dc * A)^⅓ = 1.08 * β c * Z

= 1.08 * 1.119 * 3608.4 / 100000 = 0.044 (mm) < Wa = 0.329 (mm) ∴ O. K

* 기초상면

1. 휨 응 력 검 토

1) 단 면 및 입 력 자 료

fck = 240.000 (kgf/㎠) fy = 3000.000 (kgf/㎠) Φ = 0.850 (bending)

Mu = 43.220 (tonf.m) Vu = 64.170 (tonf) Φ = 0.800 (shear)

b = 100.000 (cm) d = 92.000 (cm) d' = 8.000(cm)

2) 철 근 비 검 토

req. As = 18.703 (㎠) req. As'= 0.000 (㎠)

Use. As = D 0 X 0.000 = 0.000 (㎠)
D22 X 8.000 = 30.968 (㎠) Total As = 30.968 (㎠)

P = As / (b * d) = 0.00337

Pmax = 0.75 * K1 * 0.85 * fck / fy * 6000 / (6000 + fy) = 0.02890

Pmin = 14 / fy = 0.00467

As max = Pmax * b * d = 265.880 (㎠), As min = Pmin * b * d = 42.933 (㎠)

req. As * (1 + ⅓) = 24.938 (㎠), 온도 철근: 0.002 * b * d = 18.400 (㎠)

As = 30.968 (㎠) > req.As (1 + ⅓)= 24.938 (㎠) ∵ 과 소 철 근 보

3) 휨 응 력 검 토

a = (As * fy) / (0.85 * fck * b) = 4.554 (cm) : 단철근 사용

Cc = 0.85 * fck * a * b = 92.90 (tonf), Cs = 0.0, T = As * fy = 92.90 (tonf)

Φ Mn = Φ * As * fy * (d - a / 2) = 70.853 tonf.m > Mu = 43.220 tonf.m 0.K

---

2. 전 단 응 력 검토

Vc = 0.53 * √ fck * b * d = 75.539 (tonf)

Vu = 64.170 (tonf) > Φ * Vc = 60.431 (tonf) ∴ 전 단 보 강 필 요

Φ Vs = Vu - Φ Vc = 3.739 (tonf)

전단 철근 간격 : {Smin = 10.00 (cm),Smax = 46.00 (cm),60.00 (cm)}에서 s= 30.00 (cm)

소요 전단철근량 : Req Av =Φ Vs * s / (Φ * fy * d)= 0.508 (㎠)

최소 전단철근량 : Req Av =Φ 3.5 * b * s / fy = 3.500 (㎠)

사용 전단철근량 : Use Av = D13 X 4.000 = 5.068 (㎠)

Φ * Vs'= 37.300 (tonf) > Φ Vs = 3.739 (tonf) ∴ O. K.

Vs'= Av * fy * d / s = 46.626 (tonf) < 2.1 * √ fck * b * d = 299.304 (tonf)

3. 균 열 폭 검 토

M = 12.930 (tonf.m), d= 92.00 (cm),b=100.00 (cm),d'= 8.00 (cm),dc= 8.00 (cm), n= 9

P = As/(b.d) = 0.0034 , K = $-n.P + \{(n.p)^2 + 2.n.P\}^{\frac{1}{2}}$ = 0.2177 , J = 1-K/3 = 0.9274

fs = M / (P * J * b * d^2) = 489.3 (kgf/cm^2) < 0.6 * fy = 1800.0 (kgf/cm^2) O. K

Z = fs * (dc * A)^⅓ = 489.3 * [8.0 * { 2 * 8.00 * 100.00 / (30.968 / 3.871)}]^⅓

= 5723.4 (Kgf/cm)

x = K * d = 0.2177 * 92.0 = 20.029 (Cm)

β c = (92.00 - 20.03 + 8.00) / (92.00 - 20.03) = 1.111

Wa = 0.0050 * (80.00 - 22.20 / 2) = 0.345 (mm)

W = 1.08 * β c * fs * (dc * A)^⅓ = 1.08 * β c * Z

= 1.08 * 1.111 * 5723.4 / 100000 = 0.069 (mm) < Wa = 0.345 (mm) ∴ O. K

* 차도부 슬래브

1. 휨 응 력 검 토

1) 단 면 및 입 력 자 료

fck = 240.000 (kgf/㎠) fy = 3000.000 (kgf/㎠) Φ = 0.850 (bending)

Mu = 10.760 (tonf.m) Vu = 8.250 (tonf) Φ = 0.800 (shear)

b = 100.000 (cm) d = 69.000 (cm) d' = 8.000(cm)

2) 철 근 비 검 토

req. As = 6.156 (㎠) req. As'= 0.000 (㎠)

Use. As = D 0 X 0.000 = 0.000 (㎠)
D16 X 8.000 = 15.888 (㎠) Total As = 15.888 (㎠)

P = As / (b * d) = 0.00230

Pmax = 0.75 * K1 * 0.85 * fck / fy * 6000 / (6000 + fy) = 0.02890

Pmin = 14 / fy = 0.00467

As max = Pmax * b * d = 199.410 (㎠), As min = Pmin * b * d = 32.200 (㎠)

req. As * (1 + ⅓) = 8.208 (㎠), 온도 철근: 0.002 * b * d = 13.800 (㎠)

As = 15.888 (㎠) > 0.002 * b * d = 13.800 (㎠ : 온도철근) ∵ 과 소 철 근 보

3) 휨 응 력 검 토

a = (As * fy) / (0.85 * fck * b) = 2.336 (cm) : 단철근 사용

Cc = 0.85 * fck * a * b = 47.66 (tonf), Cs = 0.0, T = As * fy = 47.66 (tonf)

Φ Mn = Φ * As * fy * (d - a / 2) = 27.482 tonf.m > Mu = 10.760 tonf.m 0.K

---

2. 전 단 응 력 검토

Vc = 0.53 * √ fck * b * d = 56.654 (tonf)

Vu = 8.250 (tonf) < Φ * Vc/2 = 22.662 (tonf)

∴ 전 단 보 강 불 필 요

3. 균 열 폭 검 토

M = 7.110 (tonf.m), d= 69.00 (cm),b=100.00 (cm),d'= 8.00 (cm),dc= 8.00 (cm), n= 9

P = As/(b.d) = 0.0023 , K = -n.P + {(n.p)² + 2.n.P}^½ = 0.1839 , J = 1-K/3 = 0.9387

fs = M / (P * J * b * d²) = 690.9 (kgf/㎠) < 0.6 * fy = 1800.0 (kgf/㎠) O. K

Z = fs * (dc * A)^⅓ = 690.9 * [8.0 * { 2 * 8.00 * 100.00 / (15.888 / 1.986)}]^⅓

= 8081.0 (Kgf/cm)

x = K * d = 0.1839 * 69.0 = 12.690 (Cm)

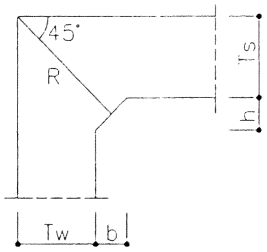
β c = (69.00 - 12.69 + 8.00) / (69.00 - 12.69) = 1.142

Wa = 0.0050 * (80.00 - 15.90 / 2) = 0.360 (mm)

W = 1.08 * β c * fs * (dc * A)^⅓ = 1.08 * β c * Z

= 1.08 * 1.142 * 8081.0 / 100000 = 0.100 (mm) < Wa = 0.360 (mm) ∴ O. K

◎ 우각부 검토



f_{ck} = 240 kgf/cm^2
f_y = 3000 kgf/cm^2

Ts = 100 cm M_0 = 72.09 tonf/m^2
Tw = 100 cm

1) 우각부 대각선 길이(R)

$R = \sqrt{(Ts^2 + Tw^2)}$ = $\sqrt{}$ (100.0 ² + 100 ²) = 141.421 cm

2) 절점부에 생기는 최대 인장응력

f_{tmax}= (5 × M_0) / (W × R^2)

= (5 × 72.09) / (100.0 × 141.421 ²) = 18.023 kgf/cm^2

> 0.25 × $\sqrt{f_{ck}}$ = 3.873 kgf/cm^2 ∴ 보강철근 필요

3) 보강철근량 계산(요구량)

A_{st} = (2 × M_0) / (R × f_{sa})

= (2 × 72.09) /(141.421 × 1500) = 67.967 cm^2

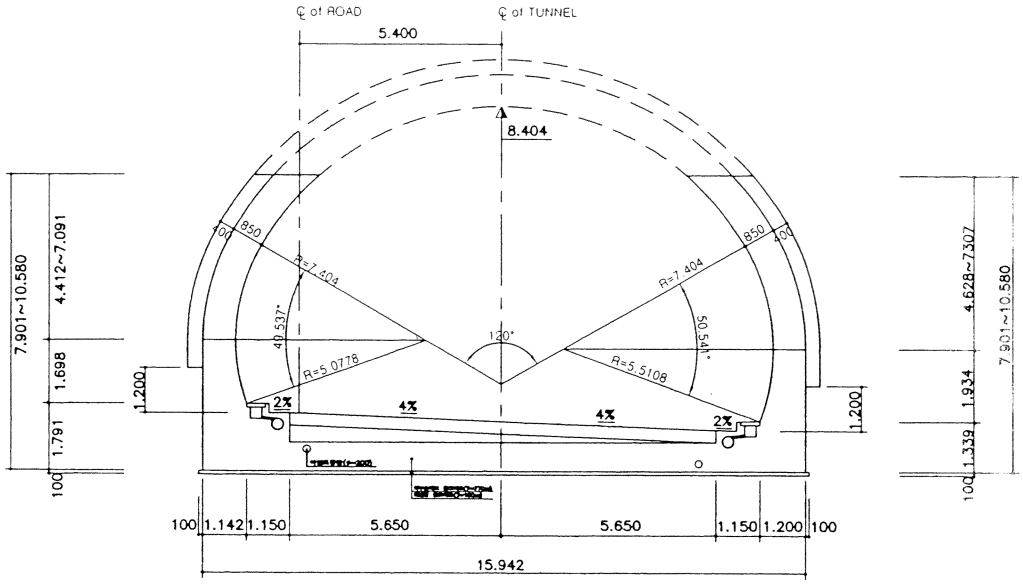
4) 사용철근량 계산

사용철근량 As = D25 @ 125 = 40.536 cm^2

2 EA × 40.536 = 81.072 > 67.967 ∴ OK

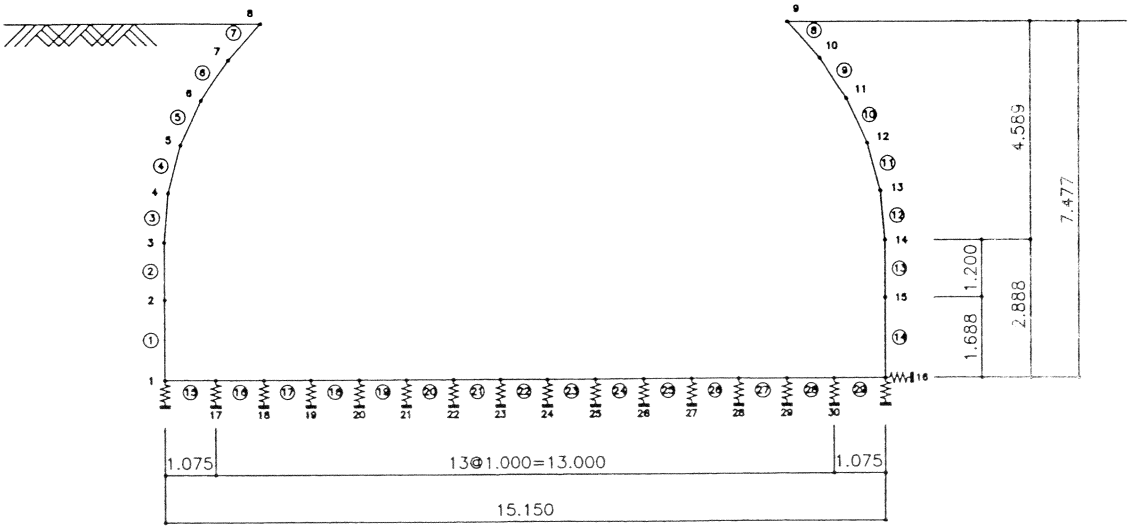
8.5.3 U - TYPE 구조계산

1) 단면도



2) 모델링 및 하중계산

가) 모델링



나) 단면특성

구 분	B(m)	H(m)	1m당 중량	해당요소	비 고
1	1.00	1.00	2.5	1, 14, 15, 16, 28, 29	
2	1.00	0.85	2.125	2~7, 8~13	
3	1.00	0.77	1.925	17 ~ 27	

다) 하중계산

(1) CASE 1 : 자중 - 프로그램 내에서 자동고려

(2) CASE 2 : 연직토압 H = 7.477 m

<각 절점별 하중크기 계산>

절 점	절점작용 연직 토압 (tf / m^2)	대칭절점
3	(7.477 - 2.888) × 2.0 = 9.178	14
4	(7.477 - 3.919) × 2.0 = 7.116	13
5	(7.477 - 4.918) × 2.0 = 5.118	12
6	(7.477 - 5.856) × 2.0 = 3.242	11
7	(7.477 - 6.707) × 2.0 = 1.540	10
8	(7.477 - 7.477) × 2.0 = 0.000	9

(3) CASE 3 : 수평토압 - 주동토압으로 산정

$$K_a = \frac{1 - \sin 30}{1 + \sin 30} = 0.333$$

<각 절점별 하중크기 계산>

절 점	절점작용 수평 토압 (tf / m^2)	대칭절점
1	(7.477 - 0.00) × 2.0 × 0.333 = 4.980	16
2	(7.477 - 1.688) × 2.0 × 0.333 = 3.855	15
3	(7.477 - 2.888) × 2.0 × 0.333 = 3.056	14
4	(7.477 - 3.919) × 2.0 × 0.333 = 2.370	13
5	(7.477 - 4.918) × 2.0 × 0.333 = 1.704	12
6	(7.477 - 5.856) × 2.0 × 0.333 = 1.080	11
7	(7.477 - 6.707) × 2.0 × 0.333 = 0.513	10
8	(7.477 - 7.477) × 2.0 × 0.333 = 0.000	9

(4) 하중조합

① 자중 + 연직토합 + 수평토합

a) 1.54 × CASE 1 + 1.54 × CASE 2 + 1.8 × CASE 3

b) 0.99 × CASE 1 + 0.99 × CASE 2 + 1.8 × CASE 3

② 자중 + 연직토압 + 수평토압 × $\frac{1}{2}$

a) 1.54 × CASE 1 + 1.54 × CASE 2 + 1.8 × CASE 3 × $\frac{1}{2}$

(5) 지반 반력 계수

$$K_v = K_{vo} \cdot \left(\frac{B_v}{30}\right)^{-\frac{3}{4}}$$

$$K_{vo} = \frac{1}{30}\alpha \cdot E_o$$

$E_o = 4.3 \times 10^5$ tf/m^2 $= 4.3 \times 10^4$ kgf/cm^2 (발파암)

$B_v = \sqrt{A_v}$

$\alpha = 4$

$B_v = \sqrt{100 \times 235} = 153.3$ cm

$K_{vo} = \frac{1}{30} \times 4.0 \times 4.3 \times 10^4 = 5733.3$ kgf/cm^2

$K_v = 5733.3 \times \left(\frac{153.3}{30}\right)^{-\frac{3}{4}} = 1686.900$ kgf/cm^3

$= 1686900$ tf/m^3

$K_{v1} = 1686900 \times 0.963 = 1624484$ tf/m^2 : 1, 16

$K_{v2} = 1686900 \times 1.038 = 1751002$ tf/m^2 : 17, 30

$K_{v3} = 1686900 \times 1.00 = 1686900$ tf/m^2 : 18 ~ 29

4) 최대 부재력 집계 및 부재설계

가) 부재력 집계

구 분	부 재	두께(cm)	휨모멘트 (tonf · m)	전단력 (tonf)	균열검토 (tonf · m)	비 고
단면 검토용	측면부 2~8, 9~15	85.0	65.730	20.840	38.790	
	벽체하단 1, 16	100.0	111.800	34.260	64.360	
	기초 17~30	100.0	111.800	89.000	64.360	

나) 부재설계

* 측면부 외측

1. 휨 응 력 검 토

1) 단 면 및 입 력 자 료

fck = 240.000 (kgf/㎠) fy = 3000.000 (kgf/㎠) Φ = 0.850 (bending)

Mu = 65.730 (tonf.m) Vu = 20.840 (tonf) Φ = 0.800 (shear)

b = 100.000 (cm) d = 77.000 (cm) d' = 8.000(cm)

2) 철 근 비 검 토

req. As = 34.624 (㎠) req. As'= 0.000 (㎠)

Use. As = D 0 X 0.000 = 0.000 (㎠)
D25 X 8.000 = 40.536 (㎠) Total As = 40.536 (㎠)

P = As / (b * d) = 0.00526

Pmax = 0.75 * K1 * 0.85 * fck / fy * 6000 / (6000 + fy) = 0.02890

Pmin = 14 / fy = 0.00467

As max = Pmax * b * d = 222.530 (㎠), As min = Pmin * b * d = 35.933 (㎠)

Pmin = 0.467 (%) < P = 0.526 (%) < pmax = 2.890 (%) ∵ 과 소 철 근 보

3) 휨 응 력 검 토

a = (As * fy) / (0.85 * fck * b) = 5.961 (cm) : 단철근 사용

Cc = 0.85 * fck * a * b = 121.61 (tonf), Cs = 0.0, T = As * fy = 121.61 (tonf)

Φ Mn = Φ * As * fy * (d - a / 2) = 76.511 tonf.m > Mu = 65.730 tonf.m O.K

---

2. 전 단 응 력 검토

Vc = 0.53 * √ fck * b * d = 63.223 (tonf)

Vu = 20.840 (tonf) < Φ * Vc = 50.578 (tonf)

∴ 전 단 보 강 불 필 요

3. 균 열 폭 검 토

M = 38.790 (tonf.m), d= 77.00 (cm),b=100.00 (cm),d'= 8.00 (cm),dc= 8.00 (cm), n= 9

P = As/(b.d) = 0.0053 , K = $-n.P + \{(n.p)^2 + 2.n.P\}^{\frac{1}{2}}$ = 0.2641 , J = 1-K/3 = 0.9120

fs = M / (P * J * b * d^2) = 1362.7 (kgf/cm^2) < 0.6 * fy = 1800.0 (kgf/cm^2) O. K

Z = fs * (dc * A)^⅓ = 1362.7 * [8.0 * { 2 * 8.00 * 100.00 / (40.536 / 5.067)}]^⅓

= 15938.4 (Kgf/cm)

x = K * d = 0.2641 * 77.0 = 20.334 (Cm)

β c = (77.00 - 20.33 + 8.00) / (77.00 - 20.33) = 1.141

Wa = 0.0050 * (80.00 - 25.40 / 2) = 0.336 (mm)

W = 1.08 * β c * fs * (dc * A)^⅓ = 1.08 * β c * Z

= 1.08 * 1.141 * 15938.4 / 100000 = 0.196 (mm) < Wa = 0.336 (mm) ∴ O. K

* 벽체하단 단층

1. 휨 응 력 검 토

1) 단 면 및 입 력 자 료

fck = 240.000 (kgf/㎠) fy = 3000.000 (kgf/㎠) Φ = 0.850 (bending)

Mu = 111.800 (tonf.m) Vu = 34.260 (tonf) Φ = 0.800 (shear)

b = 100.000 (cm) d = 92.000 (cm) d' = 8.000(cm)

2) 철 근 비 검 토

req. As = 49.630 (㎠) req. As'= 0.000 (㎠)

Use. As = D 0 X 0.000 = 0.000 (㎠)
D29 X 8.000 = 51.392 (㎠) Total As = 51.392 (㎠)

P = As / (b * d) = 0.00559

Pmax = 0.75 * K1 * 0.85 * fck / fy * 6000 / (6000 + fy) = 0.02890

Pmin = 14 / fy = 0.00467

As max = Pmax * b * d = 265.880 (㎠), As min = Pmin * b * d = 42.933 (㎠)

Pmin = 0.467 (%) < P = 0.559 (%) < pmax = 2.890 (%) ∵ 과 소 철 근 보

3) 휨 응 력 검 토

a = (As * fy) / (0.85 * fck * b) = 7.558 (cm) : 단철근 사용

Cc = 0.85 * fck * a * b = 154.18 (tonf), Cs = 0.0, T = As * fy = 154.18 (tonf)

Φ Mn = Φ * As * fy * (d - a / 2) = 115.614 tonf.m > Mu = 111.800 tonf.m 0.K

---

2. 전 단 응 력 검토

Vc = 0.53 * √ fck * b * d = 75.539 (tonf)

Φ * 1/2 * Vc = 30.215 (tonf) < Vu = 34.260 (tonf) < Φ * Vc = 60.431 (tonf)

∴ 최 소 전 단 보 강 필 요

전단 철근 간격 : {Smin = 10.00 (cm),Smax = 46.00 (cm),60.0 (cm)}에서 s= 30.00 (cm)

소요 전단철근량 : Req Av = 3.5 * b * s /fy = 3.500 (㎠)

사용 전단철근량 : Use Av = D13 X 4.000 = 5.068 (㎠)

3. 균 열 폭 검 토

M = 64.360 (tonf.m), d= 92.00 (cm),b=100.00 (cm),d'= 8.00 (cm),dc= 8.00 (cm), n= 9

P = As/(b.d) = 0.0056 , K = -n.P + {(n.p)² + 2.n.P}^½ = 0.2708 , J = 1-K/3 = 0.9097

fs = M / (P * J * b * d²) = 1496.3 (kgf/cm²) < 0.6 * fy = 1800.0 (kgf/cm²) O. K

Z = fs * (dc * A)^⅓ = 1496.3 * [8.0 * { 2 * 8.00 * 100.00 / (51.392 / 6.424)}]^⅓

= 17500.7 (Kgf/cm)

x = K * d = 0.2708 * 92.0 = 24.912 (Cm)

β c = (92.00 - 24.91 + 8.00) / (92.00 - 24.91) = 1.119

Wa = 0.0050 * (80.00 - 28.60 / 2) = 0.329 (mm)

W = 1.08 * β c * fs * (dc * A)^⅓ = 1.08 * β c * Z

= 1.08 * 1.119 * 17500.7 / 100000 = 0.212 (mm) < Wa = 0.329 (mm) ∴ O. K

* 기초하면

1. 휨 응 력 검 토

1) 단 면 및 입 력 자 료

fck = 240.000 (kgf/㎠) fy = 3000.000 (kgf/㎠) Φ = 0.850 (bending)

Mu = 111.800 (tonf.m) Vu = 89.000 (tonf) Φ = 0.800 (shear)

b = 100.000 (cm) d = 92.000 (cm) d' = 8.000(cm)

2) 철 근 비 검 토

req. As = 49.630 (㎠) req. As'= 0.000 (㎠)

Use. As = D 0 X 0.000 = 0.000 (㎠)
D29 X 8.000 = 51.392 (㎠) Total As = 51.392 (㎠)

P = As / (b * d) = 0.00559

Pmax = 0.75 * K1 * 0.85 * fck / fy * 6000 / (6000 + fy) = 0.02890

Pmin = 14 / fy = 0.00467

As max = Pmax * b * d = 265.880 (㎠), As min = Pmin * b * d = 42.933 (㎠)

Pmin = 0.467 (%) < P = 0.559 (%) < pmax = 2.890 (%) ∵ 과 소 철 근 보

3) 휨 응 력 검 토

a = (As * fy) / (0.85 * fck * b) = 7.558 (cm) : 단철근 사용

Cc = 0.85 * fck * a * b = 154.18 (tonf), Cs = 0.0, T = As * fy = 154.18 (tonf)

Φ Mn = Φ * As * fy * (d - a / 2) = 115.614 tonf.m > Mu = 111.800 tonf.m O.K

---

2. 전 단 응 력 검토

Vc = 0.53 * √ fck * b * d = 75.539 (tonf)

Vu = 89.000 (tonf) > Φ * Vc = 60.431 (tonf) ∴ 전 단 보 강 필 요

Φ Vs = Vu - Φ Vc = 28.569 (tonf)

전단 철근 간격 : {Smin = 10.00 (cm),Smax = 46.00 (cm),60.00 (cm)}에서 s= 30.00 (cm)

소요 전단철근량 : Req Av =Φ Vs * s / (Φ * fy * d)= 3.882 (㎠)

최소 전단철근량 : Req Av =Φ 3.5 * b * s / fy = 3.500 (㎠)

사용 전단철근량 : Use Av = D13 X 4.000 = 5.068 (㎠)

Φ * Vs'= 37.300 (tonf) > Φ Vs = 28.569 (tonf) ∴ O. K.

Vs'= Av * fy * d / s = 46.626 (tonf) < 2.1 * √ fck * b * d = 299.304 (tonf)

3. 균 열 폭 검 토

M = 64.360 (tonf.m), d= 92.00 (cm),b=100.00 (cm),d'= 8.00 (cm),dc= 8.00 (cm), n= 9

$P = As/(b.d) = 0.0056$, $K = -n.P + \{(n.p)^2 + 2.n.P\}^{\frac{1}{2}} = 0.2708$, $J = 1-K/3 = 0.9097$

$fs = M / (P * J * b * d^2) = 1496.3$ (kgf/㎠) < $0.6 * fy = 1800.0$ (kgf/㎠) O. K

$Z = fs * (dc * A)^{1/3} = 1496.3 * [8.0 * \{ 2 * 8.00 * 100.00 / (51.392 / 6.424)\}]^{1/3}$

$= 17500.7$ (Kgf/cm)

$x = K * d = 0.2708 * 92.0 = 24.912$ (Cm)

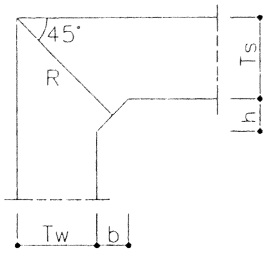
$\beta c = (92.00 - 24.91 + 8.00) / (92.00 - 24.91) = 1.119$

$Wa = 0.0050 * (80.00 - 28.60 / 2) = 0.329$ (mm)

$W = 1.08 * \beta c * fs * (dc * A)^{1/3} = 1.08 * \beta c * Z$

$= 1.08 * 1.119 * 17500.7 / 100000 = 0.212$ (mm) < Wa = 0.329 (mm) ∴ O. K

◎ 우각부 검토



f_{ck} = 240 kgf/cm^2
f_y = 3000 kgf/cm^2

Ts = 100 cm M_0 = 111.8 tonf/m^2
Tw = 100 cm

1) 우각부 대각선 길이(R)

$R = \sqrt{(Ts^2 + Tw^2)} = \sqrt{(\ 100.0^{\ 2} + 100^{\ 2}\ )} =$ 141.421 cm

2) 절점부에 생기는 최대 인장응력

$f_{tmax} = (\ 5 \times M_0\ ) / (\ W \times R^2\ )$

$= (\ 5 \times 111.80\ ) / (100.0 \times 141.421^{\ 2}\ ) =$ 27.950 kgf/cm^2

$> 0.25 \times \sqrt{f_{ck}} =$ 3.873 kgf/cm^2 ∴ 보강철근 필요

3) 보강철근량 계산(요구량)

$A_{st} = (\ 2 \times M_0\ ) / (\ R \times f_{sa}\ )$

$= (\ 2 \times 111.80\ ) / (141.421 \times 1500\ ) =$ 105.406 cm^2

4) 사용철근량 계산

사용철근량 As = D25 @ 125 = 40.536 cm^2

3 EA × 40.536 = 121.608 > 105.406 ∴ OK

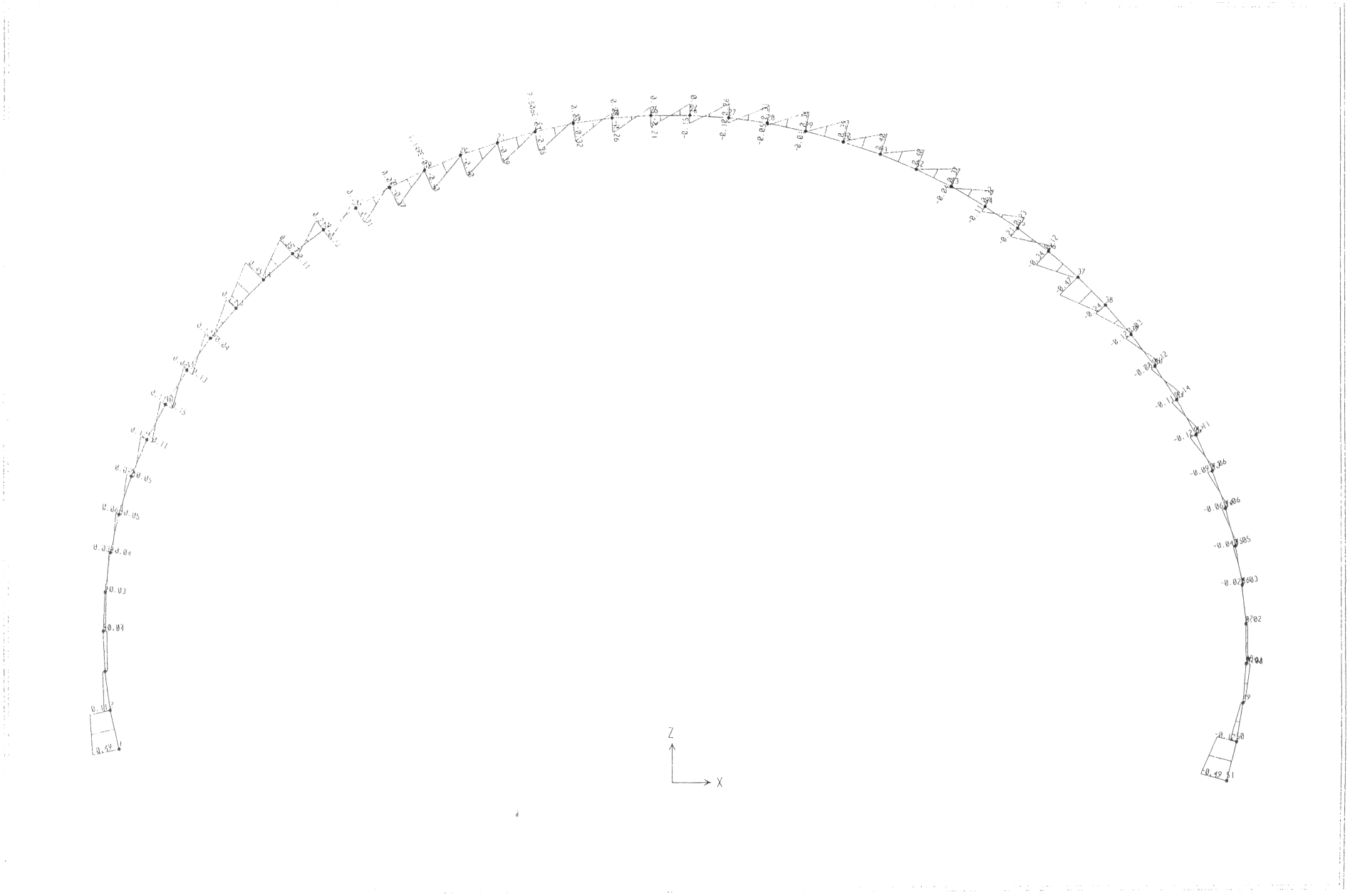
부 록

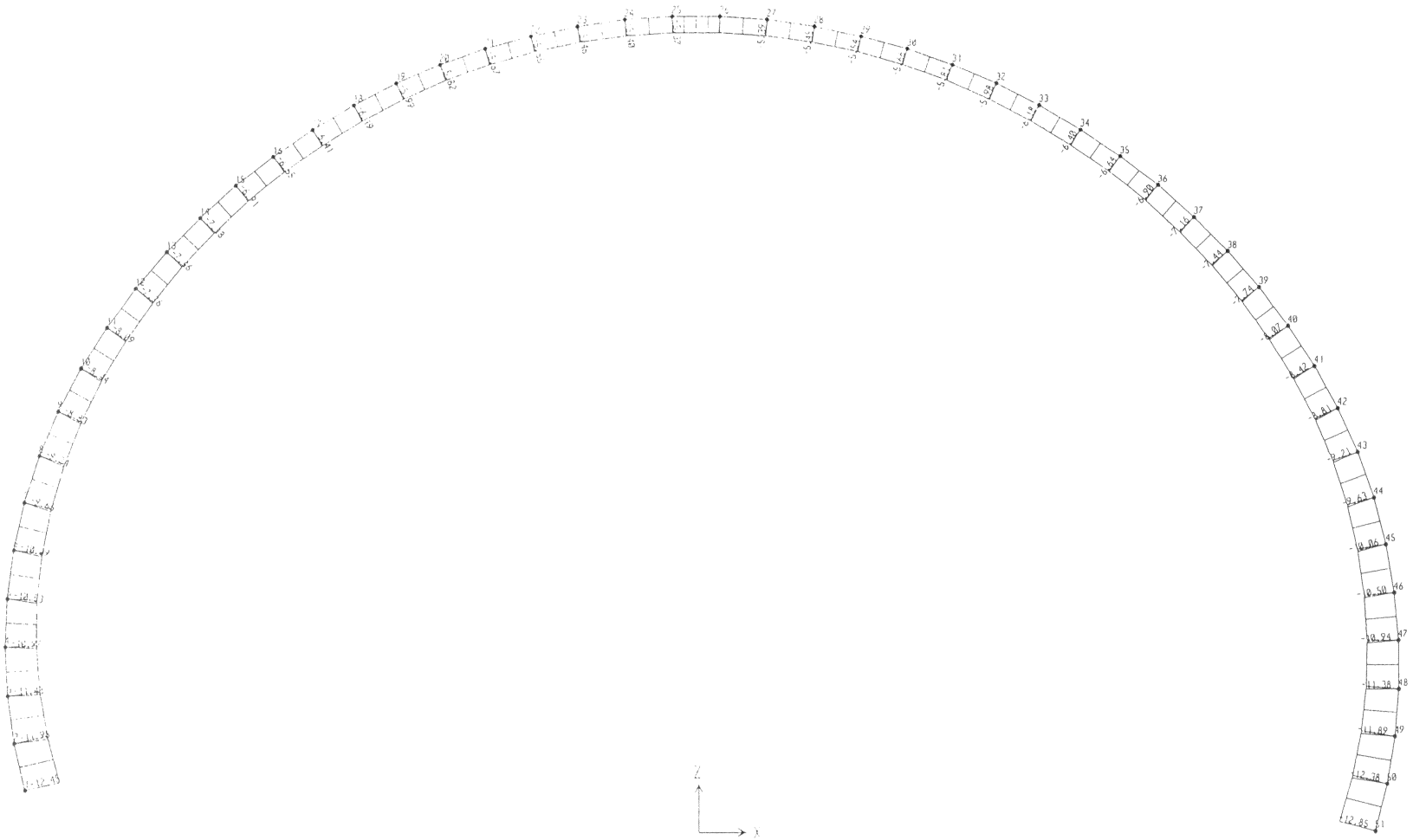
1. STA.0+520 계산결과
2. STA.0+670 계산결과
3. STA.0+700(무보강시) 계산결과
4. STA.0+700(보강시) 계산결과
5. 콘크리트 라이닝 계산결과
6. 구조물(벨마우스)해석 전산결과(리핑암)
7. 구조물(벨마우스)해석 전산결과(발파암)
8. BOX 및 PIPE 수리계산서

5. 콘크리트 라이닝 해석 전산결과

5-1. 거푸집 탈형 시기 해석결과

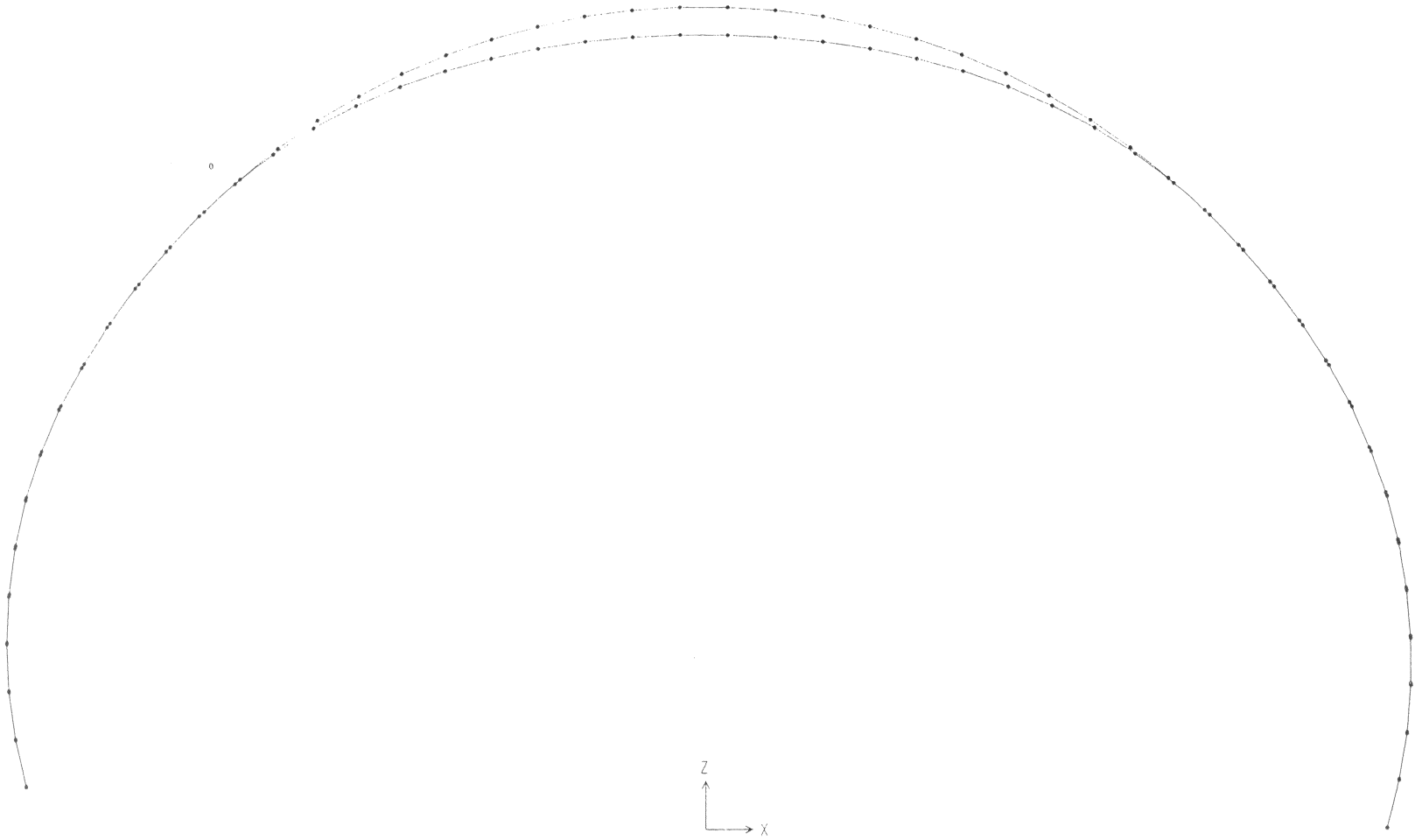
단면력도


Z
X

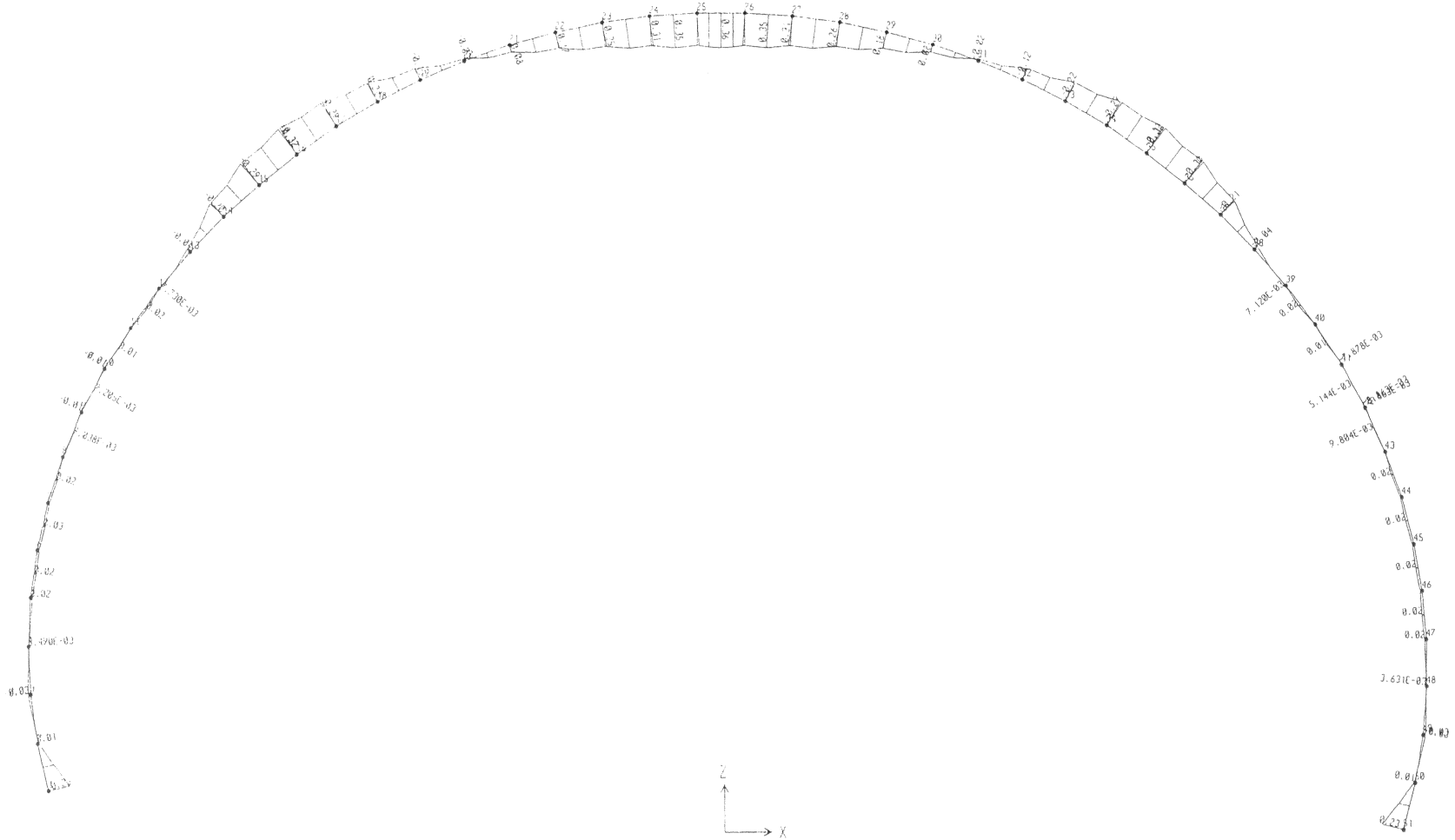

Z
X

SAP2000

8-13-03 17:13:21



SAP2000 v7.40 - File:tl-1 - Deformed Shape (LOAD1) - Ton-m Units


Z
X

전산 OUT PUT

File C:₩2003pro₩토질부₩라이닝₩2003813₩tl-1.$2k saved 8-13-03 17:03:54 in Ton-m

'STEM
DOF=UX.UY.UZ.RX.RY.RZ LENGTH=m FORCE=Ton LINES=59

)INT
1 X=-7.110168 Y=0 Z=.4571982
2 X=-7.221439 Y=0 Z=.9477848
3 X=-7.287954 Y=0 Z=1.446415
4 X=-7.309172 Y=0 Z=1.949014
5 X=-7.284918 Y=0 Z=2.451476
6 X=-7.215392 Y=0 Z=2.949695
7 X=-7.10116 Y=0 Z=3.439601
8 X=-6.943157 Y=0 Z=3.91719
9 X=-6.742673 Y=0 Z=4.37856
10 X=-6.501653 Y=0 Z=4.820124
11 X=-6.228914 Y=0 Z=5.242911
12 X=-5.928725 Y=0 Z=5.646671
13 X=-5.602409 Y=0 Z=6.029624
14 X=-5.251403 Y=0 Z=6.390084
15 X=-4.877256 Y=0 Z=6.726461
16 X=-4.481616 Y=0 Z=7.037273
17 X=-4.066225 Y=0 Z=7.32115
18 X=-3.632915 Y=0 Z=7.576842
19 X=-3.183595 Y=0 Z=7.803221
20 X=-2.720245 Y=0 Z=7.99929
21 X=-2.244908 Y=0 Z=8.164185
22 X=-1.759678 Y=0 Z=8.297178
23 X=-1.266693 Y=0 Z=8.397685
24 X=-.7681263 Y=0 Z=8.465262
25 X=-.2661743 Y=0 Z=8.499612
26 X=.2369507 Y=0 Z=8.500583
27 X=.7390314 Y=0 Z=8.46817
28 X=1.237855 Y=0 Z=8.402516
29 X=1.731224 Y=0 Z=8.303912
30 X=2.216964 Y=0 Z=8.172791
31 X=2.692934 Y=0 Z=8.009731
32 X=3.157036 Y=0 Z=7.815452
33 X=3.607226 Y=0 Z=7.590808
34 X=4.041519 Y=0 Z=7.33679
35 X=4.458002 Y=0 Z=7.054517
36 X=4.854839 Y=0 Z=6.745234
37 X=5.230281 Y=0 Z=6.410303
38 X=5.582675 Y=0 Z=6.051201
39 X=5.910466 Y=0 Z=5.669509
40 X=6.21221 Y=0 Z=5.26691
41 X=6.486578 Y=0 Z=4.845178
42 X=6.730439 Y=0 Z=4.40515
43 X=6.936839 Y=0 Z=3.946371
44 X=7.103971 Y=0 Z=3.471875
45 X=7.230656 Y=0 Z=2.985017
46 X=7.315998 Y=0 Z=2.489239
47 X=7.359392 Y=0 Z=1.988044
48 X=7.360533 Y=0 Z=1.484975
49 X=7.319413 Y=0 Z=.983588
50 X=7.236321 Y=0 Z=.4874274
51 X=7.111846 Y=0 Z=0

OCAL
ADD=2 ANG=0,-100.1886,180
ADD=3 ANG=0,-95.0078,180

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  ADD=4   ANG=0.-89.8269.180
  ADD=5   ANG=0.-84.6461.180
  ADD=6   ANG=0.-79.4652.180
  ADD=7   ANG=0.-74.2844.180
  ADD=8   ANG=0.-69.1035.180
  ADD=9   ANG=0.-63.9227.180
  ADD=10   ANG=0.-59.0761.180
  ADD=11   ANG=0.-55.2719.180
  ADD=12   ANG=0.-51.4677.180
  ADD=13   ANG=0.-47.6634.180
  ADD=14   ANG=0.-43.8592.180
  ADD=15   ANG=0.-40.055.180
  ADD=16   ANG=0.-36.2507.180
  ADD=17   ANG=0.-32.4465.180
  ADD=18   ANG=0.-28.6423.180
  ADD=19   ANG=0.-24.838.180
  ADD=20   ANG=0.-21.0338.180
  ADD=21   ANG=0,-17.2296.180
  ADD=22   ANG=0.-13.4253.180
  ADD=23   ANG=0.-9.6211.180
  ADD=24   ANG=0.-5.8169.180
  ADD=25   ANG=0,-2.0126.180
  ADD=26   ANG=0,1.7916.180
  ADD=27   ANG=0.5.5958.180
  ADD=28   ANG=0.9.4001.180
  ADD=29   ANG=0.13.2043.180
  ADD=30   ANG=0.17.0085.180
  ADD=31   ANG=0,20.8128.180
  ADD=32   ANG=0.24.617.180
  ADD=33   ANG=0,28.4212,180
  ADD=34   ANG=0,32.2255.180
  ADD=35   ANG=0.36.0297.180
  ADD=36   ANG=0.39.8339.180
  ADD=37   ANG=0,43.6382.180
  ADD=38   ANG=0,47.4424,180
  ADD=39   ANG=0.51.2466.180
  ADD=40   ANG=0.55.0509.180
  ADD=41   ANG=0.58.8551.180
  ADD=42   ANG=0.63.3683,180
  ADD=43   ANG=0.68.1868,180
  ADD=44   ANG=0,73.0053.180
  ADD=45   ANG=0,77.8238.180
  ADD=46   ANG=0.82.6423.180
  ADD=47   ANG=0.87.4608.180
  ADD=48   ANG=0,92.2793,180
  ADD=49   ANG=0,97.0978,180
  ADD=50   ANG=0,101.9163,180

RESTRAINT
  ADD=1   DOF=U1,U2,U3,R1,R2,R3
  ADD=51   DOF=U1,U2,U3,R1,R2,R3

PATTERN
  NAME=DEFAULT

SPRING
  ADD=2   U3=525583
  ADD=3   U3=350388
  ADD=4   U3=350388
  ADD=5   U3=350388
  ADD=6   U3=350388
  ADD=7   U3=350388
  ADD=8   U3=350388
```

```
ADD=9  U3=350388
ADD=10  U3=350388
ADD=11  U3=350388
ADD=12  U3=350388
ADD=13  U3=350388
ADD=14  U3=350388
ADD=37  U3=350388
ADD=38  U3=350388
ADD=39  U3=350388
ADD=40  U3=350388
ADD=41  U3=350388
ADD=42  U3=350388
ADD=43  U3=350388
ADD=44  U3=350388
ADD=45  U3=350388
ADD=46  U3=350388
ADD=47  U3=350388
ADD=48  U3=350388
ADD=49  U3=350388
ADD=50  U3=525583

ATERIAL
 NAME=STEEL  IDES=S  M=.798142  W=7.833414
   T=0  E=2.038902E+07  U=.3  A=.0000117  FY=25310.51
 NAME=CONC  IDES=C  M=.2448  W=2.35
   T=0  E=2531051  U=.2  A=.0000099
 NAME=OTHER  IDES=N  M=.2448012  W=2.402616
   T=0  E=2531051  U=.2  A=.0000099

AME SECTION
 NAME=FSEC1 MAT=CONC SH=R T=.425,1 A=.425 J=1.875584E-02 I=6.397136E-03,3.541667E-02 AS=.3541667,.3541667
 NAME=FSEC2 MAT=CONC SH=R T=.375,1 A=.375 J=1.343214E-02 I=4.394531E-03,.03125 AS=.3125,.3125
 NAME=FSEC3 MAT=CONC SH=R T=.35,1 A=.35 J=.0111443 I=3.572917E-03,2.916667E-02 AS=.2916667,.2916667

AME
 1  J=1,2  SEC=FSEC1  NSEG=2  ANG=180
 2  J=2,3  SEC=FSEC1  NSEG=2  ANG=180
 3  J=3,4  SEC=FSEC1  NSEG=2  ANG=180
 4  J=4,5  SEC=FSEC2  NSEG=2  ANG=0
 5  J=5,6  SEC=FSEC2  NSEG=2  ANG=0
 6  J=6,7  SEC=FSEC2  NSEG=2  ANG=0
 7  J=7,8  SEC=FSEC2  NSEG=2  ANG=0
 8  J=8,9  SEC=FSEC2  NSEG=2  ANG=0
 9  J=9,10  SEC=FSEC2  NSEG=2  ANG=0
 10  J=10,11  SEC=FSEC3  NSEG=2  ANG=0
 11  J=11,12  SEC=FSEC3  NSEG=2  ANG=0
 12  J=12,13  SEC=FSEC3  NSEG=2  ANG=0
 13  J=13,14  SEC=FSEC3  NSEG=2  ANG=0
 14  J=14,15  SEC=FSEC3  NSEG=2  ANG=0
 15  J=15,16  SEC=FSEC3  NSEG=2  ANG=0
 16  J=16,17  SEC=FSEC3  NSEG=2  ANG=0
 17  J=17,18  SEC=FSEC3  NSEG=2  ANG=0
 18  J=18,19  SEC=FSEC3  NSEG=2  ANG=0
 19  J=19,20  SEC=FSEC3  NSEG=2  ANG=0
 20  J=20,21  SEC=FSEC3  NSEG=2  ANG=0
 21  J=21,22  SEC=FSEC3  NSEG=2  ANG=0
 22  J=22,23  SEC=FSEC3  NSEG=2  ANG=0
 23  J=23,24  SEC=FSEC3  NSEG=2  ANG=0
 24  J=24,25  SEC=FSEC3  NSEG=2  ANG=0
 25  J=25,26  SEC=FSEC3  NSEG=4  ANG=0
 26  J=26,27  SEC=FSEC3  NSEG=2  ANG=0
 27  J=27,28  SEC=FSEC3  NSEG=2  ANG=0
 28  J=28,29  SEC=FSEC3  NSEG=2  ANG=0
```

```
  29  J=29,30  SEC=FSEC3  NSEG=2  ANG=0
  30  J=30,31  SEC=FSEC3  NSEG=2  ANG=0
  31  J=31,32  SEC=FSEC3  NSEG=2  ANG=0
  32  J=32,33  SEC=FSEC3  NSEG=2  ANG=0
  33  J=33,34  SEC=FSEC3  NSEG=2  ANG=0
  34  J=34,35  SEC=FSEC3  NSEG=2  ANG=0
  35  J=35,36  SEC=FSEC3  NSEG=2  ANG=0
  36  J=36,37  SEC=FSEC3  NSEG=2  ANG=0
  37  J=37,38  SEC=FSEC3  NSEG=2  ANG=0
  38  J=38,39  SEC=FSEC3  NSEG=2  ANG=0
  39  J=39,40  SEC=FSEC3  NSEG=2  ANG=0
  40  J=40,41  SEC=FSEC3  NSEG=2  ANG=0
  41  J=41,42  SEC=FSEC2  NSEG=2  ANG=0
  42  J=42,43  SEC=FSEC2  NSEG=2  ANG=0
  43  J=43,44  SEC=FSEC2  NSEG=2  ANG=0
  44  J=44,45  SEC=FSEC2  NSEG=2  ANG=0
  45  J=45,46  SEC=FSEC2  NSEG=2  ANG=0
  46  J=46,47  SEC=FSEC2  NSEG=2  ANG=0
  47  J=47,48  SEC=FSEC2  NSEG=2  ANG=0
  48  J=48,49  SEC=FSEC1  NSEG=2  ANG=180
  49  J=49,50  SEC=FSEC1  NSEG=2  ANG=180
  50  J=50,51  SEC=FSEC1  NSEG=2  ANG=180

LOAD
  NAME=LOAD1  SW=1  CSYS=0

OUTPUT
  ELEM=FRAME  TYPE=FORCE  LOAD=LOAD1
  ELEM=JOINT  TYPE=REAC  LOAD=LOAD1
  ELEM=JOINT  TYPE=DISP  LOAD=LOAD1

END

: The following data is used for graphics, design and pushover analysis.
: If changes are made to the analysis data above, then the following data
: should be checked for consistency.
SAP2000 V7.40 SUPPLEMENTAL DATA
  GROUP "DXFIN"  FRAME 1
  GROUP "DXFIN"  FRAME 2
  GROUP "DXFIN"  FRAME 3
  GROUP "DXFIN"  FRAME 4
  GROUP "DXFIN"  FRAME 5
  GROUP "DXFIN"  FRAME 6
  GROUP "DXFIN"  FRAME 7
  GROUP "DXFIN"  FRAME 8
  GROUP "DXFIN"  FRAME 9
  GROUP "DXFIN"  FRAME 10
  GROUP "DXFIN"  FRAME 11
  GROUP "DXFIN"  FRAME 12
  GROUP "DXFIN"  FRAME 13
  GROUP "DXFIN"  FRAME 14
  GROUP "DXFIN"  FRAME 15
  GROUP "DXFIN"  FRAME 16
  GROUP "DXFIN"  FRAME 17
  GROUP "DXFIN"  FRAME 18
  GROUP "DXFIN"  FRAME 19
  GROUP "DXFIN"  FRAME 20
  GROUP "DXFIN"  FRAME 21
  GROUP "DXFIN"  FRAME 22
  GROUP "DXFIN"  FRAME 23
  GROUP "DXFIN"  FRAME 24
  GROUP "DXFIN"  FRAME 25
  GROUP "DXFIN"  FRAME 26
```

```
GROUP "DXFIN"  FRAME 27
GROUP "DXFIN"  FRAME 28
GROUP "DXFIN"  FRAME 29
GROUP "DXFIN"  FRAME 30
GROUP "DXFIN"  FRAME 31
GROUP "DXFIN"  FRAME 32
GROUP "DXFIN"  FRAME 33
GROUP "DXFIN"  FRAME 34
GROUP "DXFIN"  FRAME 35
GROUP "DXFIN"  FRAME 36
GROUP "DXFIN"  FRAME 37
GROUP "DXFIN"  FRAME 38
GROUP "DXFIN"  FRAME 39
GROUP "DXFIN"  FRAME 40
GROUP "DXFIN"  FRAME 41
GROUP "DXFIN"  FRAME 42
GROUP "DXFIN"  FRAME 43
GROUP "DXFIN"  FRAME 44
GROUP "DXFIN"  FRAME 45
GROUP "DXFIN"  FRAME 46
GROUP "DXFIN"  FRAME 47
GROUP "DXFIN"  FRAME 48
GROUP "DXFIN"  FRAME 49
GROUP "DXFIN"  FRAME 50
MATERIAL STEEL FY 25310.51
MATERIAL CONC FYREBAR 42184.18 FYSHEAR 28122.79 FC 2812.279 FCSHEAR 2812.279
CONCRETESECTION FSEC1 COLUMN  COVER .05 REBAR RR-3-3
CONCRETESECTION FSEC2 COLUMN  COVER .04572 REBAR RR-3-3
CONCRETESECTION FSEC3 COLUMN  COVER .04572 REBAR RR-3-3
STATICLOAD LOAD1 TYPE DEAD
ID SUPPLEMENTAL DATA
```

S A P 2 0 0 0 (R)

Structural Analysis Programs

Nonlinear Version 7.40

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It is the responsibility of the user to verify all
results produced by this program

12 Aug 20[illegible] [illegible]:54

D I S P L A C E M E N T   D E G R E E S   O F   F R E E D O M

(A) = Active DOF, equilibrium equation
(+) = Restrained DOF, reaction computed
(-) = Constrained DOF
(>) = External substructure DOF
( ) = Null DOF

JOINTS	U1	U2	U3	R1	R2	R3
1	-	-	-	-	-	-
2 To 50	A	A	A	A	A	A
51	-	-	-	-	-	-

A S S E M B L E D   J O I N T   M A S S E S

IN LOCAL COORDINATES

JOINT	U1	U2	U3	R1	R2	R3
1	0.026169	0.026169	0.026169	.000000	.000000	.000000
2	0.052337	0.052337	0.052337	.000000	.000000	.000000
3	0.052337	0.052337	0.052337	.000000	.000000	.000000
4	0.049258	0.049258	0.049258	.000000	.000000	.000000
5	0.046180	0.046180	0.046180	.000000	.000000	.000000
6	0.046180	0.046180	0.046180	.000000	.000000	.000000
7	0.046180	0.046180	0.046180	.000000	.000000	.000000
8	0.046180	0.046180	0.046180	.000000	.000000	.000000
9	0.046180	0.046180	0.046180	.000000	.000000	.000000
10	0.044644	0.044644	0.044644	.000000	.000000	.000000
11	0.043108	0.043108	0.043108	.000000	.000000	.000000
12	0.043108	0.043108	0.043108	.000000	.000000	.000000
13	0.043108	0.043108	0.043108	.000000	.000000	.000000
14	0.043108	0.043108	0.043108	.000000	.000000	.000000
15	0.043108	0.043108	0.043108	.000000	.000000	.000000
16	0.043108	0.043108	0.043108	.000000	.000000	.000000
17	0.043108	0.043108	0.043108	.000000	.000000	.000000
18	0.043108	0.043108	0.043108	.000000	.000000	.000000
19	0.043108	0.043108	0.043108	.000000	.000000	.000000
20	0.043108	0.043108	0.043108	.000000	.000000	.000000
21	0.043108	0.043108	0.043108	.000000	.000000	.000000
22	0.043108	0.043108	0.043108	.000000	.000000	.000000
23	0.043108	0.043108	0.043108	.000000	.000000	.000000
24	0.043108	0.043108	0.043108	.000000	.000000	.000000
25	0.043108	0.043108	0.043108	.000000	.000000	.000000
26	0.043108	0.043108	0.043108	.000000	.000000	.000000
27	0.043108	0.043108	0.043108	.000000	.000000	.000000
28	0.043108	0.043108	0.043108	.000000	.000000	.000000
29	0.043108	0.043108	0.043108	.000000	.000000	.000000
30	0.043108	0.043108	0.043108	.000000	.000000	.000000
31	0.043108	0.043108	0.043108	.000000	.000000	.000000
32	0.043108	0.043108	0.043108	.000000	.000000	.000000
33	0.043108	0.043108	0.043108	.000000	.000000	.000000
34	0.043108	0.043108	0.043108	.000000	.000000	.000000
35	0.043108	0.043108	0.043108	.000000	.000000	.000000
36	0.043108	0.043108	0.043108	.000000	.000000	.000000
37	0.043108	0.043108	0.043108	.000000	.000000	.000000
38	0.043108	0.043108	0.043108	.000000	.000000	.000000
39	0.043108	0.043108	0.043108	.000000	.000000	.000000
40	0.043108	0.043108	0.043108	.000000	.000000	.000000
41	0.044645	0.044645	0.044645	.000000	.000000	.000000
42	0.046182	0.046182	0.046182	.000000	.000000	.000000
43	0.046182	0.046182	0.046182	.000000	.000000	.000000
44	0.046182	0.046182	0.046182	.000000	.000000	.000000
45	0.046182	0.046182	0.046182	.000000	.000000	.000000
46	0.046182	0.046182	0.046182	.000000	.000000	.000000
47	0.046182	0.046182	0.046182	.000000	.000000	.000000
48	0.049261	0.049261	0.049261	.000000	.000000	.000000
49	0.052339	0.052339	0.052339	.000000	.000000	.000000
50	0.052339	0.052339	0.052339	.000000	.000000	.000000

A S S E M B L E D   J O I N T   M A S S E S

IN LOCAL COORDINATES

JOINT	U1	U2	U3	R1	R2	R3
51	0.026170	0.026170	0.026170	.000000	.000000	.000000

T O T A L   A S S E M B L E D   J O I N T   M A S S E S

IN GLOBAL COORDINATES

	UX	UY	UZ	RX	RY	RZ
TOTAL	2.250725	2.250725	2.250725	.000000	.000000	.000000

T O T A L   A C C E L E R A T E D   M A S S   A N D   L O C A T I O N

TOTAL MASS ACTIVATED BY ACCELERATION LOADS, IN GLOBAL COORDINATES

	UX	UY	UZ
MASS	2.198387	2.198387	2.198387
X-LOC	0.150003	0.150003	0.150003
Y-LOC	.000000	.000000	.000000
Z-LOC	5.432461	5.432461	5.432461

J O I N T D I S P L A C E M E N T S

DISPLACEMENTS AND ROTATIONS AT JOINTS IN LOCAL COORDINATES

LOAD LOAD1 ------ ----------

JOINT	U1	U2	U3	R1	R2	R3
1	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
2	-9.068E-19	-2.644E-32	2.810644	.000000	.000000	.000000
3	8.178E-19	5.028E-32	0.945296	.000000	.000000	.000000
4	1.959E-19	-7.544E-33	1.018681	.000000	.000000	.000000
5	2.284E-17	-5.505E-32	0.929479	.000000	.000000	.000000
6	-1.499E-17	-8.258E-32	0.842766	.000000	.000000	.000000
7	1.009E-16	5.705E-32	0.756471	.000000	.000000	.000000
8	1.309E-16	-2.309E-31	0.669282	.000000	.000000	.000000
9	-1.356E-16	-4.438E-32	0.583417	.000000	.000000	.000000
10	-1.026E-15	2.856E-31	0.496164	.000000	.000000	.000000
11	-1.129E-15	-3.777E-31	0.336128	.000000	.000000	.000000
12	-9.190E-16	-9.466E-31	0.356113	.000000	.000000	.000000
13	-3.956E-16	4.753E-32	0.429038	.000000	.000000	.000000
14	2.926E-15	4.490E-31	0.061428	.000000	.000000	.000000
37	-3.289E-15	3.366E-31	0.038170	.000000	.000000	.000000
38	2.283E-15	-5.066E-32	0.433568	.000000	.000000	.000000
39	-1.458E-16	4.638E-32	0.357266	.000000	.000000	.000000
40	-7.458E-16	-1.069E-31	0.327848	.000000	.000000	.000000
41	4.955E-16	-2.298E-31	0.347860	.000000	.000000	.000000
42	-3.711E-18	1.745E-31	0.504623	.000000	.000000	.000000
43	2.564E-16	1.325E-31	0.621961	.000000	.000000	.000000
44	-2.535E-16	1.405E-32	0.688955	.000000	.000000	.000000
45	-3.779E-17	6.845E-33	0.754976	.000000	.000000	.000000
46	-5.580E-17	1.650E-31	0.834284	.000000	.000000	.000000
47	-7.771E-18	3.735E-32	0.928518	.000000	.000000	.000000
48	1.825E-18	-8.995E-33	1.003680	.000000	.000000	.000000
49	-1.745E-16	-3.995E-32	0.967977	.000000	.000000	.000000
50	9.831E-18	3.189E-32	0.793312	.000000	.000000	.000000

J O I N T D I S P L A C E M E N T S

DISPLACEMENTS AND ROTATIONS AT JOINTS IN LOCAL COORDINATES

JOINT	U1	U2	U3	R1	R2	R3
51	2.705478	-2.740E-15	12.572708	7.668E-15	-0.229273	-1.639E-16

S P R I N G F O R C E S

FORCES AND MOMENTS ACTING ON JOINTS IN LOCAL COORDINATES

LOAD LOAD1 ------ ----------

JOINT	F1	F2	F3	M1	M2	M3
2	-9.068E-19	-2.644E-32	2.810644	.000000	.000000	.000000
3	8.178E-19	5.028E-32	0.945296	.000000	.000000	.000000
4	1.959E-19	-7.544E-33	1.018681	.000000	.000000	.000000
5	2.284E-17	-5.505E-32	0.929479	.000000	.000000	.000000
6	-1.499E-17	-8.258E-32	0.842766	.000000	.000000	.000000
7	1.009E-16	5.705E-32	0.756471	.000000	.000000	.000000
8	1.309E-16	-2.309E-31	0.669282	.000000	.000000	.000000
9	-1.356E-16	-4.438E-32	0.583417	.000000	.000000	.000000
10	-1.026E-15	2.856E-31	0.496164	.000000	.000000	.000000
11	-1.129E-15	-3.777E-31	0.336128	.000000	.000000	.000000
12	-9.190E-16	-9.466E-31	0.356113	.000000	.000000	.000000
13	-3.956E-16	4.753E-32	0.429038	.000000	.000000	.000000
14	2.926E-15	4.490E-31	0.061428	.000000	.000000	.000000
37	-3.289E-15	3.366E-31	0.038170	.000000	.000000	.000000
38	2.283E-15	-5.066E-32	0.433568	.000000	.000000	.000000
39	-1.458E-16	4.638E-32	0.357266	.000000	.000000	.000000
40	-7.458E-16	-1.069E-31	0.327848	.000000	.000000	.000000
41	4.955E-16	-2.298E-31	0.347860	.000000	.000000	.000000
42	-3.711E-18	1.745E-31	0.504623	.000000	.000000	.000000
43	2.564E-16	1.325E-31	0.621961	.000000	.000000	.000000
44	-2.535E-16	1.405E-32	0.688955	.000000	.000000	.000000
45	-3.779E-17	6.845E-33	0.754976	.000000	.000000	.000000
46	-5.580E-17	1.650E-31	0.834284	.000000	.000000	.000000
47	-7.771E-18	3.735E-32	0.928518	.000000	.000000	.000000
48	1.825E-18	-8.995E-33	1.003680	.000000	.000000	.000000
49	-1.745E-16	-3.995E-32	0.967977	.000000	.000000	.000000
50	9.831E-18	3.189E-32	0.793312	.000000	.000000	.000000

R E S T R A I N T F O R C E S (REACTIONS)

FORCES AND MOMENTS ACTING ON JOINTS IN LOCAL COORDINATES

LOAD LOAD1 ------ ----------

JOINT	F1	F2	F3	M1	M2	M3
1	-2.271902	-2.63E-15	12.347047	7.38E-15	0.233227	-1.66E-16
51	2.705478	-2.74E-15	12.572708	7.66E-15	-0.229273	-1.63E-16

G L O B A L   F O R C E   B A L A N C E

TOTAL FORCE AND MOMENT AT THE ORIGIN IN GLOBAL COORDINATES

LOAD LOAD1 ------------------

	FX	FY	FZ	MX	MY	MZ
APPLIED	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
SPRINGS	[illegible]	[illegible]	[illegible]	1.59E-14	0.204234	1.13E-15
REACTNS	[illegible]	[illegible]	[illegible]	1.59E-14	[illegible]	1.13E-15
TOTAL	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

F R A M E   E L E M E N T   I N T E R N A L   F O R C E S

ELEM 1 ================== LENGTH = [illegible]

LOAD LOAD1 ------------------

REL DIST	P	V2	V3	T	M2	M3
0.00000	-12.446216	0.493346	[illegible]	[illegible]	[illegible]	[illegible]
0.50000	-12.201129	0.437780	[illegible]	[illegible]	[illegible]	0.116127
1.00000	-11.956143	0.382214	[illegible]	[illegible]	[illegible]	[illegible]

ELEM 2 ================== LENGTH = [illegible]

LOAD LOAD1 ------------------

REL DIST	P	V2	V3	T	M2	M3
0.00000	-11.978547	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
0.50000	-11.729544	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1.00000	-11.480540	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

ELEM 3 ================== LENGTH = [illegible]

LOAD LOAD1 ------------------

REL DIST	P	V2	V3	T	M2	M3
0.00000	-11.480373	-0.048064	-2.03E-15	8.10E-16	-4.56E-15	-0.026019
0.50000	-11.229388	0.056660	-2.02E-15	8.10E-16	-4.05E-15	-0.012597
1.00000	-10.978402	-0.069256	-2.01E-15	8.10E-16	-3.54E-15	0.003490

ELEM 4 ================== LENGTH = [illegible]

LOAD LOAD1 ------------------

REL DIST	P	V2	V3	T	M2	M3
0.00000	-10.973328	-0.042896	-1.73E-15	4.87E-16	-3.60E-15	0.003490
0.50000	-10.751930	-0.032209	-1.73E-15	4.87E-16	-3.16E-15	0.012936
1.00000	-10.530533	-0.021522	-1.73E-15	4.87E-16	-2.73E-15	0.019693

ELEM 5 ================== LENGTH = 0.503047

LOAD LOAD1 ------------------

REL DIST	P	V2	V3	T	M2	M3
0.00000	-10.528030	-0.033797	-1.43E-15	2.39E-16	-2.76E-15	0.019693
0.50000	-10.308503	-0.003163	-1.43E-15	2.39E-16	-2.40E-15	0.024341
1.00000	-10.088975	0.027472	-1.44E-15	2.39E-16	-2.04E-15	0.021284

ELEM 6 ================== LENGTH = 0.503048

LOAD LOAD1 ------------------

REL DIST	P	V2	V3	T	M2	M3
0.00000	-10.088327	-0.041754	-1.16E-15	5.40E-17	-2.05E-15	0.021284
0.50000	-9.872462	0.008550	-1.16E-15	5.40E-17	-1.76E-15	0.025464
1.00000	-9.656597	0.058883	-1.17E-15	5.40E-17	-1.47E-15	0.016963

F R A M E   E L E M E N T   I N T E R N A L   F O R C E S

ELEM 7 ================== LENGTH = 0.503047

LOAD LOAD1 ------------------

REL DIST	P	V2	V3	T	M2	M3
0.00000	-9.657028	-0.049346	-9.10E-16	-7.85E-17	-1.47E-15	0.010983
0.50000	-9.446591	0.020274	-9.18E-16	-7.85E-17	-1.24E-15	0.020639
1.00000	-9.236153	0.089894	-9.27E-16	-7.85E-17	-1.00E-15	0.006784

ELEM 8 ================== LENGTH = 0.503047

LOAD LOAD1 ------------------

REL DIST	P	V2	V3	T	M2	M3
0.00000	-9.237816	-0.053128	6.87E-16	-1.69E-16	-9.93E-16	0.006784
0.50000	-9.034525	0.035210	-6.98E-16	-1.69E-16	-8.19E-16	0.009038
1.00000	-8.831234	0.123549	-7.08E-16	-1.69E-16	-6.42E-16	-0.010928

ELEM 9 ================== LENGTH = 0.503060

LOAD LOAD1 ------------------

REL DIST	P	V2	V3	T	M2	M3
0.00000	-8.831853	-0.105314	-4.99E-16	-2.26E-16	-6.24E-16	-0.010928
0.50000	-8.637288	0.000886	-5.12E-16	-2.26E-16	-4.97E-16	0.002205
1.00000	-8.442724	0.107085	-5.25E-16	-2.26E-16	-3.67E-16	-0.011374

ELEM 10 ================== LENGTH = 0.503126

LOAD LOAD1 ------------------

REL DIST	P	V2	V3	T	M2	M3
0.00000	-8.439958	-0.148396	-3.77E-16	-2.52E-16	-3.49E-16	-0.011374
0.50000	-8.266087	-0.036232	-3.91E-16	-2.52E-16	-2.53E-16	0.011849
1.00000	-8.092216	0.075932	-4.05E-16	-2.52E-16	-1.53E-16	0.006856

ELEM 11 ================== LENGTH = 0.503125

LOAD LOAD1 ------------------

REL DIST	P	V2	V3	T	M2	M3
0.00000	-8.090580	-0.125191	-2.72E-16	-2.62E-16	-1.35E-16	0.006856
0.50000	-7.924534	-0.001738	-2.87E-16	-2.62E-16	-6.52E-17	0.022821
1.00000	-7.758487	0.121714	-3.02E-16	-2.62E-16	8.92E-18	0.007730

ELEM 12 ================== LENGTH = 0.503125

LOAD LOAD1 ------------------

REL DIST	P	V2	V3	T	M2	M3
0.00000	-7.761288	-0.037398	-1.68E-16	-2.60E-16	2.63E-17	0.007730
0.50000	-7.603798	0.096799	-1.84E-16	-2.60E-16	7.06E-17	0.000259
1.00000	-7.446309	0.230997	-2.01E-16	-2.60E-16	1.19E-16	-0.040972

F R A M E   E L E M E N T   I N T E R N A L   F O R C E S

ELEM 13 ================== LENGTH = 0.503127

LOAD LOAD1 ------------------

REL DIST	P	V2	V3	T	M2	M3
0.00000	-7.459468	0.165247	-5.47E-17	-2.52E-16	1.36E-16	-0.040972
0.50000	-7.311229	0.309598	-7.22E-17	-2.52E-16	1.52E-16	-0.100699
1.00000	-7.162990	0.453949	-8.97E-17	-2.52E-16	1.72E-16	0.196739

ELEM 14 ================== LENGTH = 0.503126

LOAD LOAD1 ------------------

REL DIST	P	V2	V3	T	M2	M3
0.00000	-7.179364	0.039099	-1.97E-17	-2.42E-16	1.89E-16	-0.196739
0.50000	-7.041029	0.192967	-3.83E-17	-2.42E-16	1.96E-16	-0.225929
1.00000	-6.902694	0.346835	-5.69E-17	-2.42E-16	2.08E-16	-0.293826

ELEM 15 ================== LENGTH = 0.503125

LOAD LOAD1 ------------------

REL DIST	P	V2	V3	T	M2	M3
0.00000	-6.910496	-0.111904	-1.38E-18	-2.30E-16	2.24E-16	-0.293826
0.50000	-6.782675	0.050803	-2.11E-17	-2.30E-16	2.27E-16	-0.286140
1.00000	-6.654853	0.213510	-4.08E-17	-2.30E-16	2.34E-16	-0.319386

ELEM 16 ================== LENGTH = 0.503126

LOAD LOAD1 ------------------

REL DIST	P	V2	V3	T	M2	M3
0.00000	-6.654355	-0.228506	1.27E-17	-2.16E-16	2.49E-16	-0.319386
0.50000	-6.537611	-0.057677	-7.95E-18	-2.16E-16	2.49E-16	-0.283390
1.00000	-6.420866	0.113153	-2.86E-17	-2.16E-16	2.53E-16	-0.290367

ELEM 17 ================== LENGTH = 0.503126

LOAD LOAD1 ------------------

REL DIST	P	V2	V3	T	M2	M3
0.00000	-6.414226	-0.313096	2.30E-17	2.01E-16	2.67E-16	-0.290367
0.50000	-6.309073	-0.134897	1.40E-18	-2.01E-16	2.64E-16	-0.234018
1.00000	-6.203919	0.043301	-2.02E-17	-2.01E-16	2.66E-16	-0.222497

ELEM 18 ================== LENGTH = 0.503126

LOAD LOAD1 ------------------

REL DIST	P	V2	V3	T	M2	M3
0.00000	-6.193122	-0.368416	2.97E-17	-1.85E-16	2.79E-16	-0.222497
0.50000	-6.100024	-0.183633	7.31E-18	-1.85E-16	2.75E-16	-0.153059
1.00000	-6.006925	0.001149	-1.51E-17	-1.85E-16	2.75E-16	-0.130106

F R A M E E L E M E N T I N T E R N A L F O R C E S

ELEM [illegible] LENGTH = [illegible]

LOAD [illegible]

REL DIST	P	V2	V3	T	M2	M3
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

ELEM [illegible] LENGTH = [illegible]

LOAD [illegible]

REL DIST	P	V2	V3	T	M2	M3
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

ELEM [illegible] LENGTH = [illegible]

LOAD [illegible]

REL DIST	P	V2	V3	T	M2	M3
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

ELEM [illegible] LENGTH = [illegible]

LOAD [illegible]

REL DIST	P	V2	V3	T	M2	M3
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

ELEM [illegible] LENGTH = [illegible]

LOAD [illegible]

REL DIST	P	V2	V3	T	M2	M3
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

ELEM [illegible] LENGTH = [illegible]

LOAD [illegible]

REL DIST	P	V2	V3	T	M2	M3
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

F R A M E E L E M E N T I N T E R N A L F O R C E S

ELEM [illegible] LENGTH = [illegible]

LOAD [illegible]

REL DIST	P	V2	V3	T	M2	M3
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

ELEM [illegible] LENGTH = [illegible]

LOAD [illegible]

REL DIST	P	V2	V3	T	M2	M3
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

ELEM [illegible] LENGTH = [illegible]

LOAD [illegible]

REL DIST	P	V2	V3	T	M2	M3
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

ELEM [illegible] LENGTH = [illegible]

LOAD [illegible]

REL DIST	P	V2	V3	T	M2	M3
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

ELEM [illegible] LENGTH = [illegible]

LOAD [illegible]

REL DIST	P	V2	V3	T	M2	M3
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
0.50000	-5.742182	0.207377	-4.00E-17	8.77E-17	3.85E-16	0.056371
1.00000	-5.809241	0.413115	-6.38E-17	8.77E-17	3.98E-16	-0.020417

ELEM 31 ========== LENGTH = 0.503125

LOAD LOAD1 ----------

REL DIST	P	V2	V3	T	M2	M3
0.00000	-5.823188	0.010808	-1.70E-17	1.14E-16	3.92E-16	-0.020417
0.50000	-5.900683	0.207669	-4.01E-17	1.14E-16	3.99E-16	-0.048652
1.00000	-5.982961	0.398631	-6.32E-17	1.14E-16	4.12E-16	-0.124900

ELEM 32 ========== LENGTH = 0.503126

LOAD LOAD1 ----------

REL DIST	P	V2	V3	T	M2	M3
0.00000	-5.999039	0.000689	-1.50E-17	1.40E-16	4.03E-16	-0.124900
0.50000	-6.086624	0.185830	-3.74E-17	1.40E-16	4.10E-16	-0.148361
1.00000	-6.181009	0.370970	-5.99E-17	1.40E-16	4.22E-16	-0.218396

ELEM 33 ========== LENGTH = 0.503126

LOAD LOAD1 ----------

REL DIST	P	V2	V3	T	M2	M3
0.00000	-6.192002	-0.039945	-1.01E-17	1.66E-16	4.12E-16	-0.218396
0.50000	-6.296467	0.138658	-3.17E-17	1.66E-16	4.17E-16	-0.230813
1.00000	-6.400932	0.317261	-5.34E-17	1.66E-16	4.28E-16	-0.288159

ELEM 34 ========== LENGTH = 0.503126

LOAD LOAD1 ----------

REL DIST	P	V2	V3	T	M2	M3
0.00000	-6.407678	-0.106126	-1.84E-18	1.92E-16	4.15E-16	-0.288159
0.50000	-6.523953	0.063152	-2.26E-17	1.92E-16	4.19E-16	-0.282502
1.00000	-6.640047	0.234432	-4.33E-17	1.92E-16	4.28E-16	-0.319933

ELEM 35 ========== LENGTH = 0.503126

LOAD LOAD1 ----------

REL DIST	P	V2	V3	T	M2	M3
0.00000	-6.640971	-0.206630	1.01E-17	2.17E-16	4.14E-16	-0.319933
0.50000	-6.766163	-0.043431	-9.67E-18	2.17E-16	4.14E-16	-0.288480
1.00000	-6.895356	0.119798	-2.94E-17	2.17E-16	4.19E-16	-0.298081

F R A M E E L E M E N T I N T E R N A L F O R C E S

ELEM 36 ========== LENGTH = 0.503125

LOAD LOAD1 ----------

REL DIST	P	V2	V3	T	M2	M3
0.00000	-6.868106	-0.337993	2.60E-17	2.42E-16	4.04E-16	-0.299061
0.50000	-7.025849	-0.183593	7.30E-18	2.42E-16	3.99E-16	-0.232476
1.00000	-7.183589	-0.029192	-1.14E-17	2.42E-16	4.00E-16	-0.205711

ELEM 37 ========== LENGTH = 0.503126

LOAD LOAD1 ----------

REL DIST	P	V2	V3	T	M2	M3
0.00000	-7.147136	-0.466248	5.38E-17	2.66E-16	3.83E-16	-0.205711
0.50000	-7.294617	-0.321326	3.63E-17	2.66E-16	3.72E-16	-0.106649
1.00000	-7.442097	-0.176404	1.87E-17	2.66E-16	3.65E-16	-0.044044

ELEM 38 ========== LENGTH = 0.503126

LOAD LOAD1 ----------

REL DIST	P	V2	V3	T	M2	M3
0.00000	-7.428784	-0.236496	1.65E-16	2.89E-16	3.46E-16	-0.044044
0.50000	-7.585755	-0.101692	1.49E-16	2.89E-16	3.07E-16	-0.001506
1.00000	-7.742726	0.033112	1.33E-16	2.89E-16	2.71E-16	0.007120

ELEM 39 ========== LENGTH = 0.503126

LOAD LOAD1 ----------

REL DIST	P	V2	V3	T	M2	M3
0.00000	-7.729721	-0.123607	2.67E-16	3.07E-16	2.52E-16	0.007120
0.50000	-7.905290	0.000485	2.52E-16	3.07E-16	1.86E-16	0.022607
1.00000	-8.070858	0.124577	2.37E-16	3.07E-16	1.25E-16	0.066876

ELEM 40 ========== LENGTH = 0.503126

LOAD LOAD1 ----------

REL DIST	P	V2	V3	T	M2	M3
0.00000	-8.072222	-0.083508	3.67E-16	3.15E-16	1.04E-16	0.006876
0.50000	-8.245660	0.029328	3.54E-16	3.15E-16	1.37E-17	0.013692
1.00000	-8.419097	0.142159	3.40E-16	3.15E-16	-7.35E-17	-0.007878

ELEM 41 ========== LENGTH = 0.503083

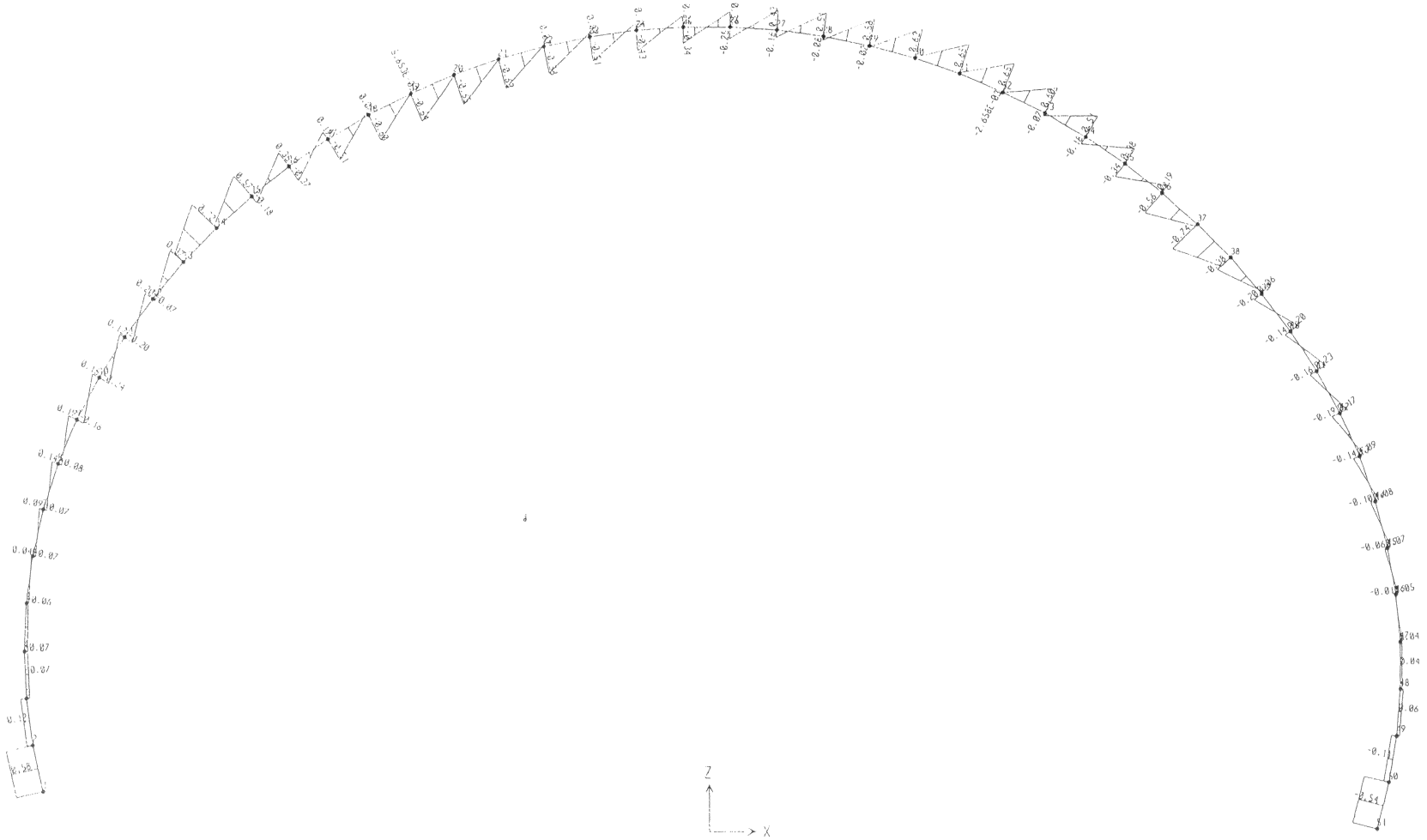
LOAD LOAD1 ----------

REL DIST	P	V2	V3	T	M2	M3
0.00000	-8.421147	-0.105493	4.82E-16	3.08E-16	-9.56E-17	-0.007878
0.50000	-8.615034	0.001958	4.69E-16	3.08E-16	-2.15E-16	0.005144
1.00000	-8.808921	0.109409	4.56E-16	3.08E-16	-3.31E-16	-0.008863

5-2. 무근 콘크리트 라이닝 해석결과

(TYPE : 1 - 4)

단면력도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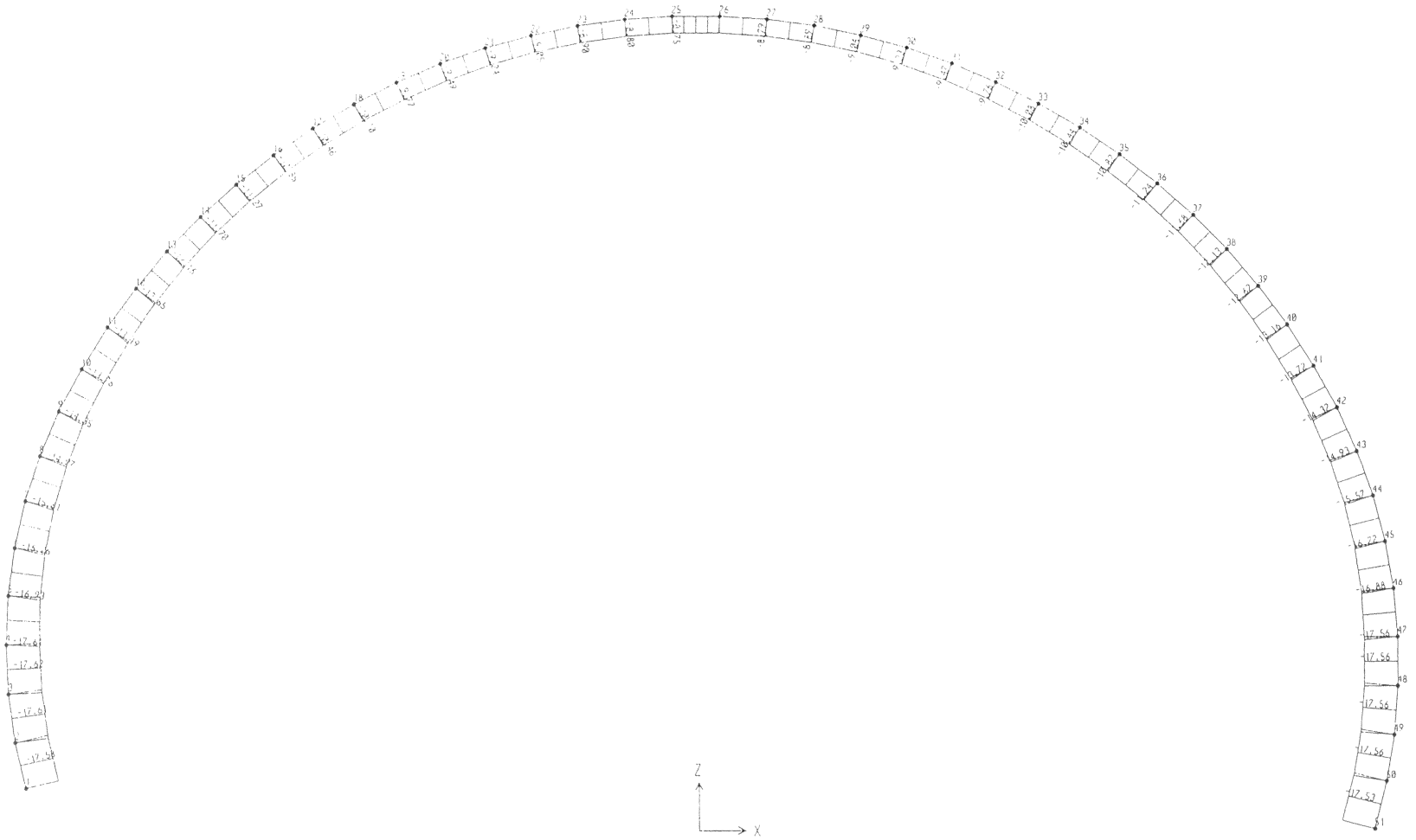
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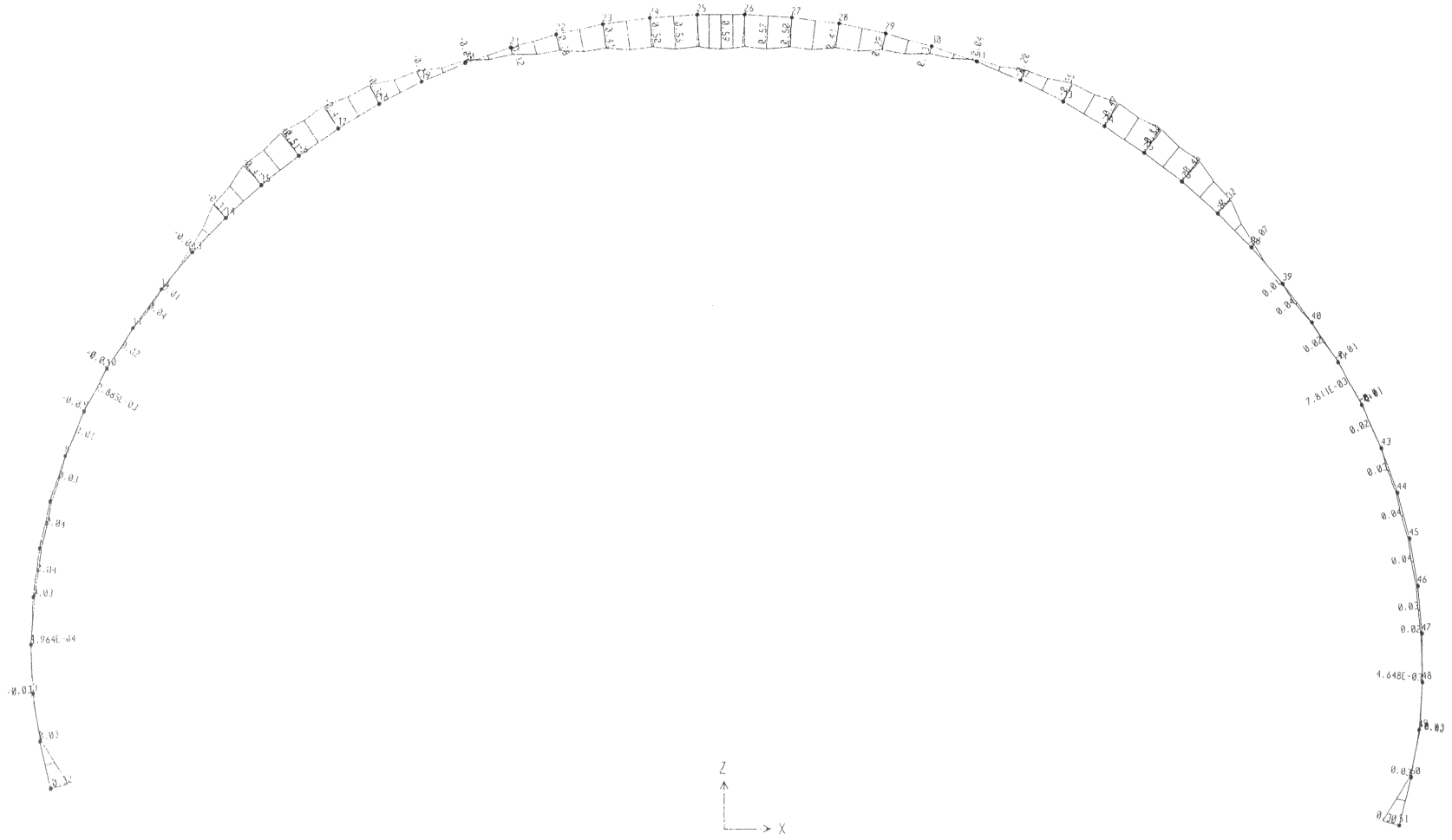
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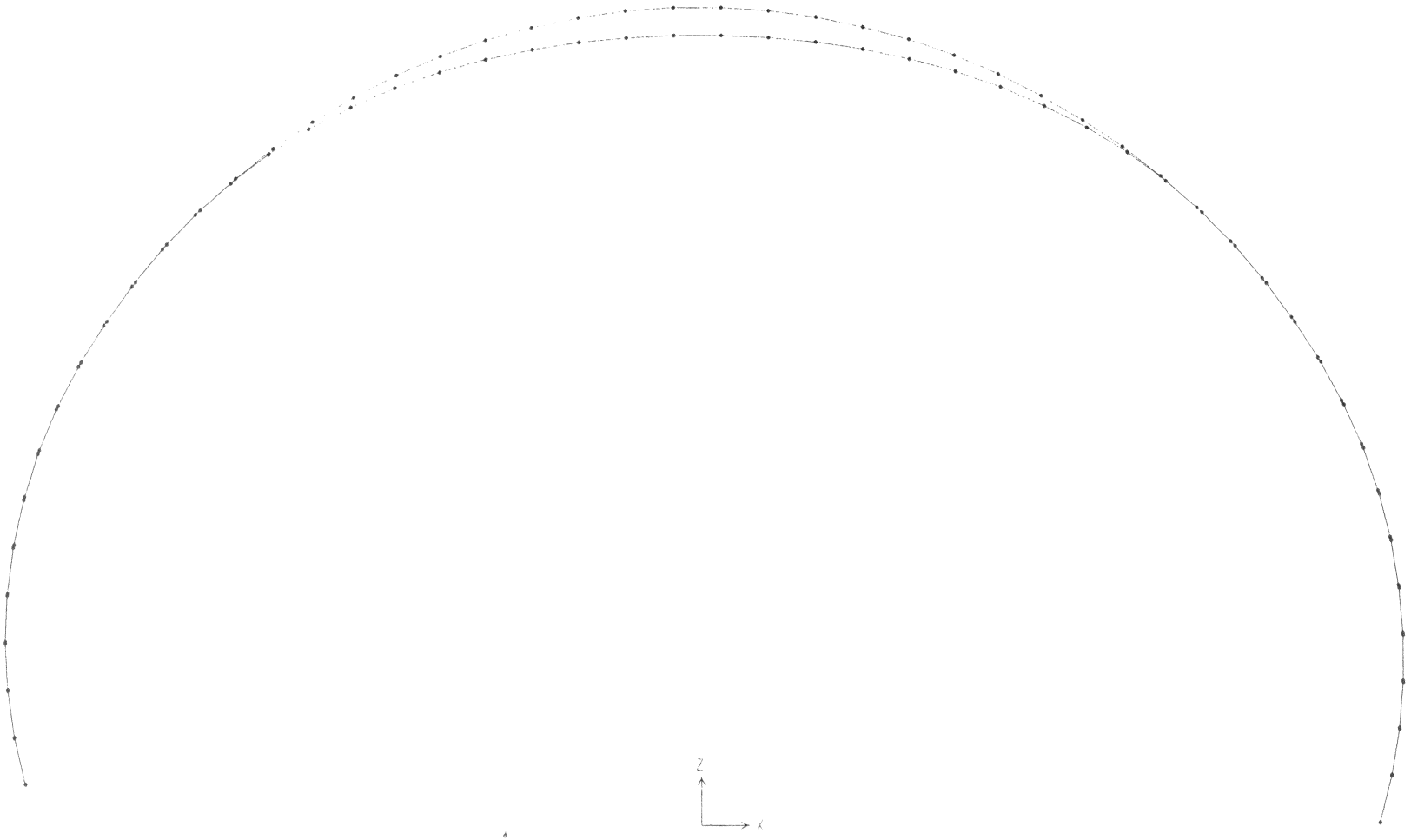
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■ 전산 OUT PUT

File C:₩2003pro₩토질부₩라이닝₩2003813₩tl-2.$2k saved 8-13-03 22:00:46 in Ton-m

'STEM
DOF=UX.UY.UZ.RX.RY.RZ LENGTH=m FORCE=Ton LINES=59

)INT
1 X=-7.110168 Y=0 Z=.4571982
2 X=-7.221439 Y=0 Z=.9477848
3 X=-7.287954 Y=0 Z=1.446415
4 X=-7.309172 Y=0 Z=1.949014
5 X=-7.284918 Y=0 Z=2.451476
6 X=-7.215392 Y=0 Z=2.949695
7 X=-7.10116 Y=0 Z=3.439601
8 X=-6.943157 Y=0 Z=3.91719
9 X=-6.742673 Y=0 Z=4.37856
10 X=-6.501653 Y=0 Z=4.820124
11 X=-6.228914 Y=0 Z=5.242911
12 X=-5.928725 Y=0 Z=5.646671
13 X=-5.602409 Y=0 Z=6.029624
14 X=-5.251403 Y=0 Z=6.390084
15 X=-4.877256 Y=0 Z=6.726461
16 X=-4.481616 Y=0 Z=7.037273
17 X=-4.066225 Y=0 Z=7.32115
18 X=-3.632915 Y=0 Z=7.576842
19 X=-3.183595 Y=0 Z=7.803221
20 X=-2.720245 Y=0 Z=7.99929
21 X=-2.244908 Y=0 Z=8.164185
22 X=-1.759678 Y=0 Z=8.297178
23 X=-1.266693 Y=0 Z=8.397685
24 X=-.7681263 Y=0 Z=8.465262
25 X=-.2661743 Y=0 Z=8.499612
26 X=.2369507 Y=0 Z=8.500583
27 X=.7390314 Y=0 Z=8.46817
28 X=1.237855 Y=0 Z=8.402516
29 X=1.731224 Y=0 Z=8.303912
30 X=2.216964 Y=0 Z=8.172791
31 X=2.692934 Y=0 Z=8.009731
32 X=3.157036 Y=0 Z=7.815452
33 X=3.607226 Y=0 Z=7.590808
34 X=4.041519 Y=0 Z=7.33679
35 X=4.458002 Y=0 Z=7.054517
36 X=4.854839 Y=0 Z=6.745234
37 X=5.230281 Y=0 Z=6.410303
38 X=5.582675 Y=0 Z=6.051201
39 X=5.910466 Y=0 Z=5.669509
40 X=6.21221 Y=0 Z=5.26691
41 X=6.486578 Y=0 Z=4.845178
42 X=6.730439 Y=0 Z=4.40515
43 X=6.936839 Y=0 Z=3.946371
44 X=7.103971 Y=0 Z=3.471875
45 X=7.230656 Y=0 Z=2.985017
46 X=7.315998 Y=0 Z=2.489239
47 X=7.359392 Y=0 Z=1.988044
48 X=7.360533 Y=0 Z=1.484975
49 X=7.319413 Y=0 Z=.983588
50 X=7.236321 Y=0 Z=.4874274
51 X=7.111846 Y=0 Z=0

)CAL
ADD=2 ANG=0,-100.1886,180
ADD=3 ANG=0,-95.0078,180

```
  ADD=4   ANG=0.-89.8269.180
  ADD=5   ANG=0.-84.6461.180
  ADD=6   ANG=0.-79.4652.180
  ADD=7   ANG=0.-74.2844.180
  ADD=8   ANG=0.-69.1035.180
  ADD=9   ANG=0.-63.9227.180
  ADD=10   ANG=0.-59.0761.180
  ADD=11   ANG=0.-55.2719.180
  ADD=12   ANG=0.-51.4677.180
  ADD=13   ANG=0.-47.6634.180
  ADD=14   ANG=0.-43.8592.180
  ADD=15   ANG=0.-40.055.180
  ADD=16   ANG=0.-36.2507.180
  ADD=17   ANG=0.-32.4465.180
  ADD=18   ANG=0.-28.6423.180
  ADD=19   ANG=0.-24.838.180
  ADD=20   ANG=0,-21.0338,180
  ADD=21   ANG=0,-17.2296,180
  ADD=22   ANG=0.-13.4253.180
  ADD=23   ANG=0.-9.6211.180
  ADD=24   ANG=0.-5.8169.180
  ADD=25   ANG=0.-2.0126.180
  ADD=26   ANG=0.1.7916.180
  ADD=27   ANG=0.5.5958.180
  ADD=28   ANG=0.9.4001.180
  ADD=29   ANG=0.13.2043.180
  ADD=30   ANG=0.17.0085.180
  ADD=31   ANG=0.20.8128.180
  ADD=32   ANG=0.24.617.180
  ADD=33   ANG=0,28.4212,180
  ADD=34   ANG=0,32.2255,180
  ADD=35   ANG=0,36.0297.180
  ADD=36   ANG=0.39.8339.180
  ADD=37   ANG=0.43.6382.180
  ADD=38   ANG=0,47.4424,180
  ADD=39   ANG=0,51.2466,180
  ADD=40   ANG=0,55.0509,180
  ADD=41   ANG=0,58.8551.180
  ADD=42   ANG=0,63.3683,180
  ADD=43   ANG=0,68.1868,180
  ADD=44   ANG=0.73.0053,180
  ADD=45   ANG=0,77.8238,180
  ADD=46   ANG=0,82.6423,180
  ADD=47   ANG=0.87.4608,180
  ADD=48   ANG=0.92.2793,180
  ADD=49   ANG=0.97.0978,180
  ADD=50   ANG=0,101.9163,180

RESTRAINT
  ADD=1   DOF=U1.U2,U3,R1,R2,R3
  ADD=51   DOF=U1,U2,U3,R1,R2,R3

PATTERN
  NAME=DEFAULT

SPRING
  ADD=2   U3=525583
  ADD=3   U3=350388
  ADD=4   U3=350388
  ADD=5   U3=350388
  ADD=6   U3=350388
  ADD=7   U3=350388
  ADD=8   U3=350388
```

```
ADD=9  U3=350388
ADD=10  U3=350388
ADD=11  U3=350388
ADD=12  U3=350388
ADD=13  U3=350388
ADD=38  U3=350388
ADD=39  U3=350388
ADD=40  U3=350388
ADD=41  U3=350388
ADD=42  U3=350388
ADD=43  U3=350388
ADD=44  U3=350388
ADD=45  U3=350388
ADD=46  U3=350388
ADD=47  U3=350388
ADD=48  U3=350388
ADD=49  U3=350388
ADD=50  U3=525583
ADD=14  U3=350388
ADD=37  U3=350388

ATERIAL
 NAME=STEEL  IDES=S  M=.798142  W=7.833414
   T=0  E=2.038902E+07  U=.3  A=.0000117  FY=25310.51
 NAME=CONC  IDES=C  M=.2448  W=2.35
   T=0  E=2531051  U=.2  A=.0000099
 NAME=OTHER  IDES=N  M=.2448012  W=2.402616
   T=0  E=2531051  U=.2  A=.0000099

RAME SECTION
 NAME=FSEC1 MAT=CONC SH=R T=.425,1 A=.425 J=1.875584E-02 I=6.397136E-03.3.541667E-02 AS=.3541667,.3541667
 NAME=FSEC2 MAT=CONC SH=R T=.375,1 A=.375 J=1.343214E-02 I=4.394531E-03,.03125 AS=.3125,.3125
 NAME=FSEC3 MAT=CONC SH=R T=.35,1 A=.35 J=.0111443 I=3.572917E-03.2.916667E-02 AS=.2916667,.2916667

RAME
 1  J=1,2  SEC=FSEC1  NSEG=2  ANG=180
 2  J=2,3  SEC=FSEC1  NSEG=2  ANG=180
 3  J=3,4  SEC=FSEC1  NSEG=2  ANG=180
 4  J=4,5  SEC=FSEC2  NSEG=2  ANG=0
 5  J=5,6  SEC=FSEC2  NSEG=2  ANG=0
 6  J=6,7  SEC=FSEC2  NSEG=2  ANG=0
 7  J=7,8  SEC=FSEC2  NSEG=2  ANG=0
 8  J=8,9  SEC=FSEC2  NSEG=2  ANG=0
 9  J=9,10  SEC=FSEC2  NSEG=2  ANG=0
 10  J=10,11  SEC=FSEC3  NSEG=2  ANG=0
 11  J=11,12  SEC=FSEC3  NSEG=2  ANG=0
 12  J=12,13  SEC=FSEC3  NSEG=2  ANG=0
 13  J=13,14  SEC=FSEC3  NSEG=2  ANG=0
 14  J=14,15  SEC=FSEC3  NSEG=2  ANG=0
 15  J=15,16  SEC=FSEC3  NSEG=2  ANG=0
 16  J=16,17  SEC=FSEC3  NSEG=2  ANG=0
 17  J=17,18  SEC=FSEC3  NSEG=2  ANG=0
 18  J=18,19  SEC=FSEC3  NSEG=2  ANG=0
 19  J=19,20  SEC=FSEC3  NSEG=2  ANG=0
 20  J=20,21  SEC=FSEC3  NSEG=2  ANG=0
 21  J=21,22  SEC=FSEC3  NSEG=2  ANG=0
 22  J=22,23  SEC=FSEC3  NSEG=2  ANG=0
 23  J=23,24  SEC=FSEC3  NSEG=2  ANG=0
 24  J=24,25  SEC=FSEC3  NSEG=2  ANG=0
 25  J=25,26  SEC=FSEC3  NSEG=4  ANG=0
 26  J=26,27  SEC=FSEC3  NSEG=2  ANG=0
 27  J=27,28  SEC=FSEC3  NSEG=2  ANG=0
 28  J=28,29  SEC=FSEC3  NSEG=2  ANG=0
```

```
  29  J=29,30  SEC=FSEC3  NSEG=2  ANG=0
  30  J=30,31  SEC=FSEC3  NSEG=2  ANG=0
  31  J=31,32  SEC=FSEC3  NSEG=2  ANG=0
  32  J=32,33  SEC=FSEC3  NSEG=2  ANG=0
  33  J=33,34  SEC=FSEC3  NSEG=2  ANG=0
  34  J=34,35  SEC=FSEC3  NSEG=2  ANG=0
  35  J=35,36  SEC=FSEC3  NSEG=2  ANG=0
  36  J=36,37  SEC=FSEC3  NSEG=2  ANG=0
  37  J=37,38  SEC=FSEC3  NSEG=2  ANG=0
  38  J=38,39  SEC=FSEC3  NSEG=2  ANG=0
  39  J=39,40  SEC=FSEC3  NSEG=2  ANG=0
  40  J=40,41  SEC=FSEC3  NSEG=2  ANG=0
  41  J=41,42  SEC=FSEC2  NSEG=2  ANG=0
  42  J=42,43  SEC=FSEC2  NSEG=2  ANG=0
  43  J=43,44  SEC=FSEC2  NSEG=2  ANG=0
  44  J=44,45  SEC=FSEC2  NSEG=2  ANG=0
  45  J=45,46  SEC=FSEC2  NSEG=2  ANG=0
  46  J=46,47  SEC=FSEC2  NSEG=2  ANG=0
  47  J=47,48  SEC=FSEC2  NSEG=2  ANG=0
  48  J=48,49  SEC=FSEC1  NSEG=2  ANG=180
  49  J=49,50  SEC=FSEC1  NSEG=2  ANG=180
  50  J=50,51  SEC=FSEC1  NSEG=2  ANG=180

LOAD
  NAME=LOAD1  SW=1  CSYS=0
  NAME=LOAD2  CSYS=0
    TYPE=DISTRIBUTED SPAN
      ADD=4  RD=0,1  UZ=-1,34,-1,34
      ADD=5  RD=0,1  UZ=-1,34,-1,34
      ADD=6  RD=0,1  UZ=-1,34,-1,34
      ADD=7  RD=0,1  UZ=-1,34,-1,34
      ADD=8  RD=0,1  UZ=-1,34,-1,34
      ADD=9  RD=0,1  UZ=-1,34,-1,34
      ADD=10  RD=0,1  UZ=-1,34,-1,34
      ADD=11  RD=0,1  UZ=-1,34,-1,34
      ADD=12  RD=0,1  UZ=-1,34,-1,34
      ADD=13  RD=0,1  UZ=-1,34,-1,34
      ADD=14  RD=0,1  UZ=-1,34,-1,34
      ADD=15  RD=0,1  UZ=-1,34,-1,34
      ADD=16  RD=0,1  UZ=-1,34,-1,34
      ADD=17  RD=0,1  UZ=-1,34,-1,34
      ADD=18  RD=0,1  UZ=-1,34,-1,34
      ADD=19  RD=0,1  UZ=-1,34,-1,34
      ADD=20  RD=0,1  UZ=-1,34,-1,34
      ADD=21  RD=0,1  UZ=-1,34,-1,34
      ADD=22  RD=0,1  UZ=-1,34,-1,34
      ADD=23  RD=0,1  UZ=-1,34,-1,34
      ADD=24  RD=0,1  UZ=-1,34,-1,34
      ADD=25  RD=0,1  UZ=-1,34,-1,34
      ADD=26  RD=0,1  UZ=-1,34,-1,34
      ADD=27  RD=0,1  UZ=-1,34,-1,34
      ADD=28  RD=0,1  UZ=-1,34,-1,34
      ADD=29  RD=0,1  UZ=-1,34,-1,34
      ADD=30  RD=0,1  UZ=-1,34,-1,34
      ADD=31  RD=0,1  UZ=-1,34,-1,34
      ADD=32  RD=0,1  UZ=-1,34,-1,34
      ADD=33  RD=0,1  UZ=-1,34,-1,34
      ADD=34  RD=0,1  UZ=-1,34,-1,34
      ADD=35  RD=0,1  UZ=-1,34,-1,34
      ADD=36  RD=0,1  UZ=-1,34,-1,34
      ADD=37  RD=0,1  UZ=-1,34,-1,34
      ADD=38  RD=0,1  UZ=-1,34,-1,34
      ADD=39  RD=0,1  UZ=-1,34,-1,34
```

```
    ADD=40  RD=0,1  UZ=-1.34,-1.34
    ADD=41  RD=0,1  UZ=-1.34,-1.34
    ADD=42  RD=0,1  UZ=-1.34,-1.34
    ADD=43  RD=0,1  UZ=-1.34,-1.34
    ADD=44  RD=0,1  UZ=-1.34,-1.34
    ADD=45  RD=0,1  UZ=-1.34,-1.34
    ADD=46  RD=0,1  UZ=-1.34,-1.34
 NAME=LOAD3  CSYS=0
   TYPE=DISTRIBUTED SPAN
    ADD=26  RD=0,,9999484  UX=-4.25,-4.234
    ADD=27  RD=0,,9999484  UX=-4.234,-4.201
    ADD=28  RD=0,,9999484  UX=-4.201,-4.152
    ADD=29  RD=0,,9999484  UX=-4.152,-4.086
    ADD=30  RD=0,,9999484  UX=-4.086,-4.005
    ADD=31  RD=0,,9999484  UX=-4.005,-3.908
    ADD=32  RD=0,,9999484  UX=-3.908,-3.795
    ADD=33  RD=0,,9999484  UX=-3.795,-3.668
    ADD=34  RD=0,,9999484  UX=-3.668,-3.527
    ADD=35  RD=0,,9999484  UX=-3.527,-3.373
    ADD=36  RD=0,,9999484  UX=-3.373,-3.205
    ADD=37  RD=0,,9999484  UX=-3.205,-3.026
    ADD=38  RD=0,,9999484  UX=-3.026,-2.835
    ADD=39  RD=0,,9999484  UX=-2.835,-2.633
    ADD=40  RD=0,,9999484  UX=-2.633,-2.423
    ADD=41  RD=0,1  UX=-2.423,-2.203
    ADD=42  RD=0,1  UX=-2.203,-1.973
    ADD=43  RD=0,1  UX=-1.973,-1.736
    ADD=44  RD=0,1  UX=-1.736,-1.493
    ADD=45  RD=0,1  UX=-1.493,-1.245
    ADD=46  RD=0,1  UX=-1.245,-.994
    ADD=47  RD=0,1  UX=-.994,-.743
    ADD=48  RD=0,1  UX=-.743,-.492
    ADD=49  RD=0,1  UX=-.492,-.244
    ADD=50  RD=0,1  UX=-.244,0
    ADD=1  RD=0,,9999067  UX=0,,245
    ADD=2  RD=0,,9999067  UX=.245,,495
    ADD=3  RD=0,,9999067  UX=.495,,746
    ADD=5  RD=0,,9999067  UX=.997,1.246
    ADD=4  RD=0,,9999067  UX=.746,,997
    ADD=6  RD=0,,9999067  UX=1.246,1.491
    ADD=7  RD=0,,9999067  UX=1.491,1.73
    ADD=8  RD=0,,9999067  UX=1.73,1.961
    ADD=9  RD=0,1  UX=1.961,2.181
    ADD=10  RD=0,,9999484  UX=2.181,2.393
    ADD=11  RD=0,,9999484  UX=2.393,2.595
    ADD=12  RD=0,,9999484  UX=2.595,2.786
    ADD=13  RD=0,,9999484  UX=2.786,2.966
    ADD=14  RD=0,,9999484  UX=2.966,3.135
    ADD=15  RD=0,,9999484  UX=3.135,3.29
    ADD=16  RD=0,,9999484  UX=3.29,3.432
    ADD=17  RD=0,,9999484  UX=3.432,3.56
    ADD=18  RD=0,,9999484  UX=3.56,3.673
    ADD=19  RD=0,,9999484  UX=3.673,3.771
    ADD=20  RD=0,,9999484  UX=3.771,3.854
    ADD=21  RD=0,,9999484  UX=3.854,3.92
    ADD=22  RD=0,,9999484  UX=3.92,3.97
    ADD=23  RD=0,,9999484  UX=3.97,4.004
    ADD=24  RD=0,,9999484  UX=4.004,4.021

OMBO
 NAME=COMB1
   LOAD=LOAD1  SF=1
   LOAD=LOAD2  SF=1
```

```
    LOAD=LOAD3  SF=1

OUTPUT
  ELEM=FRAME  TYPE=FORCE  COMB=COMB1
  ELEM=JOINT  TYPE=REAC  COMB=COMB1
  ELEM=JOINT  TYPE=DISP  COMB=COMB1

END

: The following data is used for graphics, design and pushover analysis.
: If changes are made to the analysis data above, then the following data
; should be checked for consistency.
SAP2000 V7.40 SUPPLEMENTAL DATA
  GROUP "DXFIN"  FRAME 1
  GROUP "DXFIN"  FRAME 2
  GROUP "DXFIN"  FRAME 3
  GROUP "DXFIN"  FRAME 4
  GROUP "DXFIN"  FRAME 5
  GROUP "DXFIN"  FRAME 6
  GROUP "DXFIN"  FRAME 7
  GROUP "DXFIN"  FRAME 8
  GROUP "DXFIN"  FRAME 9
  GROUP "DXFIN"  FRAME 10
  GROUP "DXFIN"  FRAME 11
  GROUP "DXFIN"  FRAME 12
  GROUP "DXFIN"  FRAME 13
  GROUP "DXFIN"  FRAME 14
  GROUP "DXFIN"  FRAME 15
  GROUP "DXFIN"  FRAME 16
  GROUP "DXFIN"  FRAME 17
  GROUP "DXFIN"  FRAME 18
  GROUP "DXFIN"  FRAME 19
  GROUP "DXFIN"  FRAME 20
  GROUP "DXFIN"  FRAME 21
  GROUP "DXFIN"  FRAME 22
  GROUP "DXFIN"  FRAME 23
  GROUP "DXFIN"  FRAME 24
  GROUP "DXFIN"  FRAME 25
  GROUP "DXFIN"  FRAME 26
  GROUP "DXFIN"  FRAME 27
  GROUP "DXFIN"  FRAME 28
  GROUP "DXFIN"  FRAME 29
  GROUP "DXFIN"  FRAME 30
  GROUP "DXFIN"  FRAME 31
  GROUP "DXFIN"  FRAME 32
  GROUP "DXFIN"  FRAME 33
  GROUP "DXFIN"  FRAME 34
  GROUP "DXFIN"  FRAME 35
  GROUP "DXFIN"  FRAME 36
  GROUP "DXFIN"  FRAME 37
  GROUP "DXFIN"  FRAME 38
  GROUP "DXFIN"  FRAME 39
  GROUP "DXFIN"  FRAME 40
  GROUP "DXFIN"  FRAME 41
  GROUP "DXFIN"  FRAME 42
  GROUP "DXFIN"  FRAME 43
  GROUP "DXFIN"  FRAME 44
  GROUP "DXFIN"  FRAME 45
  GROUP "DXFIN"  FRAME 46
  GROUP "DXFIN"  FRAME 47
  GROUP "DXFIN"  FRAME 48
  GROUP "DXFIN"  FRAME 49
  GROUP "DXFIN"  FRAME 50
```

```
MATERIAL STEEL FY 25310.51
MATERIAL CONC FYREBAR 42184.18 FYSHEAR 28122.79 FC 2812.279 FCSHEAR 2812.279
CONCRETESECTION FSEC1 COLUMN  COVER .05 REBAR RR-3-3
CONCRETESECTION FSEC2 COLUMN  COVER .04572 REBAR RR-3-3
CONCRETESECTION FSEC3 COLUMN  COVER .04572 REBAR RR-3-3
STATICLOAD LOAD1 TYPE DEAD
STATICLOAD LOAD2 TYPE OTHER
STATICLOAD LOAD3 TYPE QUAKE
COMBO COMB1 DESIGN CONCRETE
ID SUPPLEMENTAL DATA
```

S A P 2 0 0 0 (R)

Structural Analysis Programs

Nonlinear Version 7.40

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results produced by this program

[illegible] Aug 2002 21:45:06

D I S P L A C E M E N T   D E G R E E S   O F   F R E E D O M

(A) = Active DOF, equilibrium equation
( ) = Restrained DOF, reaction computed
(+) = Constrained DOF
(>) = External substructure DOF
( ) = Null DOF

JOINTS		U1	U2	U3	R1	R2	R3
1		-	-	-	-	-	-
2 TO	50	A	A	A	A	A	A
51		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

A S S E M B L E D   J O I N T   M A S S E S

IN LOCAL COORDINATES

JOINT	U1	U2	U3	R1	R2	R3
1	0.026169	0.026169	0.026169	.000000	.000000	.000000
2	0.052337	0.052337	0.052337	.000000	.000000	.000000
3	0.052337	0.052337	0.052337	.000000	.000000	.000000
4	0.049258	0.049258	0.049258	.000000	.000000	.000000
5	0.046180	0.046180	0.046180	.000000	.000000	.000000
6	0.046180	0.046180	0.046180	.000000	.000000	.000000
7	0.046180	0.046180	0.046180	.000000	.000000	.000000
8	0.046180	0.046180	0.046180	.000000	.000000	.000000
9	0.046180	0.046180	0.046180	.000000	.000000	.000000
10	0.044644	0.044644	0.044644	.000000	.000000	.000000
11	0.043108	0.043108	0.043108	.000000	.000000	.000000
12	0.043108	0.043108	0.043108	.000000	.000000	.000000
13	0.043108	0.043108	0.043108	.000000	.000000	.000000
14	0.043108	0.043108	0.043108	.000000	.000000	.000000
15	0.043108	0.043108	0.043108	.000000	.000000	.000000
16	0.043108	0.043108	0.043108	.000000	.000000	.000000
17	0.043108	0.043108	0.043108	.000000	.000000	.000000
18	0.043108	0.043108	0.043108	.000000	.000000	.000000
19	0.043108	0.043108	0.043108	.000000	.000000	.000000
20	0.043108	0.043108	0.043108	.000000	.000000	.000000
21	0.043108	0.043108	0.043108	.000000	.000000	.000000
22	0.043108	0.043108	0.043108	.000000	.000000	.000000
23	0.043108	0.043108	0.043108	.000000	.000000	.000000
24	0.043108	0.043108	0.043108	.000000	.000000	.000000
25	0.043108	0.043108	0.043108	.000000	.000000	.000000
26	0.043108	0.043108	0.043108	.000000	.000000	.000000
27	0.043108	0.043108	0.043108	.000000	.000000	.000000
28	0.043108	0.043108	0.043108	.000000	.000000	.000000
29	0.043108	0.043108	0.043108	.000000	.000000	.000000
30	0.043108	0.043108	0.043108	.000000	.000000	.000000
31	0.043108	0.043108	0.043108	.000000	.000000	.000000
32	0.043108	0.043108	0.043108	.000000	.000000	.000000
33	0.043108	0.043108	0.043108	.000000	.000000	.000000
34	0.043108	0.043108	0.043108	.000000	.000000	.000000
35	0.043108	0.043108	0.043108	.000000	.000000	.000000
36	0.043108	0.043108	0.043108	.000000	.000000	.000000
37	0.043108	0.043108	0.043108	.000000	.000000	.000000
38	0.043108	0.043108	0.043108	.000000	.000000	.000000
39	0.043108	0.043108	0.043108	.000000	.000000	.000000
40	0.043108	0.043108	0.043108	.000000	.000000	.000000
41	0.044645	0.044645	0.044645	.000000	.000000	.000000
42	0.046182	0.046182	0.046182	.000000	.000000	.000000
43	0.046182	0.046182	0.046182	.000000	.000000	.000000
44	0.046182	0.046182	0.046182	.000000	.000000	.000000
45	0.046182	0.046182	0.046182	.000000	.000000	.000000
46	0.046182	0.046182	0.046182	.000000	.000000	.000000
47	0.046182	0.046182	0.046182	.000000	.000000	.000000
48	0.049261	0.049261	0.049261	.000000	.000000	.000000
49	0.052339	0.052339	0.052339	.000000	.000000	.000000
50	0.052339	0.052339	0.052339	.000000	.000000	.000000

A S S E M B L E D   J O I N T   M A S S E S

IN LOCAL COORDINATES

JOINT	U1	U2	U3	R1	R2	R3
51	0.026170	0.026170	0.026170	.000000	.000000	.000000

T O T A L   A S S E M B L E D   J O I N T   M A S S E S

IN GLOBAL COORDINATES

	UX	UY	UZ	RX	RY	RZ
TOTAL	2.250725	2.250725	2.250725	.000000	.000000	.000000

T O T A L   A C C E L E R A T E D   M A S S   A N D   L O C A T I O N

TOTAL MASS ACTIVATED BY ACCELERATION LOADS, IN GLOBAL COORDINATES

	UX	UY	UZ
MASS	2.198387	2.198387	2.198387
X-LOC	0.150003	0.150003	0.150003
Y-LOC	.000000	.000000	.000000
Z-LOC	5.432461	5.432461	5.432461

J O I N T   D I S P L A C E M E N T S

TRANSLATIONS AND ROTATIONS IN LOCAL COORDINATES

COMB COMB1 ------------------ MAX

JOINT	U1	U2	U3	R1	R2	R3
1	.000000	.000000	.000000	.000000	.000000	.000000
2	-9.71E-06	1.49E-20	-2.35E-06	1.54E-19	5.57E-06	6.40E-20
3	-1.94E-05	6.59E-20	-3.04E-06	-2.78E-19	6.06E-06	1.38E-19
4	-2.89E-05	1.57E-19	-2.94E-06	-3.11E-19	4.30E-06	2.20E-19
5	-3.91E-05	2.94E-19	3.11E-06	-3.80E-19	5.10E-06	3.13E-19
6	-4.87E-05	4.79E-19	-2.15E-06	-4.10E-19	6.66E-06	4.06E-19
7	-5.77E-05	7.10E-19	-1.31E-06	-4.04E-19	8.69E-06	4.94E-19
8	-6.02E-05	9.84E-19	-5.50E-07	-3.68E-19	1.01E-05	5.74E-19
9	-7.42E-05	1.30E-18	4.31E-07	-3.00E-19	1.07E-05	6.42E-19
10	-8.17E-05	1.64E-18	1.55E-06	-2.16E-19	1.15E-05	6.94E-19
11	-8.97E-05	2.00E-18	9.33E-07	-1.22E-19	1.50E-05	7.28E-19
12	-9.70E-05	2.38E-18	-1.67E-06	1.85E-20	1.75E-05	7.49E-19
13	-0.000106	2.77E-18	-2.47E-06	9.14E-20	-2.26E-06	7.60E-19
14	-0.000113	3.16E-18	2.11E-05	2.03E-19	9.62E-05	7.69E-19
15	-0.000117	3.55E-18	0.000109	3.10E-19	-0.000158	7.66E-19
16	-0.000114	3.93E-18	0.000222	4.13E-19	-0.000201	7.39E-19
17	-0.000105	4.30E-18	0.000324	5.10E-19	-0.000181	6.92E-19
18	-9.04E-05	4.63E-18	0.000396	6.02E-19	8.89E-05	6.21E-19
19	-7.29E-05	4.93E-18	0.000425	6.87E-19	7.02E-06	5.61E-19
20	-5.56E-05	5.20E-18	0.000413	7.66E-19	6.69E-05	4.88E-19
21	-4.11E-05	5.43E-18	0.000368	8.36E-19	0.000119	4.11E-19
22	-3.11E-05	5.61E-18	0.000300	8.96E-19	0.000139	3.37E-19
23	-2.67E-05	5.77E-18	0.000232	9.47E-19	0.000125	2.66E-19
24	-2.73E-05	5.88E-18	0.000180	9.88E-19	7.78E-05	1.98E-19
25	-3.14E-05	5.97E-18	0.000159	1.02E-18	7.08E-06	1.33E-19
26	-3.62E-05	6.02E-18	0.000177	1.03E-18	-7.12E-05	6.66E-20
27	-3.78E-05	6.04E-18	0.000235	1.04E-18	-0.000137	-3.38E-21
28	-3.36E-05	6.02E-18	0.000318	1.03E-18	-0.000173	-7.99E-20
29	-2.24E-05	5.96E-18	0.000411	1.01E-18	-0.000173	-1.64E-19
30	-4.33E-06	5.85E-18	0.000493	9.77E-19	-0.000134	-2.55E-19
31	1.91E-05	5.70E-18	0.000544	9.32E-19	-6.13E-05	-3.50E-19
32	4.54E-05	5.50E-18	0.000551	8.76E-19	3.29E-05	-4.47E-19
33	7.12E-05	5.25E-18	0.000505	8.09E-19	0.000133	-5.42E-19
34	9.28E-05	4.95E-18	0.000409	7.31E-19	0.000217	-6.28E-19
35	0.000107	4.61E-18	0.000277	6.41E-19	0.000261	-7.00E-19
36	0.000113	4.24E-18	0.000135	5.41E-19	0.000239	-7.51E-19
37	0.000111	3.85E-18	2.57E-05	4.30E-19	0.000123	-7.75E-19
38	0.000104	3.46E-18	-3.24E-06	3.09E-19	9.59E-06	-7.86E-19
39	9.70E-05	3.05E-18	-2.06E-06	1.82E-19	-1.89E-05	-7.98E-19
40	9.00E-05	2.64E-18	1.34E-06	5.66E-20	-1.62E-05	-7.90E-19
41	8.29E-05	2.24E-18	2.24E-06	-6.40E-20	-1.17E-05	-7.85E-19
42	7.63E-05	1.85E-18	1.42E-06	-1.74E-19	-1.05E-05	-7.52E-19
43	6.93E-05	1.47E-18	5.26E-07	-2.71E-19	-9.92E-06	-7.02E-19
44	6.18E-05	1.13E-18	-1.66E-07	-3.47E-19	-6.80E-06	-6.35E-19
45	5.39E-05	8.24E-19	-9.34E-07	-3.94E-19	-7.32E-06	-5.53E-19
46	4.54E-05	5.64E-19	-1.78E-06	-4.08E-19	-5.73E-06	-4.61E-19
47	3.63E-05	3.52E-19	-2.69E-06	-3.85E-19	-4.35E-06	-3.61E-19
48	2.67E-05	1.93E-19	-3.38E-06	-3.20E-19	-3.72E-06	-2.59E-19

J O I N T   D I S P L A C E M E N T S

TRANSLATIONS AND ROTATIONS IN LOCAL COORDINATES

JOINT	U1	U2	U3	R1	R2	R3
49	1.80E-05	8.31E-20	-3.38E-06	-2.48E-19	-4.28E-06	-1.67E-19
50	9.02E-06	2.00E-20	-2.03E-06	-1.41E-19	-4.79E-06	-7.95E-20
51	.000000	.000000	.000000	.000000	.000000	.000000

COMB COMB1 ------------------ MIN

JOINT	U1	U2	U3	R1	R2	R3
1	.000000	.000000	.000000	.000000	.000000	.000000
2	-9.71E-06	1.49E-20	2.35E-06	1.54E-19	5.51E-06	6.40E-20
3	-1.94E-05	6.59E-20	-3.04E-06	-2.78E-19	6.06E-06	1.38E-19
4	-2.89E-05	1.57E-19	-2.94E-06	-3.11E-19	4.30E-06	2.20E-19
5	-3.91E-05	2.94E-19	3.11E-06	-3.80E-19	5.10E-06	3.13E-19
6	-4.87E-05	4.79E-19	-2.15E-06	-4.10E-19	6.66E-06	4.06E-19
7	-5.77E-05	7.10E-19	-1.31E-06	-4.04E-19	8.69E-06	4.94E-19
8	-6.02E-05	9.84E-19	5.50E-07	-3.68E-19	1.01E-05	5.74E-19
9	-7.42E-05	1.30E-18	4.31E-07	-3.00E-19	1.07E-05	6.42E-19
10	-8.17E-05	1.64E-18	1.55E-06	-2.16E-19	1.15E-05	6.94E-19
11	-8.97E-05	2.00E-18	9.33E-07	-1.22E-19	1.50E-05	7.28E-19
12	-9.70E-05	2.38E-18	-1.67E-06	1.85E-20	1.75E-05	7.49E-19
13	-0.000106	2.77E-18	-2.47E-06	9.14E-20	-2.26E-06	7.60E-19
14	-0.000113	3.16E-18	2.11E-05	2.03E-19	9.62E-05	7.69E-19
15	-0.000117	3.55E-18	0.000109	3.10E-19	-0.000158	7.66E-19
16	-0.000114	3.93E-18	0.000222	4.13E-19	-0.000201	7.39E-19
17	-0.000105	4.30E-18	0.000324	5.10E-19	-0.000181	6.92E-19
18	-9.04E-05	4.63E-18	0.000396	6.02E-19	8.89E-05	6.21E-19
19	-7.29E-05	4.93E-18	0.000425	6.87E-19	-7.02E-06	5.61E-19
20	-5.56E-05	5.20E-18	0.000413	7.66E-19	6.69E-05	4.88E-19
21	-4.11E-05	5.43E-18	0.000368	8.36E-19	0.000119	4.11E-19
22	-3.11E-05	5.61E-18	0.000300	8.96E-19	0.000139	3.37E-19
23	-2.67E-05	5.77E-18	0.000232	9.47E-19	0.000125	2.66E-19
24	-2.73E-05	5.88E-18	0.000180	9.88E-19	7.78E-05	1.98E-19
25	-3.14E-05	5.97E-18	0.000159	1.02E-18	7.08E-06	1.33E-19
26	-3.62E-05	6.02E-18	0.000177	1.03E-18	-7.12E-05	6.66E-20
27	-3.78E-05	6.04E-18	0.000235	1.04E-18	-0.000137	-3.38E-21
28	-3.36E-05	6.02E-18	0.000318	1.03E-18	-0.000173	-7.99E-20
29	-2.24E-05	5.96E-18	0.000411	1.01E-18	-0.000173	-1.64E-19
30	-4.33E-06	5.85E-18	0.000493	9.77E-19	-0.000134	-2.55E-19
31	1.91E-05	5.70E-18	0.000544	9.32E-19	-6.13E-05	-3.50E-19
32	4.54E-05	5.50E-18	0.000551	8.76E-19	3.29E-05	-4.47E-19
33	7.12E-05	5.25E-18	0.000505	8.09E-19	0.000133	-5.42E-19
34	9.28E-05	4.95E-18	0.000409	7.31E-19	0.000217	-6.28E-19
35	0.000107	4.61E-18	0.000277	6.41E-19	0.000261	-7.00E-19
36	0.000113	4.24E-18	0.000135	5.41E-19	0.000239	-7.51E-19
37	0.000111	3.85E-18	2.57E-05	4.30E-19	0.000123	-7.75E-19
38	0.000104	3.46E-18	-3.24E-06	3.09E-19	9.59E-06	-7.86E-19
39	9.70E-05	3.05E-18	-2.06E-06	1.82E-19	-1.89E-05	-7.98E-19
40	9.00E-05	2.64E-18	1.34E-06	5.66E-20	1.62E-05	-7.90E-19
41	8.29E-05	2.24E-18	2.24E-06	-6.40E-20	1.17E-05	-7.85E-19
42	7.63E-05	1.85E-18	1.42E-06	-1.74E-19	-1.05E-05	-7.52E-19
43	6.93E-05	1.47E-18	5.26E-07	-2.71E-19	-9.92E-06	-7.02E-19

J O I N T   D I S P L A C E M E N T S

TRANSLATIONS AND ROTATIONS IN LOCAL COORDINATES

JOINT	U1	U2	U3	R1	R2	R3
44	6.18E-05	1.13E-18	-1.66E-07	-3.47E-19	-6.80E-06	-6.35E-19
45	5.39E-05	8.24E-19	-9.34E-07	-3.94E-19	-7.32E-06	-5.53E-19
46	4.54E-05	5.64E-19	-1.78E-06	-4.08E-19	-5.73E-06	-4.61E-19
47	3.63E-05	3.52E-19	-2.69E-06	-3.85E-19	-4.35E-06	-3.61E-19
48	2.67E-05	1.93E-19	-3.38E-06	-3.20E-19	-3.72E-06	-2.59E-19
49	1.80E-05	8.31E-20	-3.38E-06	-2.48E-19	4.28E-06	-1.67E-19
50	9.02E-06	2.00E-20	-2.03E-06	-1.41E-19	-4.79E-06	-7.95E-20
51	.000000	.000000	.000000	.000000	.000000	.000000

S P R I N G   F O R C E S

FORCES AND MOMENTS ACTING ON JOINTS IN LOCAL COORDINATES

COMB COMB1 ------------------ MAX

JOINT	F1	F2	F3	M1	M2	M3
2	-7.51E-18	-5.20E-32	1.233989	.000000	.000000	.000000
3	1.66E-17	3.11E-32	1.381026	.000000	.000000	.000000
4	1.07E-18	1.60E-31	1.380484	.000000	.000000	.000000
5	3.27E-17	2.14E-32	1.089404	.000000	.000000	.000000
6	1.37E-18	-3.36E-31	0.753591	.000000	.000000	.000000
7	3.28E-16	1.25E-31	0.460672	.000000	.000000	.000000
8	8.05E-17	-6.22E-31	0.192804	.000000	.000000	.000000
9	4.33E-17	-1.13E-31	-0.151016	.000000	.000000	.000000
10	-1.05E-15	4.35E-31	-0.542844	.000000	.000000	.000000
11	-1.40E-15	-1.10E-31	-0.326841	.000000	.000000	.000000
12	-2.26E-15	-5.36E-31	0.586742	.000000	.000000	.000000
13	-5.85E-16	5.44E-31	0.866731	.000000	.000000	.000000
14	8.74E-16	9.46E-31	-7.383986	.000000	.000000	.000000
37	4.02E-16	6.72E-31	-9.015881	.000000	.000000	.000000
38	2.13E-15	5.08E-31	1.134153	.000000	.000000	.000000
39	-3.00E-17	-3.98E-31	0.722857	.000000	.000000	.000000
40	-8.43E-16	-3.23E-31	-0.467970	.000000	.000000	.000000
41	1.26E-16	-3.10E-31	-0.784227	.000000	.000000	.000000
42	-2.52E-16	9.22E-31	-0.496274	.000000	.000000	.000000
43	5.75E-16	-6.05E-32	-0.184362	.000000	.000000	.000000
44	-7.07E-16	3.69E-31	0.065251	.000000	.000000	.000000
45	-8.23E-17	1.23E-31	0.327206	.000000	.000000	.000000
46	-6.50E-17	2.84E-31	0.624865	.000000	.000000	.000000
47	1.19E-18	2.11E-32	0.940838	.000000	.000000	.000000
48	5.91E-18	8.42E-32	1.183882	.000000	.000000	.000000
49	-7.42E-18	-7.62E-32	1.185970	.000000	.000000	.000000
50	2.97E-17	1.32E-32	1.068317	.000000	.000000	.000000

COMB COMB1 ------------------ MIN

JOINT	F1	F2	F3	M1	M2	M3
2	-7.51E-18	-5.20E-32	1.233989	.000000	.000000	.000000
3	1.66E-17	3.11E-32	1.381026	.000000	.000000	.000000
4	1.07E-18	1.60E-31	1.380484	.000000	.000000	.000000
5	3.27E-17	2.14E-32	1.089404	.000000	.000000	.000000
6	1.37E-18	-3.36E-31	0.753591	.000000	.000000	.000000
7	3.28E-16	1.25E-31	0.460672	.000000	.000000	.000000
8	8.05E-17	-6.22E-31	0.192804	.000000	.000000	.000000
9	4.33E-17	-1.13E-31	-0.151016	.000000	.000000	.000000
10	-1.05E-15	4.35E-31	-0.542844	.000000	.000000	.000000
11	-1.40E-15	-1.10E-31	-0.326841	.000000	.000000	.000000
12	-2.26E-15	-5.36E-31	0.586742	.000000	.000000	.000000
13	-5.85E-16	5.44E-31	0.866731	.000000	.000000	.000000
14	8.74E-16	9.46E-31	-7.383986	.000000	.000000	.000000
37	4.02E-16	6.72E-31	-9.015881	.000000	.000000	.000000
38	2.13E-15	5.08E-31	1.134153	.000000	.000000	.000000
39	-3.00E-17	-3.98E-31	0.722857	.000000	.000000	.000000
40	-8.43E-16	-3.23E-31	-0.467970	.000000	.000000	.000000

S P R I N G   F O R C E S

FORCES AND MOMENTS ACTING ON JOINTS (IN LOCAL COORDINATES)

JOINT	F1	F2	F3	M1	M2	M3
41	1.28E-16	-3.10E-31	-0.784227	0.000000	0.000000	0.000000
42	-2.52E-16	9.22E-31	-0.496274	0.000000	0.000000	0.000000
43	5.75E-16	-6.05E-32	-0.184362	0.000000	0.000000	0.000000
44	-7.67E-16	3.69E-31	0.066251	0.000000	0.000000	0.000000
45	-8.23E-17	1.23E-31	0.327200	0.000000	0.000000	0.000000
46	-6.50E-17	2.84E-31	0.624825	0.000000	0.000000	0.000000
47	1.19E-18	2.11E-32	0.940635	0.000000	0.000000	0.000000
48	5.91E-18	8.42E-32	1.183682	0.000000	0.000000	0.000000
49	7.43E-18	-7.62E-32	1.181970	0.000000	0.000000	0.000000
50	2.97E-17	1.32E-32	1.096317	0.000000	0.000000	0.000000

R E S T R A I N T   F O R C E S   (R E A C T I O N S)

FORCES AND MOMENTS ACTING ON JOINTS (IN LOCAL COORDINATES)

COMB COMB1 ------------------ MAX

JOINT	F1	F2	F3	M1	M2	M3
1	-3.861750	2.74E-16	20.417093	1.10E-14	0.355401	3.01E-15
51	4.135604	1.05E-15	18.895614	1.41E-14	-0.096459	-2.26E-15

COMB COMB1 ------------------ MIN

JOINT	F1	F2	F3	M1	M2	M3
1	-3.861750	2.74E-16	20.417093	1.10E-14	0.355401	3.01E-15
51	4.135604	1.05E-15	18.895614	1.41E-14	-0.096459	-2.26E-15

G L O B A L   F O R C E   B A L A N C E

TOTAL FORCE AND MOMENT AT THE ORIGIN, IN GLOBAL COORDINATES

LOAD LOAD1 ------------------

	FX	FY	FZ	MX	MY	MZ
APPLIED	3.80E-16	-3.58E-32	-21.606229	2.42E-31	3.166127	1.29E-31
SPRINGS	-0.433575	5.37E-15	-3.213526	-1.59E-14	0.204234	1.13E-15
REACTNS	0.433575	-5.37E-15	24.819755	1.59E-14	-3.370361	-1.13E-15
TOTAL	-5.19E-14	-4.05E-28	1.78E-14	3.71E-27	-2.77E-13	1.54E-27

LOAD LOAD2 ------------------

	FX	FY	FZ	MX	MY	MZ
APPLIED	4.23E-16	-5.92E-32	-28.989066	5.29E-31	-0.220532	2.45E-31
SPRINGS	-0.496531	8.44E-15	-5.408020	-2.57E-14	0.645108	1.33E-15
REACTNS	0.496531	-8.44E-15	34.397086	2.57E-14	-0.424576	-1.33E-15
TOTAL	-8.88E-14	-6.69E-28	2.84E-14	6.07E-27	-3.85E-13	2.55E-27

LOAD LOAD3 ------------------

	FX	FY	FZ	MX	MY	MZ
APPLIED	-2.952475	1.94E-32	-1.32E-15	-7.99E-32	-16.293074	2.44E-31
SPRINGS	3.608728	-1.51E-14	19.904134	6.69E-14	3.442063	-8.80E-15
REACTNS	-0.656253	1.51E-14	-19.904134	-6.69E-14	12.851011	8.80E-15
TOTAL	2.63E-13	2.77E-27	-1.42E-14	-2.44E-26	2.27E-12	-1.10E-26

COMB COMB1 ------------------ MAX

	FX	FY	FZ	MX	MY	MZ
APPLIED	-2.952475	-7.56E-32	-50.595295	6.92E-31	-13.347479	6.19E-31
SPRINGS	2.678621	-1.34E-15	11.282589	2.52E-14	4.291404	-6.35E-15
REACTNS	0.273854	1.34E-15	39.312707	-2.52E-14	9.056074	6.35E-15
TOTAL	1.22E-13	1.69E-27	3.20E-14	-1.46E-26	1.61E-12	-6.92E-27

COMB COMB1 ------------------ MIN

	FX	FY	FZ	MX	MY	MZ
APPLIED	-2.952475	-7.56E-32	-50.595295	6.92E-31	-13.347479	6.19E-31
SPRINGS	2.678621	-1.34E-15	11.282589	2.52E-14	4.291404	-6.35E-15
REACTNS	0.273854	1.34E-15	39.312707	-2.52E-14	9.056074	6.35E-15
TOTAL	1.22E-13	1.69E-27	3.20E-14	-1.46E-26	1.61E-12	-6.92E-27

F R A M E   E L E M E N T   I N T E R N A L   F O R C E S

ELEM 1 ================= LENGTH = 0.503047

COMB COMB1 ------------------ MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-20.770824	0.726627	-2.82E-16	-5.37E-15	9.81E-15	0.355401
0.50000	-20.522429	0.686087	-2.51E-16	-5.37E-15	9.88E-15	0.178365
1.00000	-20.267221	0.675587	-2.43E-16	-5.37E-15	9.94E-15	0.007747

COMB COMB1 ------------------ MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-20.770824	0.726627	-2.82E-16	-5.37E-15	9.81E-15	0.355401
0.50000	-20.522429	0.686087	-2.51E-16	-5.37E-15	9.88E-15	0.178365
1.00000	-20.267221	0.675587	-2.43E-16	-5.37E-15	9.94E-15	0.007747

ELEM 2 ================= LENGTH = 0.503047

COMB COMB1 ------------------ MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-20.301196	0.075367	6.13E-16	-4.45E-15	1.04E-14	0.007747
0.50000	-20.041965	0.118817	5.80E-16	-4.45E-15	1.02E-14	-0.016021
1.00000	-19.778581	0.193411	5.23E-16	-4.45E-15	1.01E-14	-0.054637

COMB COMB1 ------------------ MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-20.301196	0.075367	6.13E-16	-4.45E-15	1.04E-14	0.007747
0.50000	-20.041965	0.118817	5.80E-16	-4.45E-15	1.02E-14	-0.016021
1.00000	-19.778581	0.193411	5.23E-16	-4.45E-15	1.01E-14	-0.054637

ELEM 3 ================= LENGTH = 0.503047

COMB COMB1 ------------------ MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-19.777662	-0.213729	1.28E-15	-3.53E-15	1.05E-14	-0.054637
0.50000	-19.520760	-0.084161	1.18E-15	-3.53E-15	1.01E-14	-0.016512
1.00000	-19.262527	0.076913	1.06E-15	-3.53E-15	9.87E-15	-0.014944

COMB COMB1 ------------------ MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-19.777662	-0.213729	1.28E-15	-3.53E-15	1.05E-14	-0.054637
0.50000	-19.520760	-0.084161	1.18E-15	-3.53E-15	1.01E-14	-0.016512
1.00000	-19.262527	0.076913	1.06E-15	-3.53E-15	9.87E-15	-0.014944

F R A M E E L E M E N T I N T E R N A L F O R C E S

ELEM 4 ================= LENGTH = 0.503047

COMB COMB1 ------------------ MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	[illegible]	[illegible]	1.59E-15	-2.62E-15	1.01E-14	[illegible]
0.50000	[illegible]	[illegible]	[illegible]	-2.62E-15	[illegible]	[illegible]
1.00000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

COMB COMB1 ------------------ MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
0.50000	[illegible]	[illegible]	[illegible]	-2.62E-15	[illegible]	[illegible]
1.00000	[illegible]	[illegible]	[illegible]	-2.62E-15	[illegible]	[illegible]

ELEM 5 ================= LENGTH = 0.503047

COMB COMB1 ------------------ MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-18.152045	-0.344230	1.95E-15	-1.77E-15	9.54E-15	[illegible]
0.50000	-17.635534	-0.043142	1.91E-15	-1.77E-15	9.06E-15	0.053729
1.00000	-17.123343	0.368906	1.87E-15	-1.77E-15	8.58E-15	0.008373

COMB COMB1 ------------------ MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-18.152045	-0.344230	1.95E-15	-1.77E-15	9.54E-15	[illegible]
0.50000	-17.635534	-0.043142	1.91E-15	-1.77E-15	9.06E-15	0.053729
1.00000	-17.123343	0.368906	1.87E-15	-1.77E-15	8.58E-15	0.008373

ELEM 6 ================= LENGTH = 0.503046

COMB COMB1 ------------------ MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-17.120757	-0.426042	2.20E-15	-9.85E-16	8.71E-15	0.008373
0.50000	-16.651320	0.021043	2.15E-15	-9.85E-16	8.16E-15	0.059935
1.00000	-16.188665	0.498070	2.09E-15	-9.85E-16	7.63E-15	-0.004726

COMB COMB1 ------------------ MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-17.120757	-0.426042	2.20E-15	-9.85E-16	8.71E-15	0.008373
0.50000	-16.651320	0.021043	2.15E-15	-9.85E-16	8.16E-15	0.059935
1.00000	-16.188665	0.498070	2.09E-15	-9.85E-16	7.63E-15	-0.004726

F R A M E E L E M E N T I N T E R N A L F O R C E S

ELEM 7 ================= LENGTH = 0.503047

COMB COMB1 ------------------ MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-16.188624	[illegible]	2.36E-15	-2.92E-16	7.69E-15	-0.004729
0.50000	[illegible]	0.040187	2.30E-15	-2.92E-16	7.10E-15	0.054399
1.00000	[illegible]	0.614452	2.23E-15	-2.92E-16	6.53E-15	-0.027343

COMB COMB1 ------------------ MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-16.188624	[illegible]	2.36E-15	[illegible]	7.69E-15	-0.004729
0.50000	[illegible]	0.040187	2.30E-15	[illegible]	7.10E-15	0.054399
1.00000	[illegible]	0.614452	2.23E-15	[illegible]	6.53E-15	-0.027343

ELEM 8 ================= LENGTH = 0.503047

COMB COMB1 ------------------ MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-15.383477	-0.584485	2.43E-15	2.99E-16	6.53E-15	-0.027343
0.50000	-15.056276	0.050606	2.36E-15	2.99E-16	5.93E-15	0.040355
1.00000	-14.728617	0.712239	2.28E-15	2.99E-16	5.35E-15	-0.055034

COMB COMB1 ------------------ MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-15.383477	-0.584485	2.43E-15	2.99E-16	6.53E-15	-0.027343
0.50000	-15.056276	0.050606	2.36E-15	2.99E-16	5.93E-15	0.040355
1.00000	-14.728617	0.712239	2.28E-15	2.99E-16	5.35E-15	-0.055034

ELEM 9 ================= LENGTH = 0.503060

COMB COMB1 ------------------ MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-14.726478	-0.751087	2.41E-15	7.76E-16	5.30E-15	-0.055034
0.50000	-14.479014	-0.048307	2.32E-15	7.76E-16	4.70E-15	0.047269
1.00000	-14.244806	0.628758	2.23E-15	7.76E-16	4.13E-15	-0.032768

COMB COMB1 ------------------ MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-14.726478	-0.751087	2.41E-15	7.76E-16	5.30E-15	-0.055034
0.50000	-14.479014	-0.048307	2.32E-15	7.76E-16	4.70E-15	0.047269
1.00000	-14.244806	0.628758	2.23E-15	7.76E-16	4.13E-15	-0.032768

F R A M E E L E M E N T I N T E R N A L F O R C E S

ELEM 10 ================= LENGTH = 0.503126

COMB COMB1 ------------------ MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-14.238984	-0.898609	2.25E-15	1.08E-15	4.06E-15	-0.032768
0.50000	-14.086496	-0.131456	2.16E-15	1.08E-15	3.51E-15	0.097264
1.00000	-13.946430	0.658053	2.06E-15	1.08E-15	2.98E-15	0.031492

COMB COMB1 ------------------ MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-14.238984	-0.898609	2.25E-15	1.08E-15	4.06E-15	-0.032768
0.50000	-14.086496	-0.131456	2.16E-15	1.08E-15	3.51E-15	0.097264
1.00000	-13.946430	0.658053	2.06E-15	1.08E-15	2.98E-15	0.031492

ELEM 11 ================= LENGTH = 0.503126

COMB COMB1 ------------------ MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-13.950507	-0.595501	2.11E-15	1.27E-15	2.90E-15	0.031492
0.50000	-13.880698	0.222372	2.01E-15	1.27E-15	2.38E-15	0.078852
1.00000	-13.826009	1.060583	1.91E-15	1.27E-15	1.89E-15	-0.082100

COMB COMB1 ------------------ MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-13.950507	-0.595501	2.11E-15	1.27E-15	2.90E-15	0.031492
0.50000	-13.880698	0.222372	2.01E-15	1.27E-15	2.38E-15	0.078852
1.00000	-13.826009	1.060583	1.91E-15	1.27E-15	1.89E-15	-0.082100

ELEM 12 ================= LENGTH = 0.503125

COMB COMB1 ------------------ MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-13.885387	0.727335	2.13E-15	1.39E-15	1.80E-15	-0.082100
0.50000	-13.902505	1.586189	2.03E-15	1.39E-15	1.28E-15	-0.372714
1.00000	-13.935159	2.463275	1.92E-15	1.39E-15	7.81E-16	-0.881685

COMB COMB1 ------------------ MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-13.885387	0.727335	2.13E-15	1.39E-15	1.80E-15	-0.082100
0.50000	-13.902505	1.586189	2.03E-15	1.39E-15	1.28E-15	-0.372714
1.00000	-13.935159	2.463275	1.92E-15	1.39E-15	7.81E-16	-0.881685

F R A M E E L E M E N T I N T E R N A L F O R C E S

ELEM 13 ================= LENGTH = 0.503127

COMB COMB1 ------------------ MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-14.096654	2.399537	2.21E-15	1.44E-15	6.88E-16	-0.881685
0.50000	-14.203756	3.289294	2.10E-15	1.44E-15	1.45E-16	-1.596896
1.00000	-14.326601	4.195217	1.99E-15	1.44E-15	-3.70E-16	-2.537977

COMB COMB1 ------------------ MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-14.096654	2.399537	2.21E-15	1.44E-15	6.88E-16	-0.881685
0.50000	-14.203756	3.289294	2.10E-15	1.44E-15	1.45E-16	-1.596896
1.00000	-14.326601	4.195217	1.99E-15	1.44E-15	-3.70E-16	-2.537977

ELEM 14 ================= LENGTH = 0.503126

COMB COMB1 ------------------ MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-14.328289	-4.144464	6.29E-16	1.39E-15	-4.64E-16	-2.537977
0.50000	-14.527346	-3.233964	5.18E-16	1.39E-15	-6.08E-16	-1.609610
1.00000	-14.742150	-2.309306	4.06E-16	1.39E-15	-7.25E-16	-0.912078

COMB COMB1 ------------------ MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-14.328289	-4.144464	6.29E-16	1.39E-15	-4.64E-16	-2.537977
0.50000	-14.527346	-3.233964	5.18E-16	1.39E-15	-6.08E-16	-1.609610
1.00000	-14.742150	-2.309306	4.06E-16	1.39E-15	-7.25E-16	-0.912078

ELEM 15 ================= LENGTH = 0.503125

COMB COMB1 ------------------ MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-14.556451	-3.282318	5.24E-16	1.33E-15	-8.15E-16	-0.912078
0.50000	-14.848218	-2.361312	4.13E-16	1.33E-15	-9.33E-16	-0.201963
1.00000	-15.155248	-1.428314	3.00E-16	1.33E-15	-1.02E-15	0.274947

COMB COMB1 ------------------ MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-14.556451	-3.282318	5.24E-16	1.33E-15	-8.15E-16	-0.912078
0.50000	-14.848218	-2.361312	4.13E-16	1.33E-15	-9.33E-16	-0.201963
1.00000	-15.155248	-1.428314	3.00E-16	1.33E-15	-1.02E-15	0.274947

F R A M E E L E M E N T I N T E R N A L F O R C E S

ELEM 24 ========== LENGTH = 0.503126

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-26.102020	0.000628	1.27E-16	3.94E-16	-1.90E-15	-1.169309
0.50000	-27.070853	0.612205	5.24E-17	3.94E-16	-1.93E-15	-1.246389
1.00000	-28.041716	1.223921	-2.16E-17	3.94E-16	-1.93E-15	-1.477337

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-26.102020	0.000628	1.27E-16	3.94E-16	-1.90E-15	-1.169309
0.50000	-27.070853	0.612205	5.24E-17	3.94E-16	-1.93E-15	-1.246389
1.00000	-28.041716	1.223921	-2.16E-17	3.94E-16	-1.93E-15	-1.477337

ELEM 25 ========== LENGTH = 0.503126

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-28.061132	-0.639276	2.04E-16	2.53E-16	-1.95E-15	-1.477337
0.25000	-28.060607	-0.367274	1.71E-16	2.53E-16	-1.98E-15	-1.414035
0.50000	-28.060082	-0.095272	1.38E-16	2.53E-16	-2.00E-15	-1.384945
0.75000	-28.059558	0.176729	1.05E-16	2.53E-16	-2.01E-15	-1.390068
1.00000	-28.059033	0.448731	7.22E-17	2.53E-16	-2.02E-15	-1.429403

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-28.061132	-0.639276	2.04E-16	2.53E-16	-1.95E-15	-1.477337
0.25000	-28.060607	-0.367274	1.71E-16	2.53E-16	-1.98E-15	-1.414035
0.50000	-28.060082	-0.095272	1.38E-16	2.53E-16	-2.00E-15	-1.384945
0.75000	-28.059558	0.176729	1.05E-16	2.53E-16	-2.01E-15	-1.390068
1.00000	-28.059033	0.448731	7.22E-17	2.53E-16	-2.02E-15	-1.429403

ELEM 26 ========== LENGTH = 0.503126

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-26.026977	-1.413547	2.98E-16	1.06E-16	-2.03E-15	-1.429403
0.50000	-26.996106	-0.802260	2.24E-16	1.06E-16	-2.10E-15	-1.150648
1.00000	-25.967353	-0.190709	1.50E-16	1.06E-16	-2.15E-15	-1.025755

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-28.026977	-1.413547	2.98E-16	1.06E-16	-2.03E-15	-1.429403
0.50000	-26.996106	-0.802260	2.24E-16	1.06E-16	-2.10E-15	-1.150648
1.00000	-25.967353	-0.190709	1.50E-16	1.06E-16	-2.15E-15	-1.025755

ELEM 27 ========== LENGTH = 0.503126

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-25.897481	-1.913191	3.58E-16	-4.44E-17	-2.15E-15	-1.025755
0.50000	-24.914517	-1.235120	2.76E-16	-4.44E-17	-2.23E-15	-0.629767
1.00000	-23.935778	-0.557604	1.94E-16	-4.44E-17	-2.29E-15	-0.404289

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-25.897481	-1.913191	3.58E-16	-4.44E-17	-2.15E-15	-1.025755
0.50000	-24.914517	-1.235120	2.76E-16	-4.44E-17	-2.23E-15	-0.629767
1.00000	-23.935778	-0.557604	1.94E-16	-4.44E-17	-2.29E-15	-0.404289

F R A M E E L E M E N T I N T E R N A L F O R C E S

ELEM 34 ========== LENGTH = 0.503126

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-14.864001	0.917367	1.55E-17	-1.17E-15	-2.58E-15	1.192581
0.50000	-14.412720	1.880403	-1.01E-16	-1.17E-15	-2.57E-15	0.840464
1.00000	-13.976196	2.833436	-2.17E-16	-1.17E-15	-2.53E-15	0.247335

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-14.864001	0.917367	1.55E-17	-1.17E-15	-2.58E-15	1.192581
0.50000	-14.412720	1.880403	-1.01E-16	-1.17E-15	-2.57E-15	0.840464
1.00000	-13.976196	2.833436	-2.17E-16	-1.17E-15	-2.53E-15	0.247335

ELEM 35 ========== LENGTH = 0.503126

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-14.133391	1.899918	-1.04E-16	-1.34E-15	-2.45E-15	0.247335
0.50000	-13.775620	2.868465	-2.21E-16	-1.34E-15	-2.41E-15	-0.352689
1.00000	-13.433196	3.825049	-3.37E-16	-1.34E-15	-2.34E-15	-1.194865

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-14.133391	1.899918	-1.04E-16	-1.34E-15	-2.45E-15	0.247335
0.50000	-13.775620	2.868465	-2.21E-16	-1.34E-15	-2.41E-15	-0.352689
1.00000	-13.433196	3.825049	-3.37E-16	-1.34E-15	-2.34E-15	-1.194865

ELEM 36 ========== LENGTH = 0.503126

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-13.657385	2.925347	-2.28E-16	-1.50E-15	-2.24E-15	-1.194865
0.50000	-13.394231	3.889121	-3.44E-16	-1.50E-15	-2.17E-15	-2.052293
1.00000	-13.146908	4.838772	-4.59E-16	-1.50E-15	-2.07E-15	-3.150402

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-13.657385	2.925347	-2.28E-16	-1.50E-15	-2.24E-15	-1.194865
0.50000	-13.394231	3.889121	-3.44E-16	-1.50E-15	-2.17E-15	-2.052293
1.00000	-13.146908	4.838772	-4.59E-16	-1.50E-15	-2.07E-15	-3.150402

F R A M E E L E M E N T I N T E R N A L F O R C E S

ELEM 37 ========== LENGTH = 0.503126

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-13.139738	-5.055036	-2.16E-15	-1.66E-15	-1.97E-15	-3.150402
0.50000	-12.971190	-4.109584	-2.28E-15	-1.66E-15	-1.41E-15	-1.998376
1.00000	-12.816469	-3.174259	-2.39E-15	-1.66E-15	-8.20E-16	-1.082925

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-13.139738	-5.055036	-2.16E-15	-1.66E-15	-1.97E-15	-3.150402
0.50000	-12.971190	-4.109584	-2.28E-15	-1.66E-15	-1.41E-15	-1.998376
1.00000	-12.816469	-3.174259	-2.39E-15	-1.66E-15	-8.20E-16	-1.082925

ELEM 38 ========== LENGTH = 0.503126

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-12.617255	-2.884243	-2.06E-15	-1.72E-15	-7.08E-16	-1.082925
0.50000	-12.541838	-1.961432	-2.17E-15	-1.72E-15	-1.76E-16	-0.473811
1.00000	-12.482122	-1.056904	-2.28E-15	-1.72E-15	3.84E-16	-0.094549

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-12.617255	-2.884243	-2.06E-15	-1.72E-15	-7.08E-16	-1.082925
0.50000	-12.541838	-1.961432	-2.17E-15	-1.72E-15	-1.76E-16	-0.473811
1.00000	-12.482122	-1.056904	-2.28E-15	-1.72E-15	3.84E-16	-0.094549

ELEM 39 ========== LENGTH = 0.503126

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-12.406489	-1.160282	-2.04E-15	-1.69E-15	4.97E-16	-0.094549
0.50000	-12.423696	-0.273503	-2.14E-15	-1.69E-15	1.02E-15	0.085368
1.00000	-12.454184	0.592889	-2.25E-15	-1.69E-15	1.57E-15	0.044762

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-12.406489	-1.160282	-2.04E-15	-1.69E-15	4.97E-16	-0.094549
0.50000	-12.423696	-0.273503	-2.14E-15	-1.69E-15	1.02E-15	0.085368
1.00000	-12.454184	0.592889	-2.25E-15	-1.69E-15	1.57E-15	0.044762

F R A M E E L E M E N T I N T E R N A L F O R C E S

ELEM [illegible] LENGTH = 0.503070

COMB [illegible] MAX

REL DIST	P	V2	V3	T	M2	M3
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

COMB [illegible] MIN

REL DIST	P	V2	V3	T	M2	M3
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

ELEM 43 [illegible] LENGTH = 0.503070

COMB [illegible] MAX

REL DIST	P	V2	V3	T	M2	M3
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

COMB [illegible] MIN

REL DIST	P	V2	V3	T	M2	M3
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

ELEM 44 [illegible] LENGTH = 0.503070

COMB [illegible] MAX

REL DIST	P	V2	V3	T	M2	M3
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

COMB [illegible] MIN

REL DIST	P	V2	V3	T	M2	M3
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

ELEM 45 [illegible] LENGTH = 0.503070

COMB [illegible] MAX

REL DIST	P	V2	V3	T	M2	M3
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

COMB [illegible] MIN

REL DIST	P	V2	V3	T	M2	M3
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

F R A M E E L E M E N T I N T E R N A L F O R C E S

ELEM 46 [illegible] LENGTH = 0.503070

COMB COMB1 [illegible] MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-16.290029	-0.336796	-2.43E-15	1.63E-15	9.83E-15	0.003133
0.50000	-16.821017	0.005667	-2.47E-15	1.63E-15	1.04E-14	0.044371
1.00000	-17.354728	0.318680	-2.51E-15	1.63E-15	1.11E-14	0.002919

COMB COMB1 [illegible] MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-16.290029	-0.336796	-2.43E-15	1.63E-15	9.83E-15	0.003133
0.50000	-16.821017	0.005667	-2.47E-15	1.63E-15	1.04E-14	0.044371
1.00000	-17.354728	0.318680	-2.51E-15	1.63E-15	1.11E-14	0.002919

ELEM 47 [illegible] LENGTH = 0.503070

COMB COMB1 [illegible] MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-17.359713	-0.200211	-2.14E-15	2.56E-15	1.09E-14	0.002919
0.50000	-17.580847	0.034533	-2.17E-15	2.56E-15	1.14E-14	0.023095
1.00000	-17.802052	0.237710	-2.20E-15	2.56E-15	1.20E-14	-0.011806

COMB COMB1 [illegible] MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-17.359713	-0.200211	-2.14E-15	2.56E-15	1.09E-14	0.002919
0.50000	-17.580847	0.034533	-2.17E-15	2.56E-15	1.14E-14	0.023095
1.00000	-17.802052	0.237710	-2.20E-15	2.56E-15	1.20E-14	-0.011806

ELEM 48 [illegible] LENGTH = 0.503070

COMB COMB1 [illegible] MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-17.808870	-0.075637	-1.73E-15	3.56E-15	1.17E-14	-0.011806
0.50000	-18.073236	0.074363	-1.84E-15	3.56E-15	1.22E-14	-0.012306
1.00000	-18.335022	0.192901	-1.93E-15	3.56E-15	1.27E-14	-0.046578

COMB COMB1 [illegible] MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-17.808870	-0.075637	-1.73E-15	3.56E-15	1.17E-14	-0.011806
0.50000	-18.073236	0.074363	-1.84E-15	3.56E-15	1.22E-14	-0.012306
1.00000	-18.335022	0.192901	-1.93E-15	3.56E-15	1.27E-14	-0.046578

F R A M E E L E M E N T I N T E R N A L F O R C E S

ELEM [illegible] LENGTH = 0.503070

COMB [illegible] MAX

REL DIST	P	V2	V3	T	M2	M3
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

COMB [illegible] MIN

REL DIST	P	V2	V3	T	M2	M3
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

ELEM 49 [illegible] LENGTH = 0.503070

COMB [illegible] MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-18.336279	-0.163032	-1.28E-15	4.60E-15	1.23E-14	-0.046578
0.50000	-18.601914	-0.097852	-1.33E-15	4.60E-15	1.27E-14	-0.014412
1.00000	-18.862397	-0.063433	-1.38E-15	4.60E-15	1.30E-14	0.005227

COMB [illegible] MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-18.336279	0.163032	-1.28E-15	4.60E-15	1.23E-14	-0.046578
0.50000	-18.601914	-0.097852	-1.33E-15	4.60E-15	1.27E-14	-0.014412
1.00000	-18.862397	-0.063433	-1.38E-15	4.60E-15	1.30E-14	0.005227

ELEM 50 [illegible] LENGTH = 0.503070

COMB COMB1 [illegible] MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-18.835315	-0.580246	-6.18E-16	5.68E-15	1.26E-14	0.005227
0.50000	-19.090114	-0.597807	-6.04E-16	5.68E-15	1.27E-14	0.152765
1.00000	-19.337319	-0.645100	-5.68E-16	5.68E-15	1.29E-14	0.308459

COMB [illegible] MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-18.835315	-0.580246	-6.18E-16	5.68E-15	1.26E-14	0.005227
0.50000	-19.090114	-0.597807	-6.04E-16	5.68E-15	1.27E-14	0.152765
1.00000	-19.337319	-0.645100	-5.68E-16	5.68E-15	1.29E-14	0.308459

5-3. 무근 콘크리트 라이닝 해석결과

(TYPE : 5)

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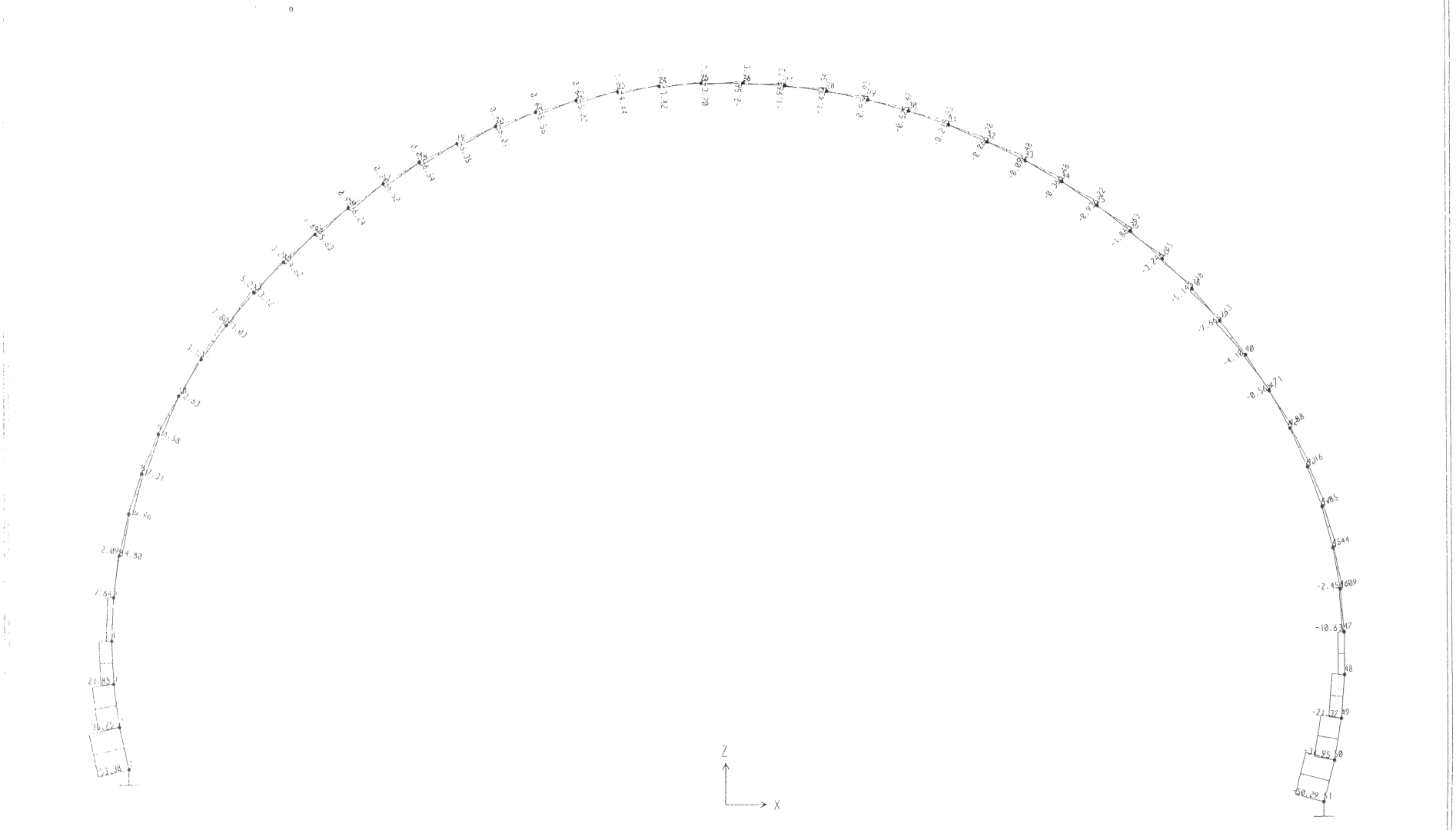
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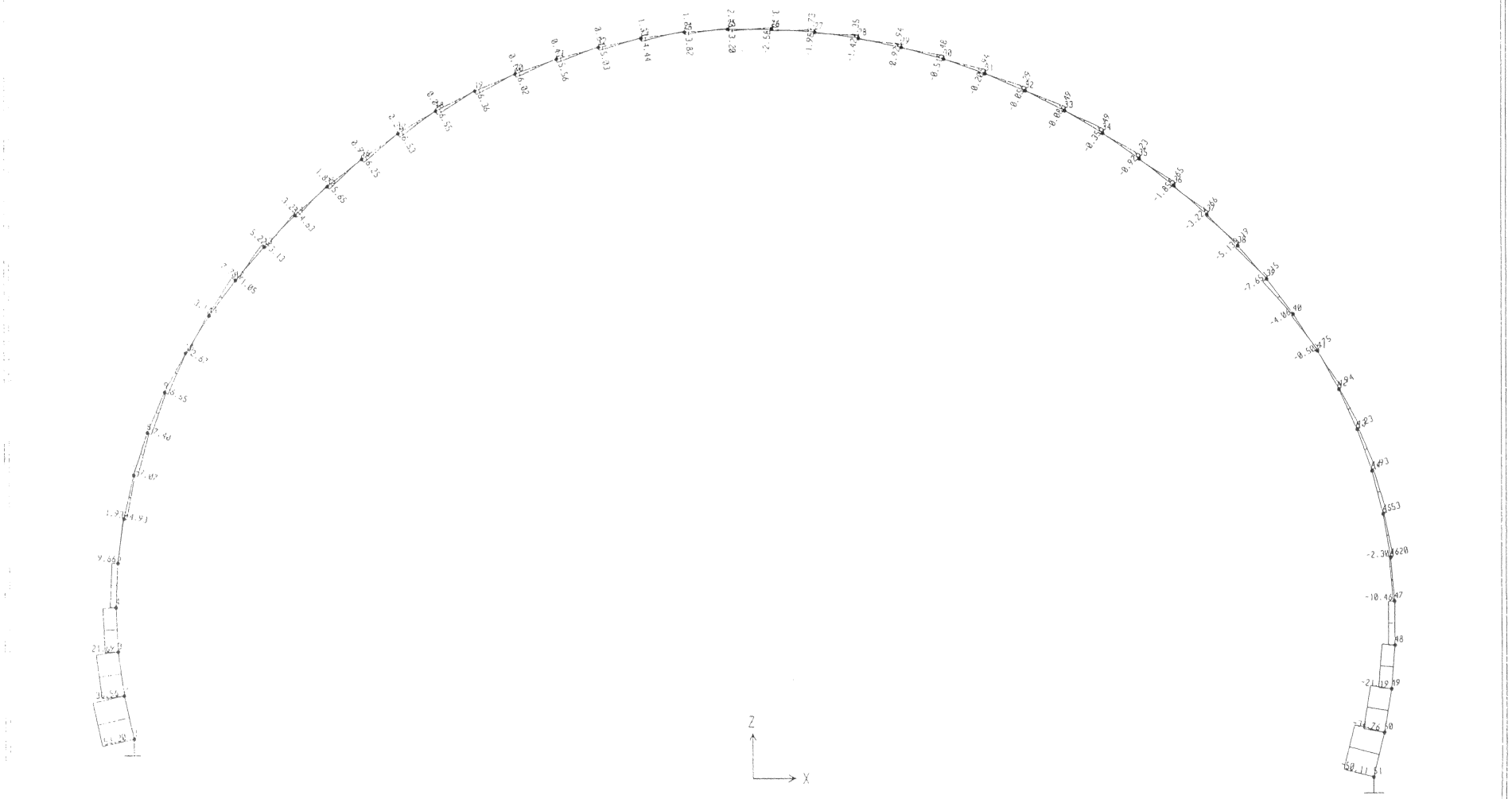
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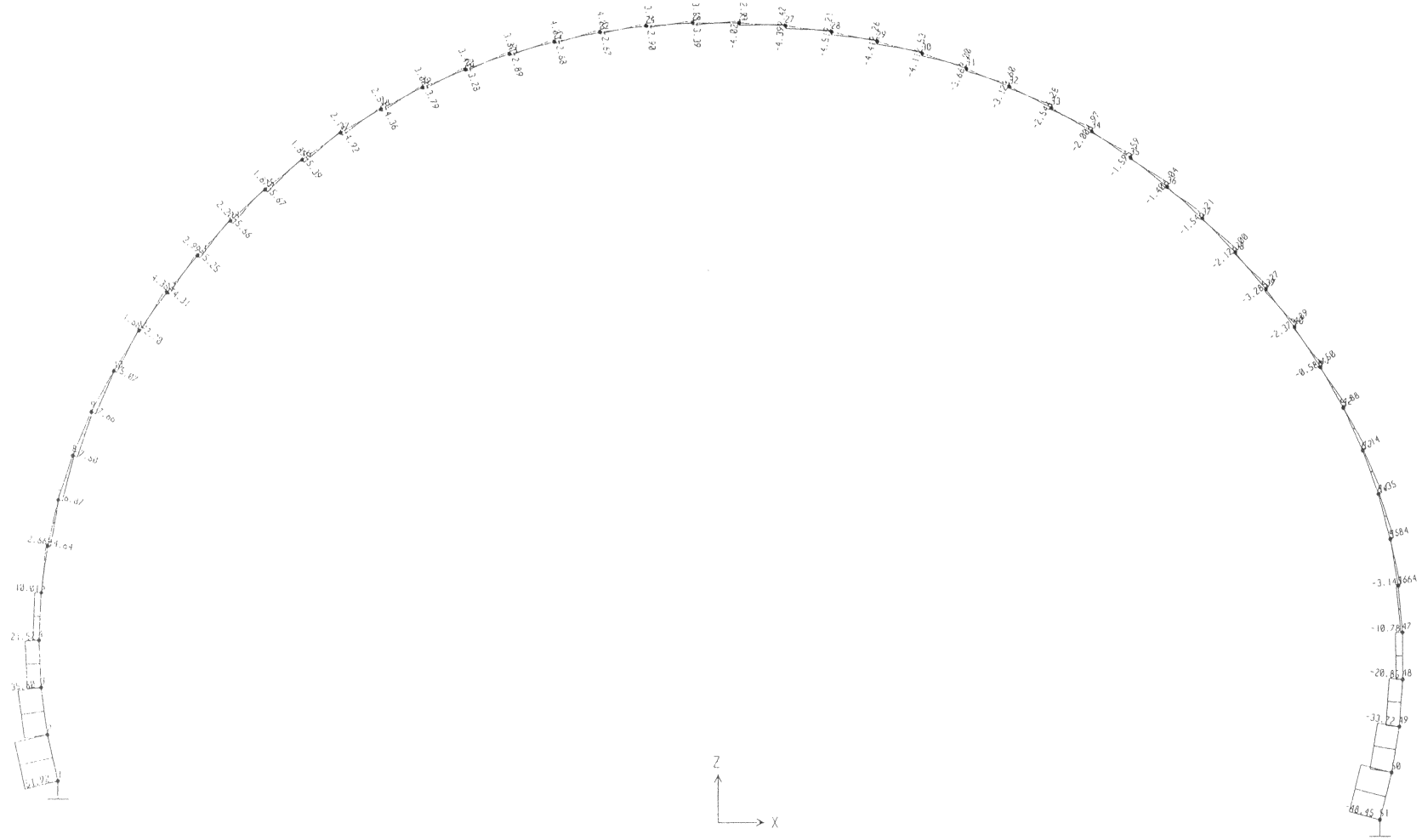
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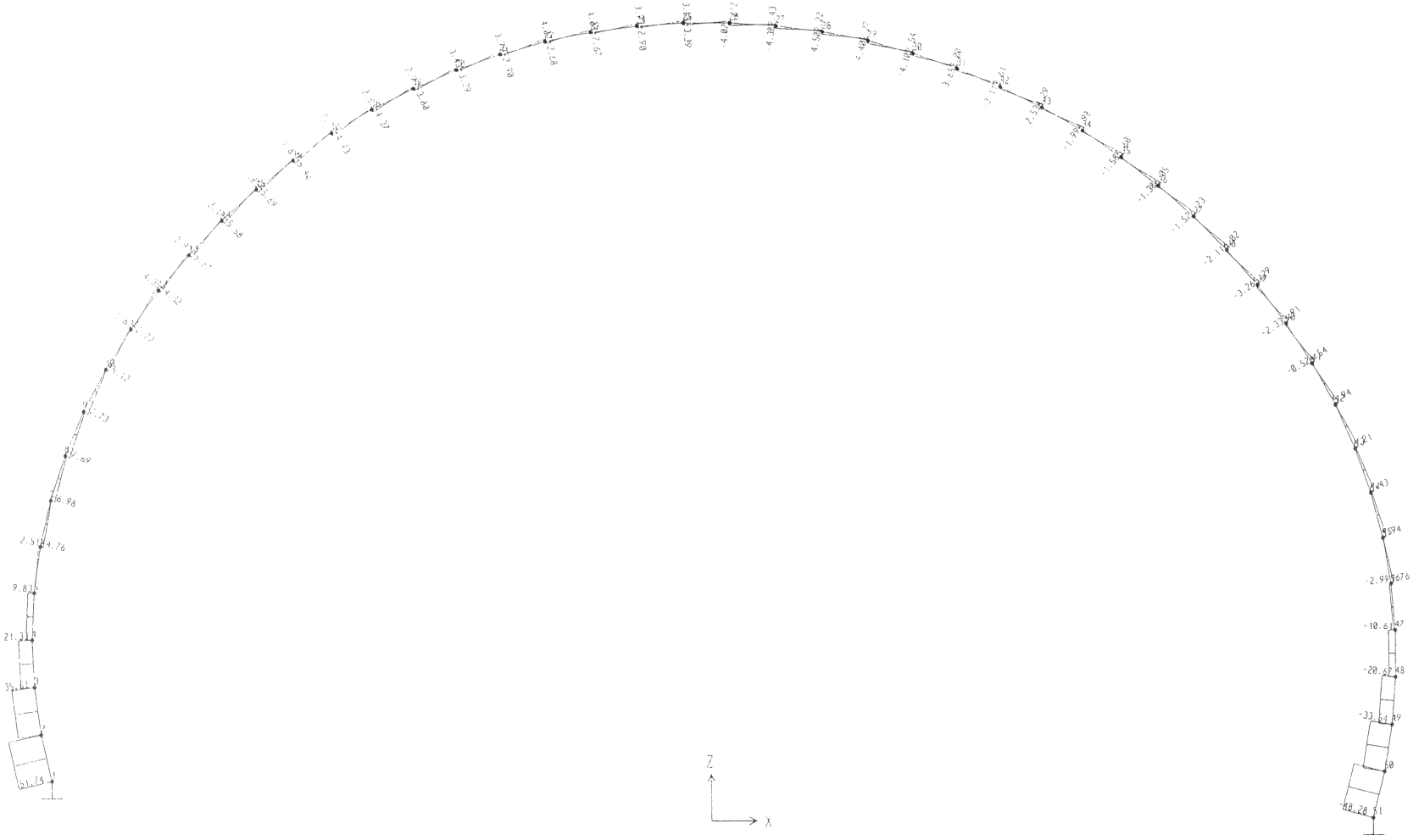
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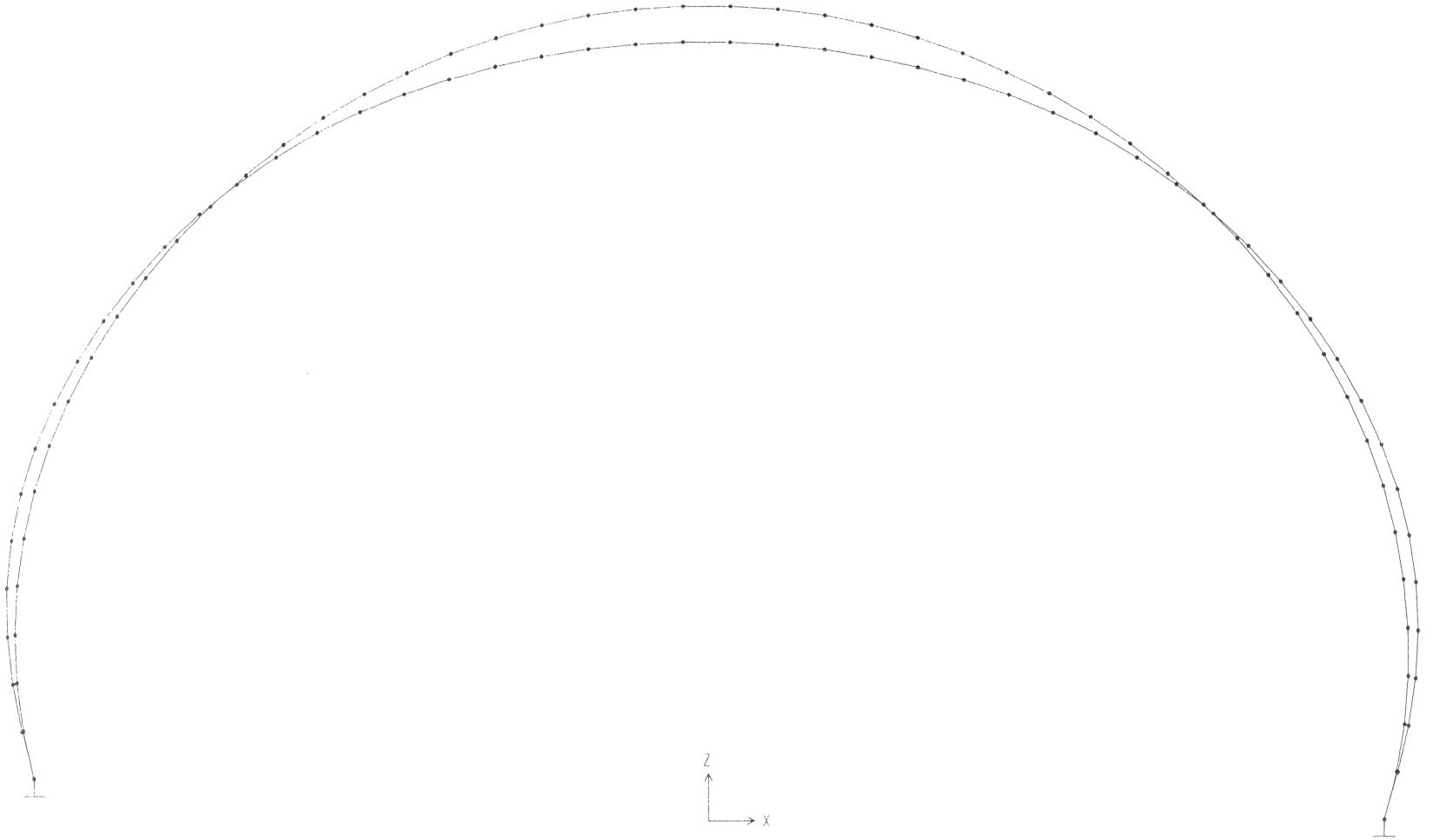
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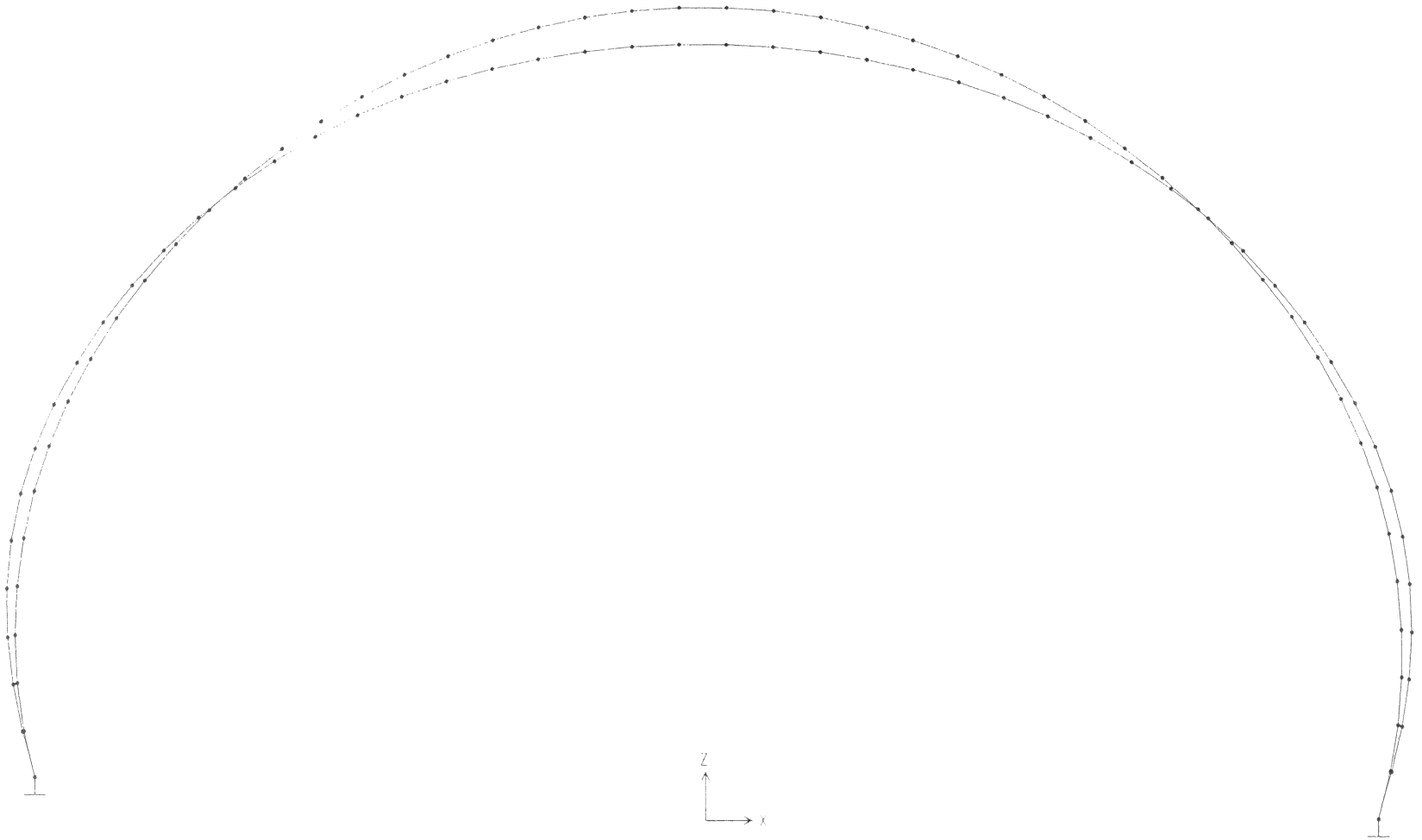
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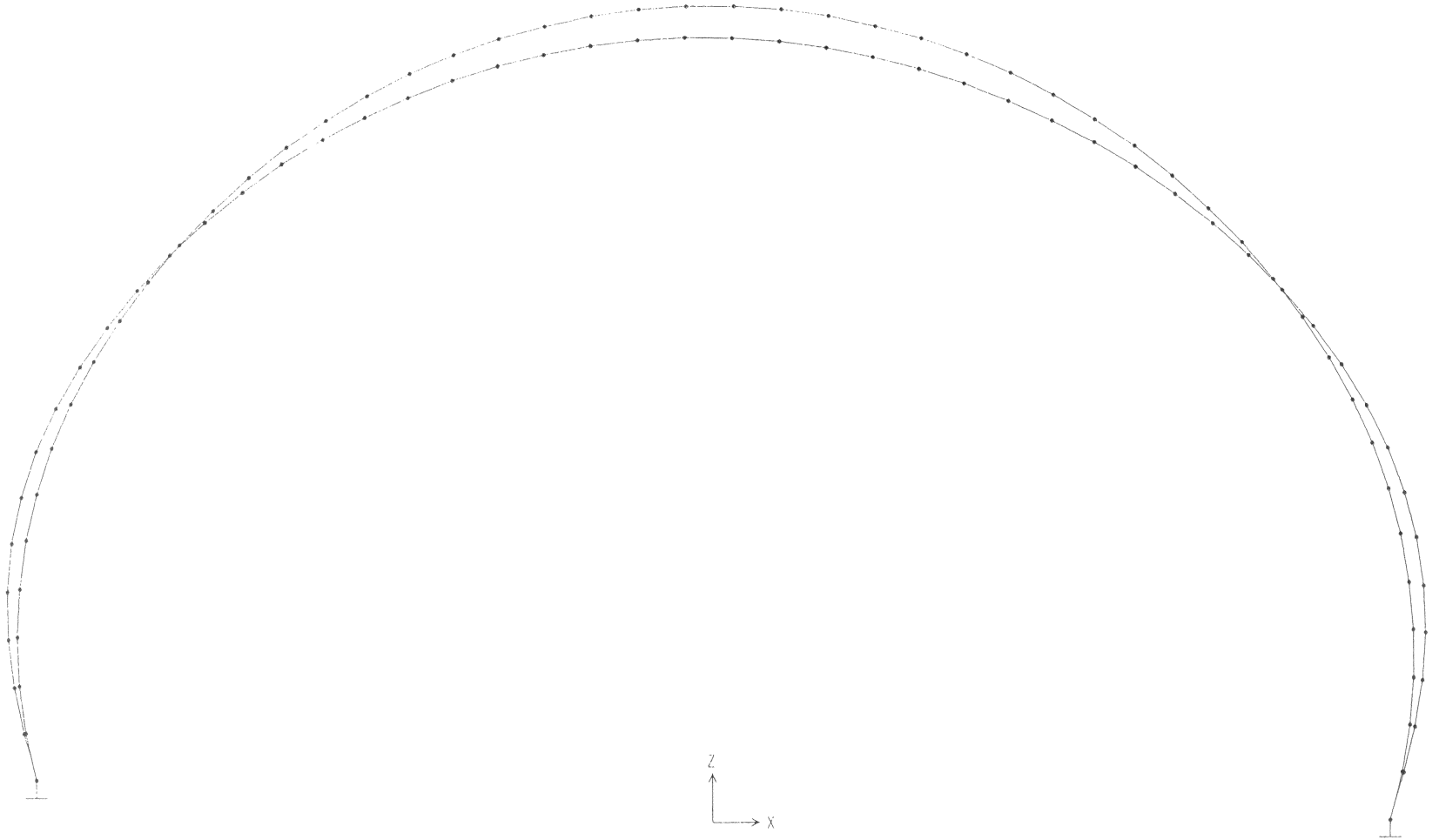
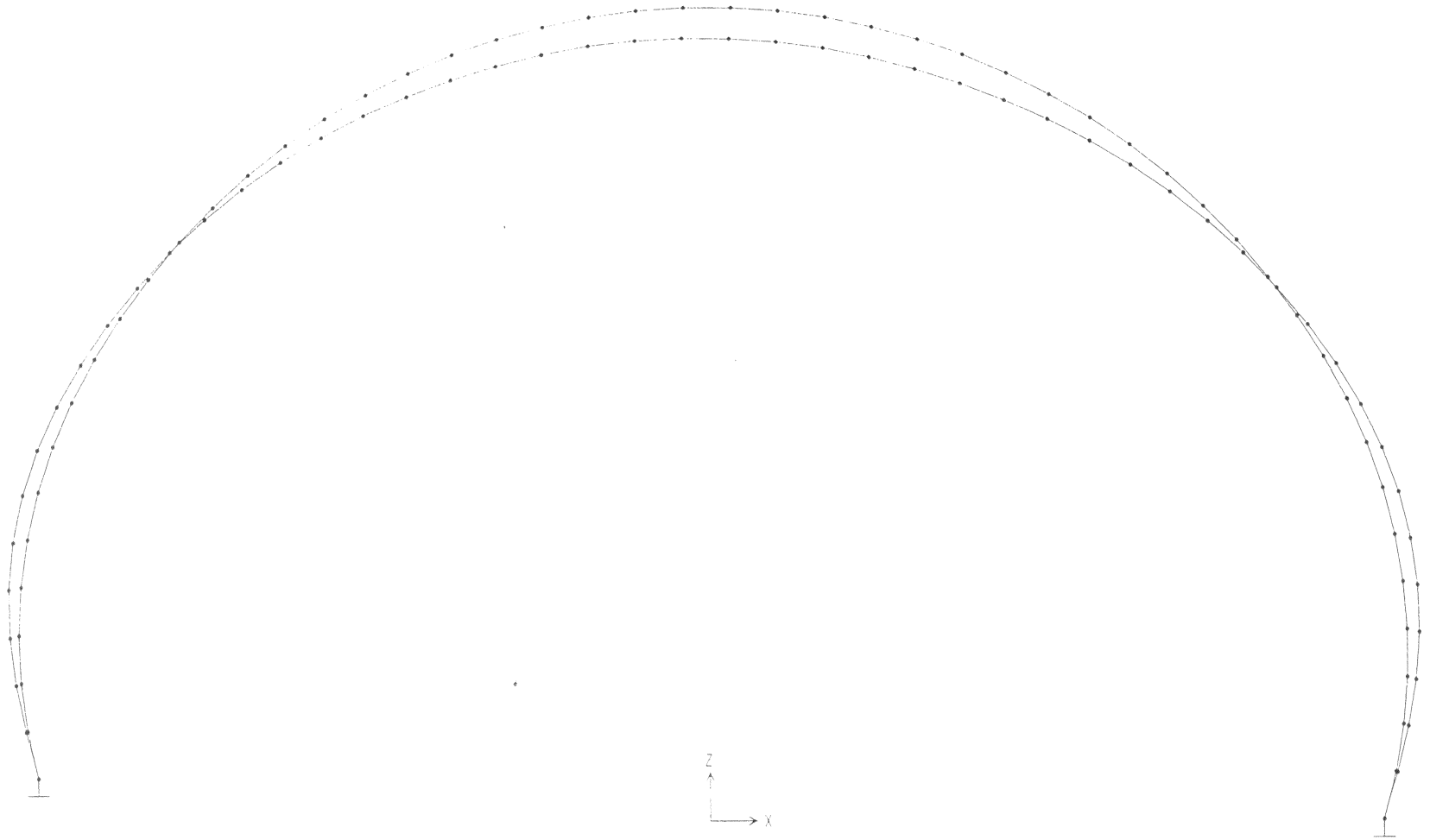


SAP2000 v7.40 - File:tl-3 - Deformed Shape (COMB3) - Ton-m Units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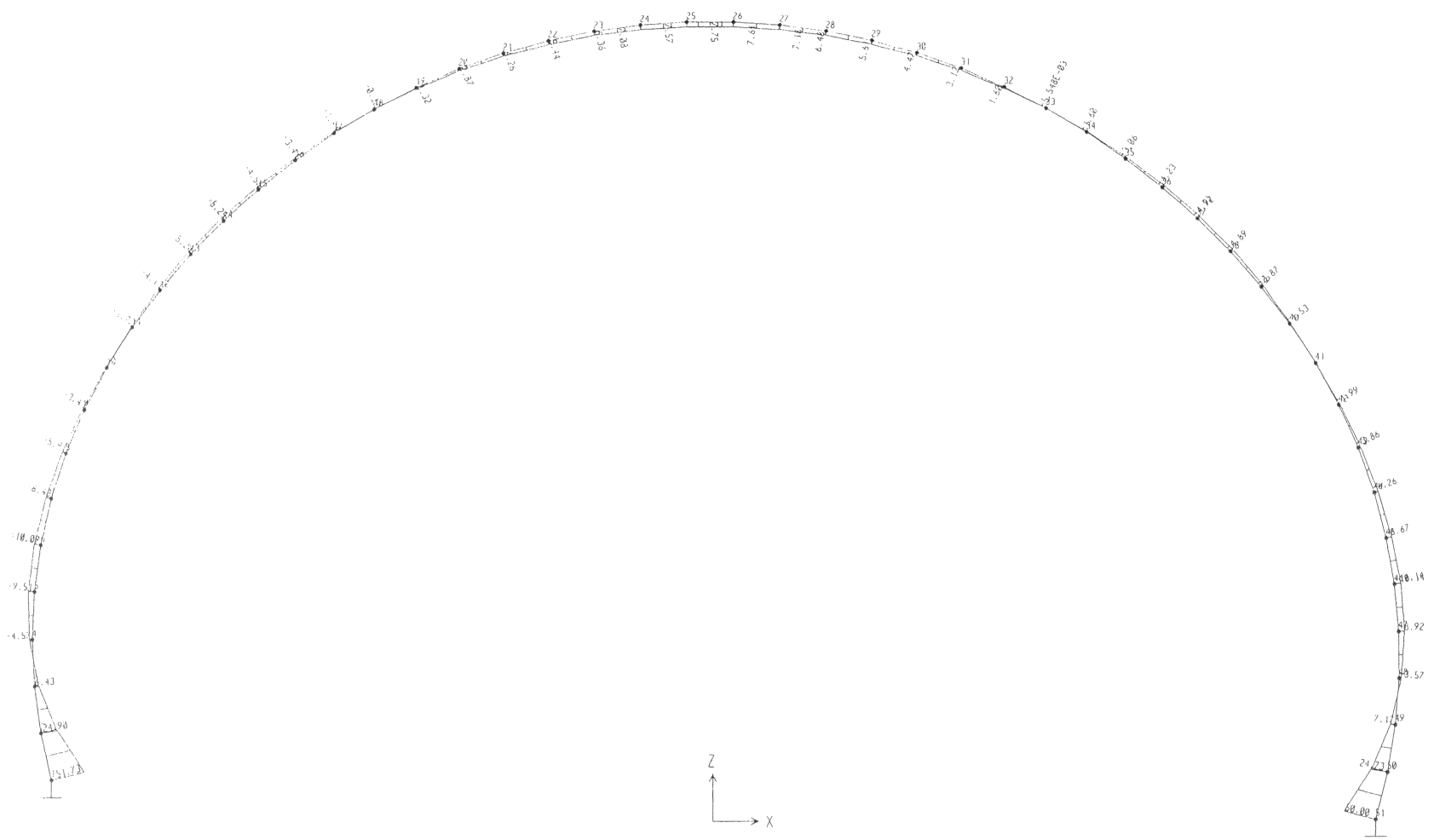
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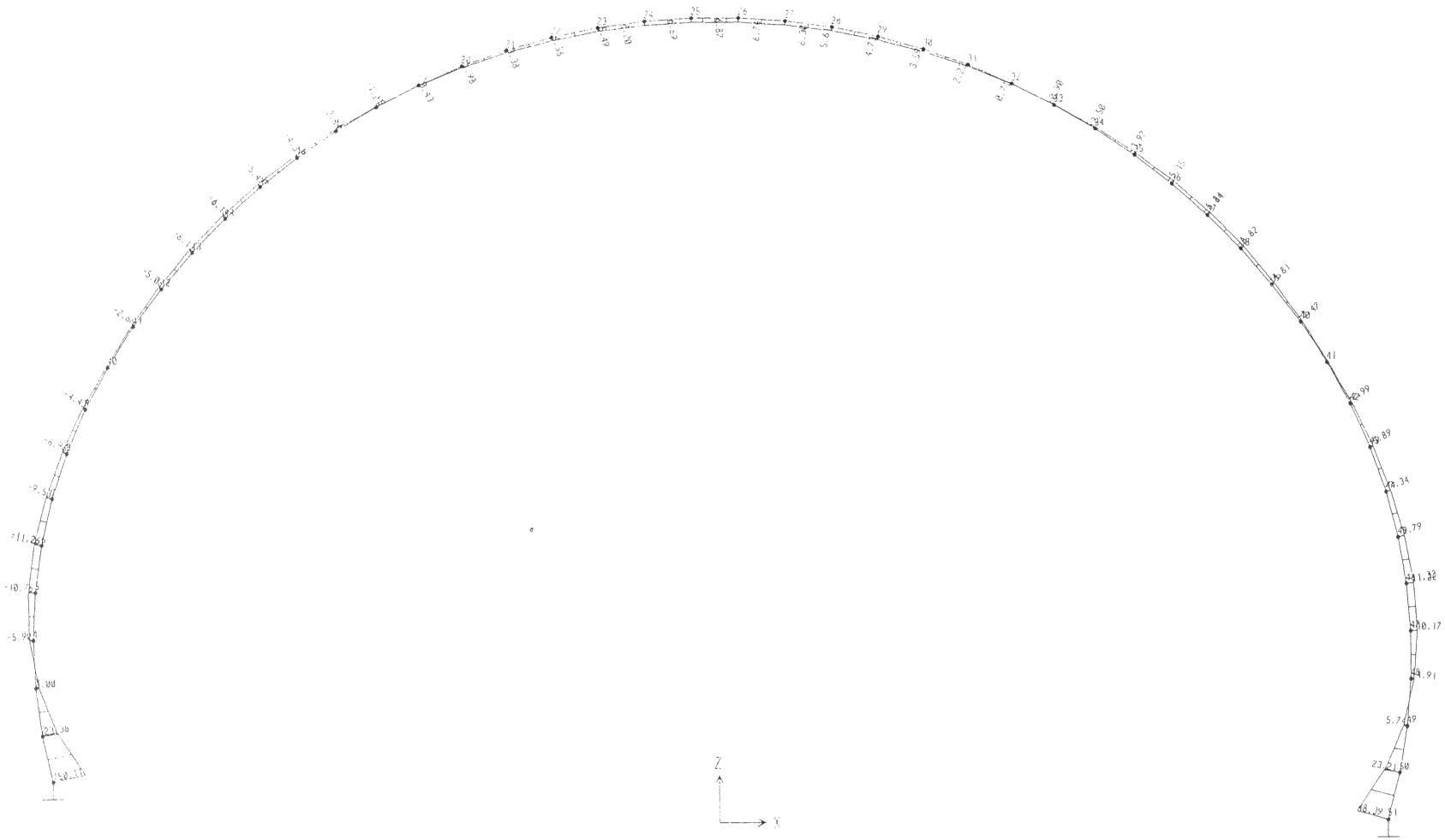
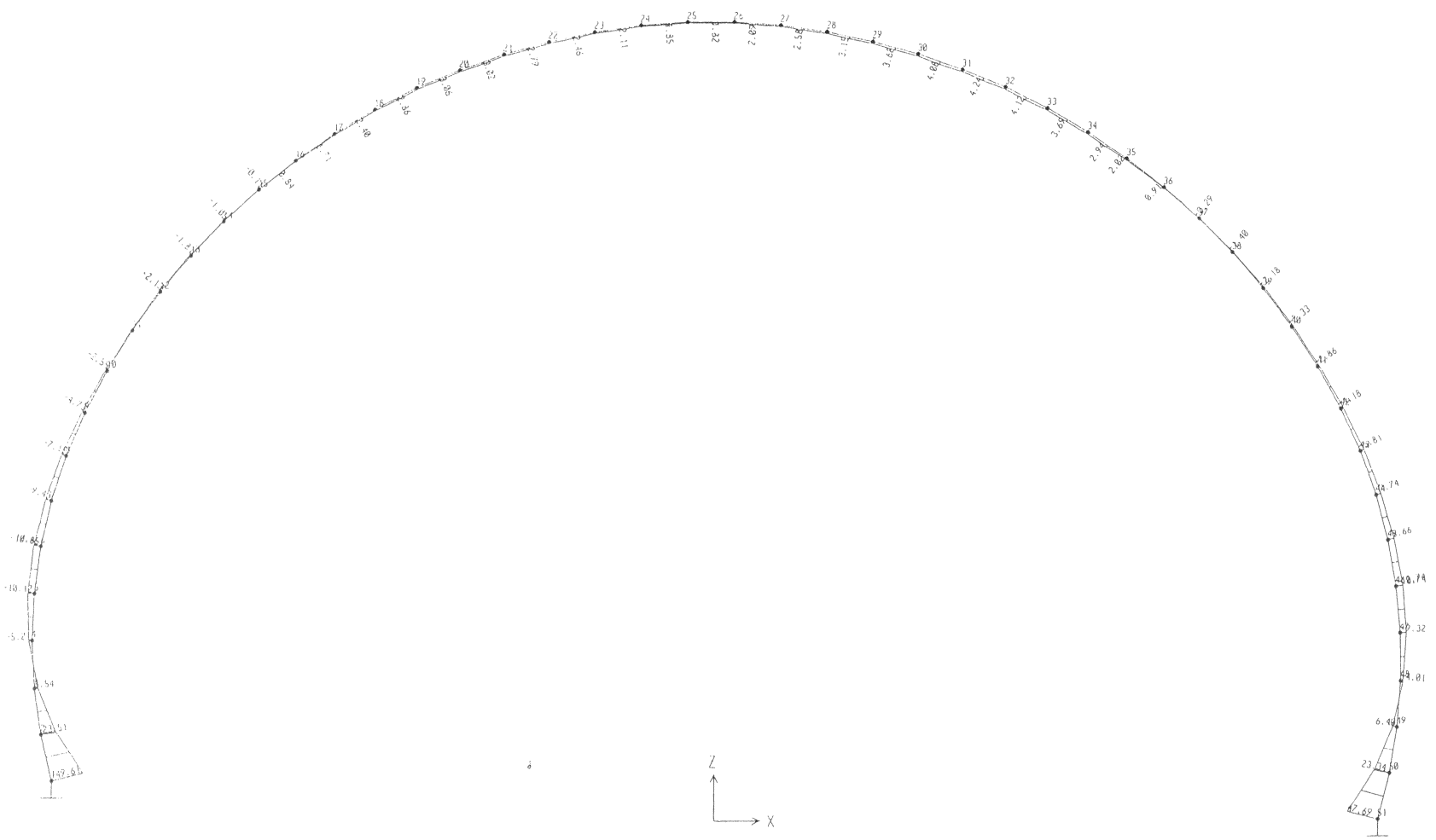


SAP2000 v7.40 - File:tl-3 - Moment 3-3 Diagram (COMB2) - Ton-m Units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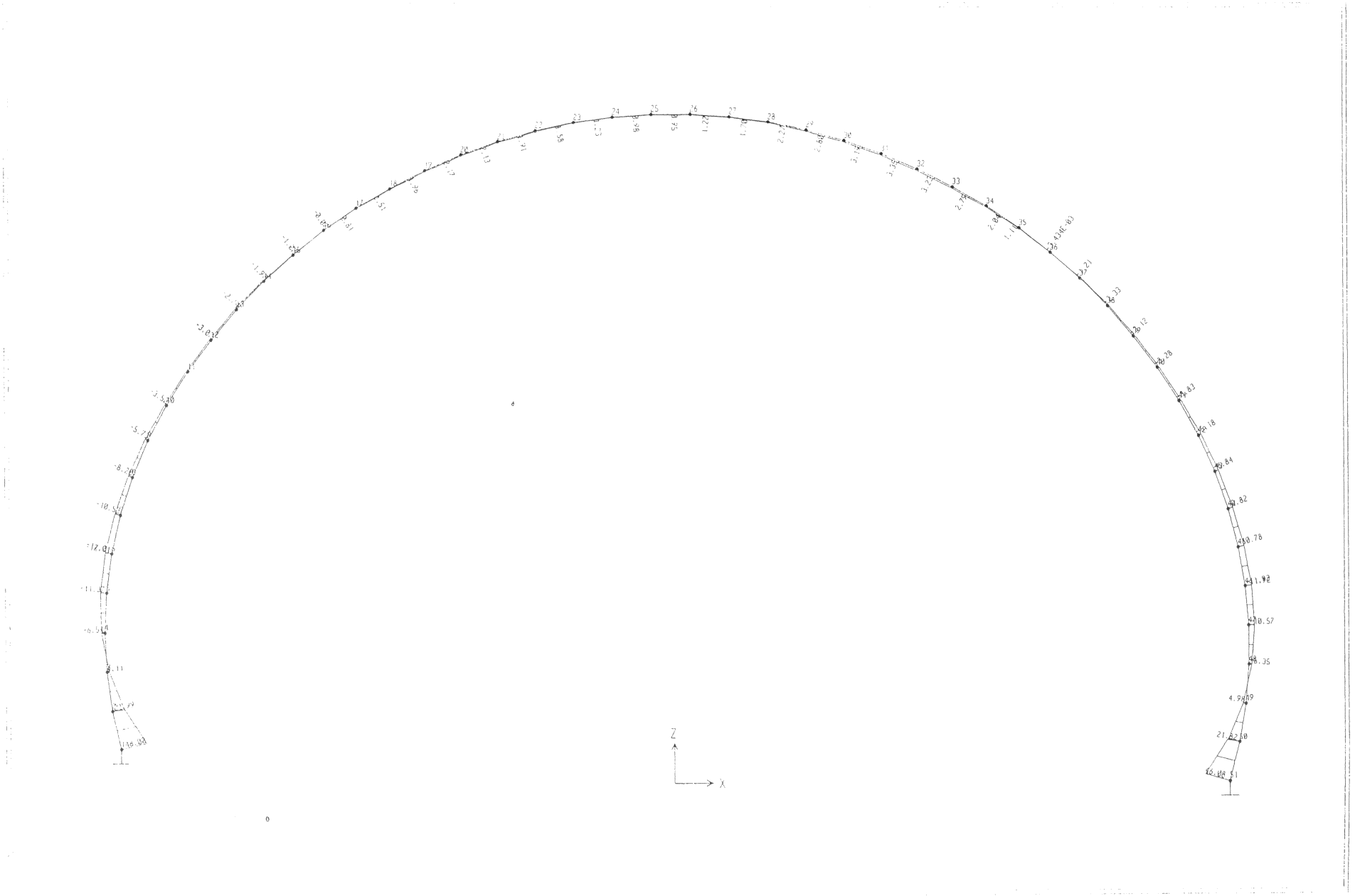
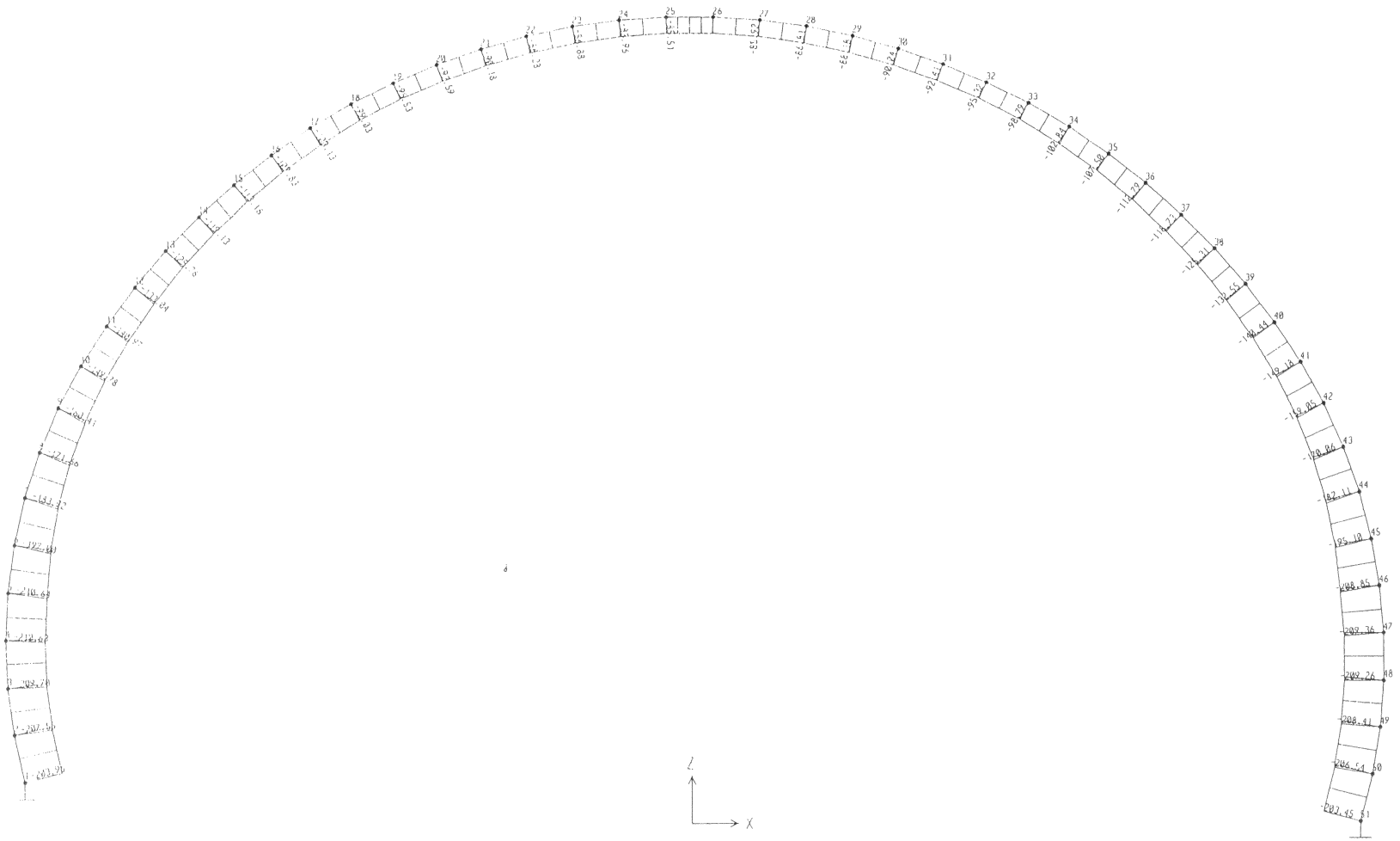


SAP2000 v7.40 - File:tl-3 - Moment 3-3 Diagram (COMB4) - Ton-m Units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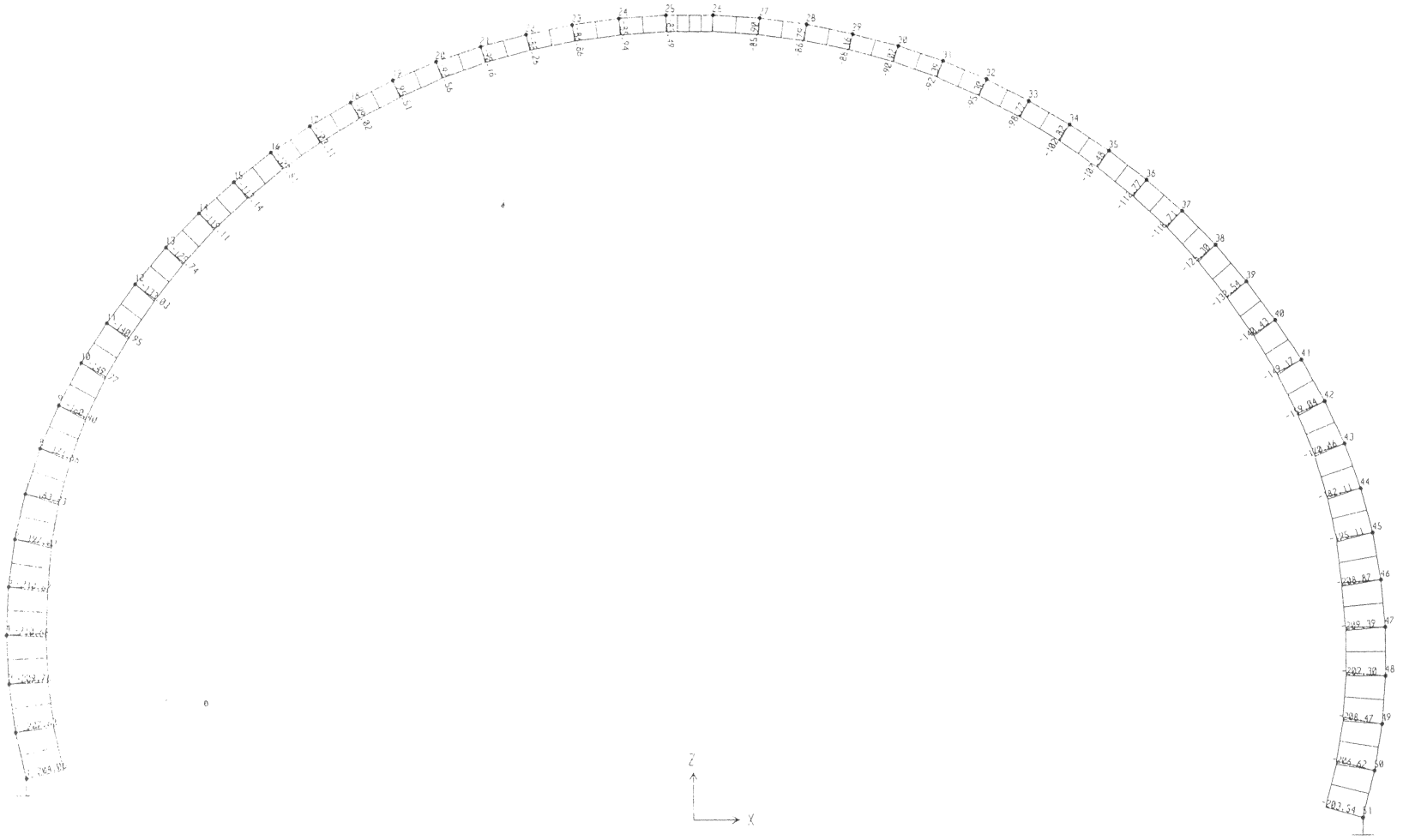
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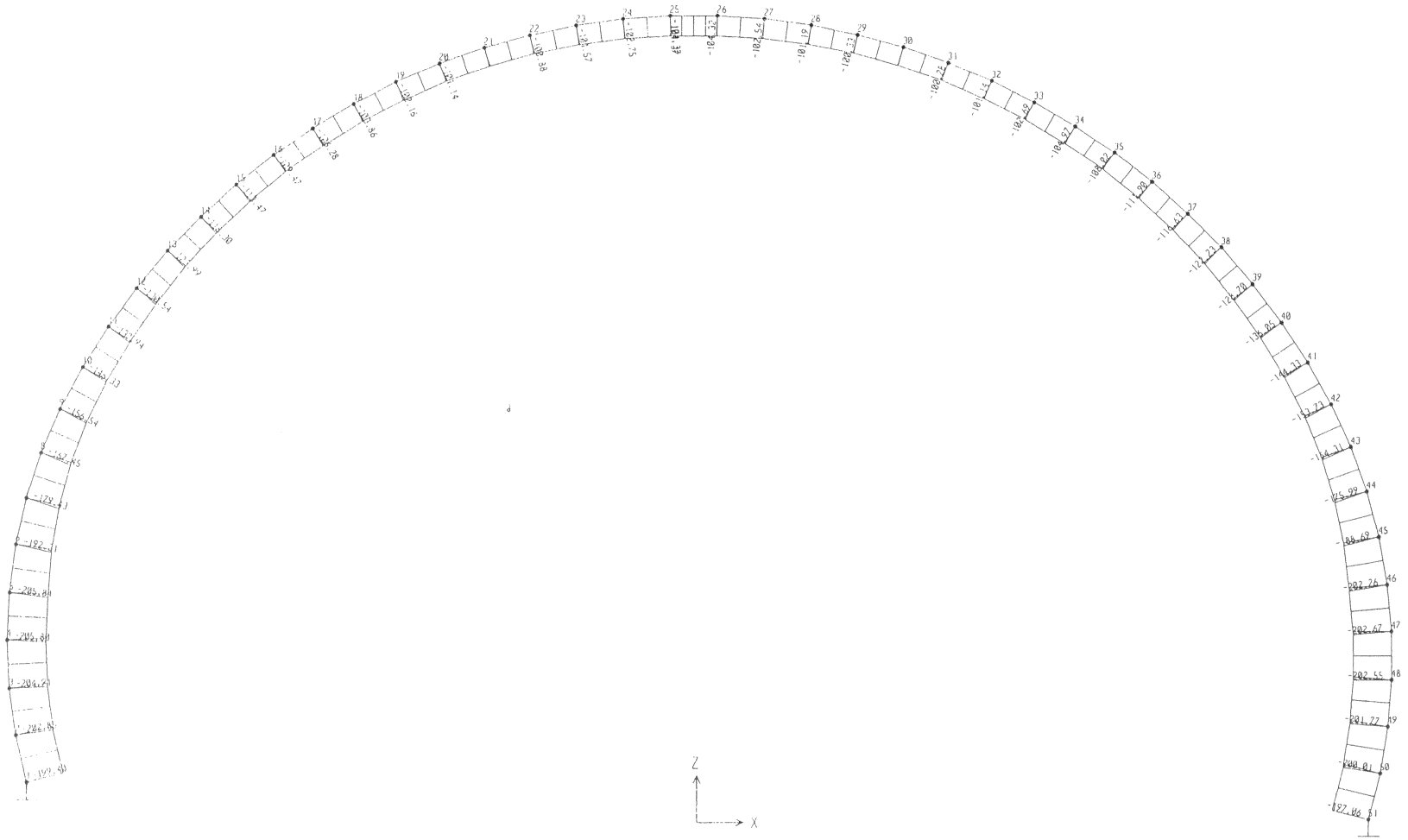
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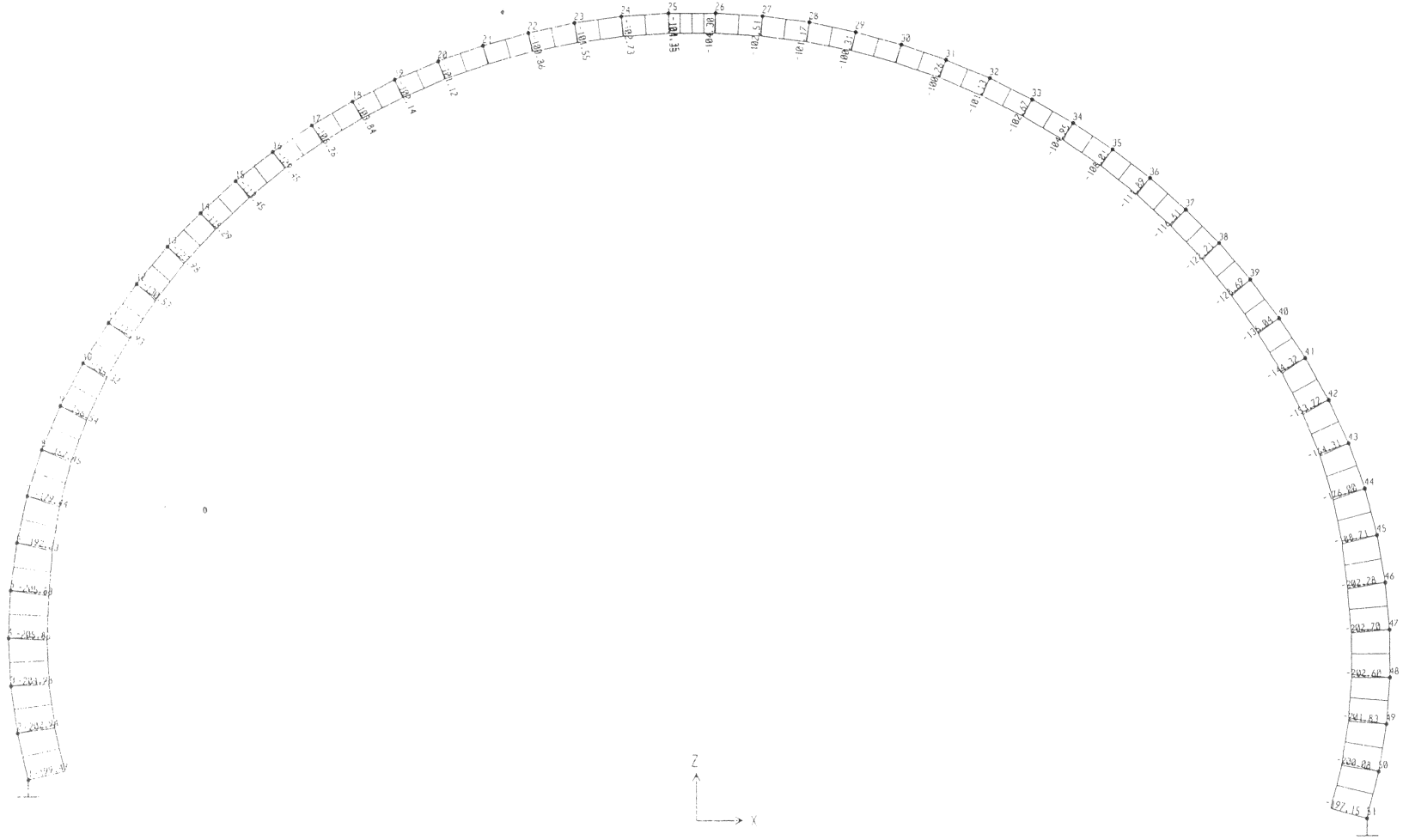
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■ 전산 OUT PUT

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5 X=-7.284918 Y=0 Z=2.451476
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30 X=2.216964 Y=0 Z=8.172791
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32 X=3.157036 Y=0 Z=7.815452
33 X=3.607226 Y=0 Z=7.590808
34 X=4.041519 Y=0 Z=7.33679
35 X=4.458002 Y=0 Z=7.054517
36 X=4.854839 Y=0 Z=6.745234
37 X=5.230281 Y=0 Z=6.410303
38 X=5.582675 Y=0 Z=6.051201
39 X=5.910466 Y=0 Z=5.669509
40 X=6.21221 Y=0 Z=5.26691
41 X=6.486578 Y=0 Z=4.845178
42 X=6.730439 Y=0 Z=4.40515
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44 X=7.103971 Y=0 Z=3.471875
45 X=7.230656 Y=0 Z=2.985017
46 X=7.315998 Y=0 Z=2.489239
47 X=7.359392 Y=0 Z=1.988044
48 X=7.360533 Y=0 Z=1.484975
49 X=7.319413 Y=0 Z=.983588
50 X=7.236321 Y=0 Z=.4874274
51 X=7.111846 Y=0 Z=0

)CAL
ADD=2 ANG=0,-100.1886,180
ADD=3 ANG=0,-95.0078,180

```
  ADD=4   ANG=0.-89.8269.180
  ADD=5   ANG=0.-84.6461.180
  ADD=6   ANG=0.-79.4652.180
  ADD=7   ANG=0.-74.2844.180
  ADD=8   ANG=0.-69.1035.180
  ADD=9   ANG=0.-63.9227.180
  ADD=10   ANG=0.-59.0761.180
  ADD=11   ANG=0.-55.2719.180
  ADD=12   ANG=0.-51.4677.180
  ADD=13   ANG=0.-47.6634.180
  ADD=14   ANG=0.-43.8592.180
  ADD=15   ANG=0,-40.055.180
  ADD=16   ANG=0.-36.2507.180
  ADD=17   ANG=0,-32.4465.180
  ADD=18   ANG=0,-28.6423,180
  ADD=19   ANG=0.-24.838.180
  ADD=20   ANG=0,-21.0338.180
  ADD=21   ANG=0,-17.2296.180
  ADD=22   ANG=0.-13.4253.180
  ADD=23   ANG=0,-9.6211.180
  ADD=24   ANG=0.-5.8169.180
  ADD=25   ANG=0.-2.0126.180
  ADD=26   ANG=0,1.7916.180
  ADD=27   ANG=0.5.5958.180
  ADD=28   ANG=0.9.4001.180
  ADD=29   ANG=0.13.2043.180
  ADD=30   ANG=0,17.0085.180
  ADD=31   ANG=0.20.8128.180
  ADD=32   ANG=0,24.617.180
  ADD=33   ANG=0,28.4212.180
  ADD=34   ANG=0,32.2255,180
  ADD=35   ANG=0,36.0297.180
  ADD=36   ANG=0,39.8339,180
  ADD=37   ANG=0,43.6382,180
  ADD=38   ANG=0,47.4424,180
  ADD=39   ANG=0,51.2466,180
  ADD=40   ANG=0,55.0509,180
  ADD=41   ANG=0,58.8551,180
  ADD=42   ANG=0,63.3683,180
  ADD=43   ANG=0,68.1868,180
  ADD=44   ANG=0,73.0053,180
  ADD=45   ANG=0,77.8238,180
  ADD=46   ANG=0,82.6423,180
  ADD=47   ANG=0,87.4608,180
  ADD=48   ANG=0,92.2793,180
  ADD=49   ANG=0,97.0978,180
  ADD=50   ANG=0,101.9163,180

RESTRAINT
  ADD=1   DOF=U1,U2,U3,R1,R2,R3
  ADD=51   DOF=U1,U2,U3,R1,R2,R3

PATTERN
  NAME=DEFAULT

SPRING
  ADD=2   U3=5256
  ADD=3   U3=3504
  ADD=4   U3=3504
  ADD=5   U3=3504
  ADD=6   U3=3504
  ADD=7   U3=3504
  ADD=8   U3=3504
```

```
ADD=9  U3=3504
ADD=10  U3=3504
ADD=11  U3=3504
ADD=40  U3=3504
ADD=41  U3=3504
ADD=42  U3=3504
ADD=43  U3=3504
ADD=44  U3=3504
ADD=45  U3=3504
ADD=46  U3=3504
ADD=47  U3=3504
ADD=48  U3=3504
ADD=49  U3=3504
ADD=50  U3=5256

TERIAL
NAME=STEEL  IDES=S  M=.798142  W=7.833414
  T=0  E=2.038902E+07  U=.3  A=.0000117  FY=25310.51
NAME=CONC  IDES=C  M=.2448  W=2.35
  T=0  E=2531051  U=.2  A=.0000099
NAME=OTHER  IDES=N  M=.2448012  W=2.402616
  T=0  E=2531051  U=.2  A=.0000099

AME SECTION
NAME=FSEC1 MAT=CONC SH=R T=.425,1 A=.425 J=1.875584E-02 I=6.397136E-03,3.541667E-02 AS=.3541667,.3541667
NAME=FSEC2 MAT=CONC SH=R T=.375,1 A=.375 J=1.343214E-02 I=4.394531E-03,.03125 AS=.3125,.3125
NAME=FSEC3 MAT=CONC SH=R T=.35,1 A=.35 J=.0111443 I=3.572917E-03,2.916667E-02 AS=.2916667,.2916667

AME
1  J=1,2  SEC=FSEC1  NSEG=2  ANG=180
2  J=2,3  SEC=FSEC1  NSEG=2  ANG=180
3  J=3,4  SEC=FSEC1  NSEG=2  ANG=180
4  J=4,5  SEC=FSEC2  NSEG=2  ANG=0
5  J=5,6  SEC=FSEC2  NSEG=2  ANG=0
6  J=6,7  SEC=FSEC2  NSEG=2  ANG=0
7  J=7,8  SEC=FSEC2  NSEG=2  ANG=0
8  J=8,9  SEC=FSEC2  NSEG=2  ANG=0
9  J=9,10  SEC=FSEC2  NSEG=2  ANG=0
10  J=10,11  SEC=FSEC3  NSEG=2  ANG=0
11  J=11,12  SEC=FSEC3  NSEG=2  ANG=0
12  J=12,13  SEC=FSEC3  NSEG=2  ANG=0
13  J=13,14  SEC=FSEC3  NSEG=2  ANG=0
14  J=14,15  SEC=FSEC3  NSEG=2  ANG=0
15  J=15,16  SEC=FSEC3  NSEG=2  ANG=0
16  J=16,17  SEC=FSEC3  NSEG=2  ANG=0
17  J=17,18  SEC=FSEC3  NSEG=2  ANG=0
18  J=18,19  SEC=FSEC3  NSEG=2  ANG=0
19  J=19,20  SEC=FSEC3  NSEG=2  ANG=0
20  J=20,21  SEC=FSEC3  NSEG=2  ANG=0
21  J=21,22  SEC=FSEC3  NSEG=2  ANG=0
22  J=22,23  SEC=FSEC3  NSEG=2  ANG=0
23  J=23,24  SEC=FSEC3  NSEG=2  ANG=0
24  J=24,25  SEC=FSEC3  NSEG=2  ANG=0
25  J=25,26  SEC=FSEC3  NSEG=4  ANG=0
26  J=26,27  SEC=FSEC3  NSEG=2  ANG=0
27  J=27,28  SEC=FSEC3  NSEG=2  ANG=0
28  J=28,29  SEC=FSEC3  NSEG=2  ANG=0
29  J=29,30  SEC=FSEC3  NSEG=2  ANG=0
30  J=30,31  SEC=FSEC3  NSEG=2  ANG=0
31  J=31,32  SEC=FSEC3  NSEG=2  ANG=0
32  J=32,33  SEC=FSEC3  NSEG=2  ANG=0
33  J=33,34  SEC=FSEC3  NSEG=2  ANG=0
34  J=34,35  SEC=FSEC3  NSEG=2  ANG=0
```

```
  35  J=35,36  SEC=FSEC3  NSEG=2  ANG=0
  36  J=36,37  SEC=FSEC3  NSEG=2  ANG=0
  37  J=37,38  SEC=FSEC3  NSEG=2  ANG=0
  38  J=38,39  SEC=FSEC3  NSEG=2  ANG=0
  39  J=39,40  SEC=FSEC3  NSEG=2  ANG=0
  40  J=40,41  SEC=FSEC3  NSEG=2  ANG=0
  41  J=41,42  SEC=FSEC2  NSEG=2  ANG=0
  42  J=42,43  SEC=FSEC2  NSEG=2  ANG=0
  43  J=43,44  SEC=FSEC2  NSEG=2  ANG=0
  44  J=44,45  SEC=FSEC2  NSEG=2  ANG=0
  45  J=45,46  SEC=FSEC2  NSEG=2  ANG=0
  46  J=46,47  SEC=FSEC2  NSEG=2  ANG=0
  47  J=47,48  SEC=FSEC2  NSEG=2  ANG=0
  48  J=48,49  SEC=FSEC1  NSEG=2  ANG=180
  49  J=49,50  SEC=FSEC1  NSEG=2  ANG=180
  50  J=50,51  SEC=FSEC1  NSEG=2  ANG=180

LOAD
  NAME=LOAD1  SW=1  CSYS=0
  NAME=LOAD2  CSYS=0
    TYPE=DISTRIBUTED SPAN
      ADD=9  RD=0,1  UZ=-1.34,-1.34
      ADD=5  RD=0,.9999067  UZ=-26.878,-25.628
      ADD=6  RD=0,.9999067  UZ=-25.628,-24.398
      ADD=7  RD=0,.9999067  UZ=-24.398,-23.199
      ADD=8  RD=0,.9999067  UZ=-23.199,-22.041
      ADD=9  RD=0,1  UZ=-22.041,-20.933
      ADD=10  RD=0,.9999484  UZ=-20.933,-19.872
      ADD=11  RD=0,.9999484  UZ=-19.872,-18.858
      ADD=12  RD=0,.9999484  UZ=-18.858,-17.897
      ADD=13  RD=0,.9999484  UZ=-17.897,-16.992
      ADD=14  RD=0,.9999484  UZ=-16.992,-16.148
      ADD=15  RD=0,.9999484  UZ=-16.148,-15.368
      ADD=16  RD=0,.9999484  UZ=-15.368,-14.655
      ADD=17  RD=0,.9999484  UZ=-14.655,-14.014
      ADD=18  RD=0,.9999484  UZ=-14.014,-13.446
      ADD=19  RD=0,.9999484  UZ=-13.446,-12.953
      ADD=20  RD=0,.9999484  UZ=-12.953,-12.539
      ADD=21  RD=0,.9999484  UZ=-12.539,-12.206
      ADD=22  RD=0,.9999484  UZ=-12.206,-11.953
      ADD=23  RD=0,.9999484  UZ=-11.953,-11.784
      ADD=24  RD=0,.9999484  UZ=-11.784,-11.697
      ADD=25  RD=0,.9999484  UZ=-11.697,-11.697
      ADD=26  RD=0,.9999484  UZ=-11.697,-11.776
      ADD=27  RD=0,.9999484  UZ=-11.776,-11.941
      ADD=28  RD=0,.9999484  UZ=-11.941,-12.189
      ADD=29  RD=0,.9999484  UZ=-12.189,-12.518
      ADD=30  RD=0,.9999484  UZ=-12.518,-12.927
      ADD=31  RD=0,.9999484  UZ=-12.927,-13.415
      ADD=32  RD=0,.9999484  UZ=-13.415,-13.979
      ADD=33  RD=0,.9999484  UZ=-13.979,-14.616
      ADD=34  RD=0,.9999484  UZ=-14.616,-15.325
      ADD=35  RD=0,.9999484  UZ=-15.325,-16.101
      ADD=36  RD=0,.9999484  UZ=-16.101,-16.942
      ADD=37  RD=0,.9999484  UZ=-16.942,-17.843
      ADD=38  RD=0,.9999484  UZ=-17.843,-18.801
      ADD=39  RD=0,.9999484  UZ=-18.801,-19.812
      ADD=40  RD=0,.9999484  UZ=-19.812,-20.87
      ADD=41  RD=0,1  UZ=-20.87,-21.975
      ADD=42  RD=0,1  UZ=-21.975,-23.126
      ADD=43  RD=0,1  UZ=-23.126,-24.317
      ADD=44  RD=0,1  UZ=-24.317,-25.539
      ADD=45  RD=0,1  UZ=-25.539,-26.784
```

```
NAME=LOAD3  CSYS=0
  TYPE=DISTRIBUTED SPAN
    ADD=26  RD=0,.9999484  UX=-4.25,-4.234
    ADD=27  RD=0,.9999484  UX=-4.234,-4.201
    ADD=28  RD=0,.9999484  UX=-4.201,-4.152
    ADD=29  RD=0,.9999484  UX=-4.152,-4.086
    ADD=30  RD=0,.9999484  UX=-4.086,-4.005
    ADD=31  RD=0,.9999484  UX=-4.005,-3.908
    ADD=32  RD=0,.9999484  UX=-3.908,-3.795
    ADD=33  RD=0,.9999484  UX=-3.795,-3.668
    ADD=34  RD=0,.9999484  UX=-3.668,-3.527
    ADD=35  RD=0,.9999484  UX=-3.527,-3.373
    ADD=36  RD=0,.9999484  UX=-3.373,-3.205
    ADD=37  RD=0,.9999484  UX=-3.205,-3.026
    ADD=38  RD=0,.9999484  UX=-3.026,-2.835
    ADD=39  RD=0,.9999484  UX=-2.835,-2.633
    ADD=40  RD=0,.9999484  UX=-2.633,-2.423
    ADD=41  RD=0,1  UX=-2.423,-2.203
    ADD=42  RD=0,1  UX=-2.203,-1.973
    ADD=43  RD=0,1  UX=-1.973,-1.736
    ADD=44  RD=0,1  UX=-1.736,-1.493
    ADD=45  RD=0,1  UX=-1.493,-1.245
    ADD=46  RD=0,1  UX=-1.245,-.994
    ADD=47  RD=0,1  UX=-.994,-.743
    ADD=48  RD=0,1  UX=-.743,-.492
    ADD=49  RD=0,1  UX=-.492,-.244
    ADD=50  RD=0,1  UX=-.244,0
    ADD=1  RD=0,.9999067  UX=0,.245
    ADD=2  RD=0,.9999067  UX=.245,.495
    ADD=3  RD=0,.9999067  UX=.495,.746
    ADD=5  RD=0,.9999067  UX=.997,1.246
    ADD=4  RD=0,.9999067  UX=.746,.997
    ADD=6  RD=0,.9999067  UX=1.246,1.491
    ADD=7  RD=0,.9999067  UX=1.491,1.73
    ADD=8  RD=0,.9999067  UX=1.73,1.961
    ADD=9  RD=0,1  UX=1.961,2.181
    ADD=10  RD=0,.9999484  UX=2.181,2.393
    ADD=11  RD=0,.9999484  UX=2.393,2.595
    ADD=12  RD=0,.9999484  UX=2.595,2.786
    ADD=13  RD=0,.9999484  UX=2.786,2.966
    ADD=14  RD=0,.9999484  UX=2.966,3.135
    ADD=15  RD=0,.9999484  UX=3.135,3.29
    ADD=16  RD=0,.9999484  UX=3.29,3.432
    ADD=17  RD=0,.9999484  UX=3.432,3.56
    ADD=18  RD=0,.9999484  UX=3.56,3.673
    ADD=19  RD=0,.9999484  UX=3.673,3.771
    ADD=20  RD=0,.9999484  UX=3.771,3.854
    ADD=21  RD=0,.9999484  UX=3.854,3.92
    ADD=22  RD=0,.9999484  UX=3.92,3.97
    ADD=23  RD=0,.9999484  UX=3.97,4.004
    ADD=24  RD=0,.9999484  UX=4.004,4.021
NAME=LOAD4  CSYS=0
  TYPE=TEMPERATURE  ELEM=FRAME
    ADD=1  T2=5
    ADD=2  T2=5
    ADD=3  T2=5
    ADD=4  T2=5
    ADD=5  T2=5
    ADD=6  T2=5
    ADD=7  T2=5
    ADD=8  T2=5
    ADD=9  T2=5
    ADD=10  T2=5
```

```
      ADD=11   T2=5
      ADD=12   T2=5
      ADD=13   T2=5
      ADD=14   T2=5
      ADD=15   T2=5
      ADD=16   T2=5
      ADD=17   T2=5
      ADD=18   T2=5
      ADD=19   T2=5
      ADD=20   T2=5
      ADD=21   T2=5
      ADD=22   T2=5
      ADD=23   T2=5
      ADD=24   T2=5
      ADD=25   T2=5
      ADD=26   T2=5
      ADD=27   T2=5
      ADD=28   T2=5
      ADD=29   T2=5
      ADD=30   T2=5
      ADD=31   T2=5
      ADD=32   T2=5
      ADD=33   T2=5
      ADD=34   T2=5
      ADD=35   T2=5
      ADD=36   T2=5
      ADD=37   T2=5
      ADD=38   T2=5
      ADD=39   T2=5
      ADD=40   T2=5
      ADD=41   T2=5
      ADD=42   T2=5
      ADD=43   T2=5
      ADD=44   T2=5
      ADD=45   T2=5
      ADD=46   T2=5
      ADD=47   T2=5
      ADD=48   T2=5
      ADD=49   T2=5
      ADD=50   T2=5
NAME=LOAD5   CSYS=0
  TYPE=TEMPERATURE   ELEM=FRAME
      ADD=1   T2=-5
      ADD=2   T2=-5
      ADD=3   T2=-5
      ADD=4   T2=-5
      ADD=5   T2=-5
      ADD=6   T2=-5
      ADD=7   T2=-5
      ADD=8   T2=-5
      ADD=9   T2=-5
      ADD=10   T2=-5
      ADD=11   T2=-5
      ADD=12   T2=-5
      ADD=13   T2=-5
      ADD=14   T2=-5
      ADD=15   T2=-5
      ADD=16   T2=-5
      ADD=17   T2=-5
      ADD=18   T2=-5
      ADD=19   T2=-5
      ADD=20   T2=-5
      ADD=21   T2=-5
```

```
      ADD=22   T2=-5
      ADD=23   T2=-5
      ADD=24   T2=-5
      ADD=25   T2=-5
      ADD=26   T2=-5
      ADD=27   T2=-5
      ADD=28   T2=-5
      ADD=29   T2=-5
      ADD=30   T2=-5
      ADD=31   T2=-5
      ADD=32   T2=-5
      ADD=33   T2=-5
      ADD=34   T2=-5
      ADD=35   T2=-5
      ADD=36   T2=-5
      ADD=37   T2=-5
      ADD=38   T2=-5
      ADD=39   T2=-5
      ADD=40   T2=-5
      ADD=41   T2=-5
      ADD=42   T2=-5
      ADD=43   T2=-5
      ADD=44   T2=-5
      ADD=45   T2=-5
      ADD=46   T2=-5
      ADD=47   T2=-5
      ADD=48   T2=-5
      ADD=49   T2=-5
      ADD=50   T2=-5

)MBO
 NAME=COMB1
    LOAD=LOAD1   SF=1
    LOAD=LOAD2   SF=1
    LOAD=LOAD4   SF=1
 NAME=COMB2
    LOAD=LOAD1   SF=1
    LOAD=LOAD2   SF=1
    LOAD=LOAD5   SF=1
 NAME=COMB3
    LOAD=LOAD1   SF=1
    LOAD=LOAD2   SF=1
    LOAD=LOAD4   SF=1
    LOAD=LOAD3   SF=1
 NAME=COMB4
    LOAD=LOAD1   SF=1
    LOAD=LOAD2   SF=1
    LOAD=LOAD5   SF=1
    LOAD=LOAD3   SF=1

)TPUT
 ELEM=FRAME   TYPE=FORCE   COMB=COMB1
 ELEM=FRAME   TYPE=FORCE   COMB=COMB2
 ELEM=FRAME   TYPE=FORCE   COMB=COMB3
 ELEM=FRAME   TYPE=FORCE   COMB=COMB4
 ELEM=JOINT   TYPE=REAC   COMB=COMB1
 ELEM=JOINT   TYPE=REAC   COMB=COMB2
 ELEM=JOINT   TYPE=REAC   COMB=COMB3
 ELEM=JOINT   TYPE=REAC   COMB=COMB4
 ELEM=JOINT   TYPE=DISP   COMB=COMB1
 ELEM=JOINT   TYPE=DISP   COMB=COMB2
 ELEM=JOINT   TYPE=DISP   COMB=COMB3
 ELEM=JOINT   TYPE=DISP   COMB=COMB4
```

```
END

: The following data is used for graphics, design and pushover analysis.
: If changes are made to the analysis data above, then the following data
: should be checked for consistency.
SAP2000 V7.40 SUPPLEMENTAL DATA
  GROUP "DXFIN"  FRAME 1
  GROUP "DXFIN"  FRAME 2
  GROUP "DXFIN"  FRAME 3
  GROUP "DXFIN"  FRAME 4
  GROUP "DXFIN"  FRAME 5
  GROUP "DXFIN"  FRAME 6
  GROUP "DXFIN"  FRAME 7
  GROUP "DXFIN"  FRAME 8
  GROUP "DXFIN"  FRAME 9
  GROUP "DXFIN"  FRAME 10
  GROUP "DXFIN"  FRAME 11
  GROUP "DXFIN"  FRAME 12
  GROUP "DXFIN"  FRAME 13
  GROUP "DXFIN"  FRAME 14
  GROUP "DXFIN"  FRAME 15
  GROUP "DXFIN"  FRAME 16
  GROUP "DXFIN"  FRAME 17
  GROUP "DXFIN"  FRAME 18
  GROUP "DXFIN"  FRAME 19
  GROUP "DXFIN"  FRAME 20
  GROUP "DXFIN"  FRAME 21
  GROUP "DXFIN"  FRAME 22
  GROUP "DXFIN"  FRAME 23
  GROUP "DXFIN"  FRAME 24
  GROUP "DXFIN"  FRAME 25
  GROUP "DXFIN"  FRAME 26
  GROUP "DXFIN"  FRAME 27
  GROUP "DXFIN"  FRAME 28
  GROUP "DXFIN"  FRAME 29
  GROUP "DXFIN"  FRAME 30
  GROUP "DXFIN"  FRAME 31
  GROUP "DXFIN"  FRAME 32
  GROUP "DXFIN"  FRAME 33
  GROUP "DXFIN"  FRAME 34
  GROUP "DXFIN"  FRAME 35
  GROUP "DXFIN"  FRAME 36
  GROUP "DXFIN"  FRAME 37
  GROUP "DXFIN"  FRAME 38
  GROUP "DXFIN"  FRAME 39
  GROUP "DXFIN"  FRAME 40
  GROUP "DXFIN"  FRAME 41
  GROUP "DXFIN"  FRAME 42
  GROUP "DXFIN"  FRAME 43
  GROUP "DXFIN"  FRAME 44
  GROUP "DXFIN"  FRAME 45
  GROUP "DXFIN"  FRAME 46
  GROUP "DXFIN"  FRAME 47
  GROUP "DXFIN"  FRAME 48
  GROUP "DXFIN"  FRAME 49
  GROUP "DXFIN"  FRAME 50
  MATERIAL STEEL FY 25310.51
  MATERIAL CONC FYREBAR 42184.18 FYSHEAR 28122.79 FC 2812.279 FCSHEAR 2812.279
  CONCRETESECTION FSEC1 COLUMN  COVER .05 REBAR RR-3-3
  CONCRETESECTION FSEC2 COLUMN  COVER .04572 REBAR RR-3-3
  CONCRETESECTION FSEC3 COLUMN  COVER .04572 REBAR RR-3-3
  STATICLOAD LOAD1 TYPE DEAD
```

```
STATICLOAD LOAD2 TYPE OTHER
STATICLOAD LOAD3 TYPE QUAKE
STATICLOAD LOAD4 TYPE WIND
STATICLOAD LOAD5 TYPE SNOW
COMBO COMB1 DESIGN CONCRETE
COMBO COMB2 DESIGN CONCRETE
COMBO COMB3 DESIGN CONCRETE
COMBO COMB4 DESIGN CONCRETE
ID SUPPLEMENTAL DATA
```

S A P 2 0 0 0

Structural Analysis Program

Nonlinear Version 7.40

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results produced by this program

14 Aug 2[illegible]

D I S P L A C E M E N T   D E G R E E S   O F   F R E E D O M

(A) = Active DOF, equilibrium equation
(-) = Restrained DOF, reaction computed
(+) = Constrained DOF
(>) = External substructure DOF
( ) = Null DOF

JOINTS			U1	U2	U3	R1	R2	R3
1			-	-	-			
2	TO	50	A	A	A	A	A	A
51			-	-	-			

A S S E M B L E D   J O I N T   M A S S E S

IN LOCAL COORDINATES

JOINT	U1	U2	U3	R1	R2	R3
1	0.026169	0.026169	0.026169	.000000	.000000	.000000
2	0.052337	0.052337	0.052337	.000000	.000000	.000000
3	0.052337	0.052337	0.052337	.000000	.000000	.000000
4	0.049258	0.049258	0.049258	.000000	.000000	.000000
5	0.046180	0.046180	0.046180	.000000	.000000	.000000
6	0.046180	0.046180	0.046180	.000000	.000000	.000000
7	0.046180	0.046180	0.046180	.000000	.000000	.000000
8	0.046180	0.046180	0.046180	.000000	.000000	.000000
9	0.046180	0.046180	0.046180	.000000	.000000	.000000
10	0.044644	0.044644	0.044644	.000000	.000000	.000000
11	0.043108	0.043108	0.043108	.000000	.000000	.000000
12	0.043108	0.043108	0.043108	.000000	.000000	.000000
13	0.043108	0.043108	0.043108	.000000	.000000	.000000
14	0.043108	0.043108	0.043108	.000000	.000000	.000000
15	0.043108	0.043108	0.043108	.000000	.000000	.000000
16	0.043108	0.043108	0.043108	.000000	.000000	.000000
17	0.043108	0.043108	0.043108	.000000	.000000	.000000
18	0.043108	0.043108	0.043108	.000000	.000000	.000000
19	0.043108	0.043108	0.043108	.000000	.000000	.000000
20	0.043108	0.043108	0.043108	.000000	.000000	.000000
21	0.043108	0.043108	0.043108	.000000	.000000	.000000
22	0.043108	0.043108	0.043108	.000000	.000000	.000000
23	0.043108	0.043108	0.043108	.000000	.000000	.000000
24	0.043108	0.043108	0.043108	.000000	.000000	.000000
25	0.043108	0.043108	0.043108	.000000	.000000	.000000
26	0.043108	0.043108	0.043108	.000000	.000000	.000000
27	0.043108	0.043108	0.043108	.000000	.000000	.000000
28	0.043108	0.043108	0.043108	.000000	.000000	.000000
29	0.043108	0.043108	0.043108	.000000	.000000	.000000
30	0.043108	0.043108	0.043108	.000000	.000000	.000000
31	0.043108	0.043108	0.043108	.000000	.000000	.000000
32	0.043108	0.043108	0.043108	.000000	.000000	.000000
33	0.043108	0.043108	0.043108	.000000	.000000	.000000
34	0.043108	0.043108	0.043108	.000000	.000000	.000000
35	0.043108	0.043108	0.043108	.000000	.000000	.000000
36	0.043108	0.043108	0.043108	.000000	.000000	.000000
37	0.043108	0.043108	0.043108	.000000	.000000	.000000
38	0.043108	0.043108	0.043108	.000000	.000000	.000000
39	0.043108	0.043108	0.043108	.000000	.000000	.000000
40	0.043108	0.043108	0.043108	.000000	.000000	.000000
41	0.044645	0.044645	0.044645	.000000	.000000	.000000
42	0.046182	0.046182	0.046182	.000000	.000000	.000000
43	0.046182	0.046182	0.046182	.000000	.000000	.000000
44	0.046182	0.046182	0.046182	.000000	.000000	.000000
45	0.046182	0.046182	0.046182	.000000	.000000	.000000
46	0.046182	0.046182	0.046182	.000000	.000000	.000000
47	0.046182	0.046182	0.046182	.000000	.000000	.000000
48	0.049261	0.049261	0.049261	.000000	.000000	.000000
49	0.052339	0.052339	0.052339	.000000	.000000	.000000
50	0.052339	0.052339	0.052339	.000000	.000000	.000000

A S S E M B L E D   J O I N T   M A S S E S

IN LOCAL COORDINATES

JOINT	U1	U2	U3	R1	R2	R3
51	0.026170	0.026170	0.026170	.000000	.000000	.000000

T O T A L   A S S E M B L E D   J O I N T   M A S S E S

IN GLOBAL COORDINATES

	UX	UY	UZ	RX	RY	RZ
TOTAL	2.250725	2.250725	2.250725	.000000	.000000	.000000

T O T A L   A C C E L E R A T E D   M A S S   A N D   L O C A T I O N

TOTAL MASS ACTIVATED BY ACCELERATION LOADS, IN GLOBAL COORDINATES

	UX	UY	UZ
MASS	2.198387	2.198387	2.198387
X-LOC	0.150003	0.150003	0.150003
Y-LOC	.000000	.000000	.000000
Z-LOC	5.432461	5.432461	5.432461

J O I N T D I S P L A C E M E N T S

TRANSLATIONS AND ROTATIONS IN LOCAL COORDINATES

COMB COMB1 ------------------ MAX

JOINT	U1	U2	U3	R1	R2	R3
1	.000000	.000000	.000000	.000000	.000000	.000000
2	-0.000113	[illegible]	-0.000395	5.24E-19	0.001165	-6.78E-20
3	-0.000280	-2.13E-19	-0.001154	8.98E-19	0.001627	-3.65E-19
4	-0.000520	-5.23E-19	-0.001982	1.12E-18	0.001651	-7.42E-19
5	-0.000840	-9.92E-19	-0.002680	1.25E-18	0.001288	-1.02E-18
6	-0.001210	-1.56E-18	-0.003121	1.24E-18	0.000820	-1.22E-18
7	-0.001600	-2.19E-18	-0.003288	1.13E-18	0.000385	-1.35E-18
8	-0.001984	-2.86E-18	-0.003222	9.51E-19	4.34E-05	-1.45E-18
9	-0.002352	-3.56E-18	-0.002978	7.26E-19	-0.000184	-1.52E-18
10	-0.002682	-4.27E-18	-0.002631	4.85E-19	-0.000311	-1.56E-18
11	-0.002927	-5.00E-18	-0.002263	2.48E-19	-0.000414	-1.56E-18
12	-0.003141	-5.72E-18	-0.001823	1.00E-20	-0.000587	-1.53E-18
13	-0.003316	-6.40E-18	-0.001251	-2.26E-19	-0.000857	-1.45E-18
14	-0.003445	-7.04E-18	-0.000520	-4.59E-19	-0.001157	-1.36E-18
15	-0.003516	-7.62E-18	0.000369	-6.87E-19	-0.001441	-1.25E-18
16	-0.003520	-8.15E-18	0.001393	-9.07E-19	-0.001673	-1.13E-18
17	-0.003450	-8.61E-18	0.002515	-1.12E-18	-0.001831	-1.02E-18
18	-0.003302	-9.02E-18	0.003688	-1.32E-18	-0.001909	-9.02E-19
19	-0.003073	-9.38E-18	0.004862	-1.50E-18	-0.001885	-7.95E-19
20	-0.002766	-9.69E-18	0.005987	-1.67E-18	-0.001778	-6.93E-19
21	-0.002387	-9.96E-18	0.007013	-1.82E-18	-0.001590	-5.97E-19
22	-0.001942	-1.02E-17	0.007899	-1.96E-18	-0.001330	-5.05E-19
23	[illegible]	-1.04E-17	0.008606	-2.06E-18	-0.001012	-4.17E-19
24	-0.000905	-1.05E-17	0.009105	-2.15E-18	-0.000650	-3.30E-19
25	-0.000340	-1.07E-17	0.009378	-2.21E-18	-0.000261	-2.43E-19
26	0.000236	-1.08E-17	0.009413	-2.25E-18	0.000137	-1.54E-19
27	0.000806	-1.08E-17	0.009209	-2.26E-18	0.000529	-6.17E-20
28	0.001354	-1.09E-17	0.008775	-2.24E-18	0.000896	3.67E-20
29	0.001865	-1.09E-17	0.008130	-2.20E-18	0.001222	1.43E-19
30	0.002327	-1.08E-17	0.007301	-2.14E-18	0.001492	2.57E-19
31	0.002728	-1.07E-17	0.006324	-2.04E-18	0.001694	3.82E-19
32	0.003058	-1.05E-17	0.005240	-1.93E-18	0.001815	5.17E-19
33	0.003313	-1.03E-17	0.004097	-1.79E-18	0.001850	6.62E-19
34	0.003490	-1.00E-17	0.002945	-1.62E-18	0.001795	8.16E-19
35	0.003589	-9.64E-18	0.001833	-1.44E-18	0.001656	9.77E-19
36	0.003614	-9.19E-18	0.000807	-1.24E-18	0.001444	1.14E-18
37	0.003572	-8.65E-18	-9.59E-05	-1.02E-18	0.001179	1.30E-18
38	0.003471	-8.03E-18	-0.000852	-7.83E-19	0.000897	1.45E-18
39	0.003321	-7.34E-18	-0.001460	-5.32E-19	0.000643	1.57E-18
40	0.003130	-6.59E-18	-0.001944	-2.68E-19	0.000482	1.66E-18
41	0.002906	-5.81E-18	-0.002363	9.41E-21	0.000403	1.71E-18
42	0.002671	-5.00E-18	-0.002769	2.89E-19	0.000323	1.72E-18
43	0.002288	-4.20E-18	-0.003110	5.75E-19	0.000175	1.70E-18
44	0.001922	-3.40E-18	-0.003325	8.40E-19	-7.14E-05	1.65E-18
45	0.001540	-2.61E-18	-0.003357	1.06E-18	-0.000428	1.55E-18
46	0.001160	-1.87E-18	-0.003150	1.20E-18	-0.000874	1.41E-18
47	0.000804	-1.21E-18	-0.002672	1.24E-18	-0.001330	1.19E-18
48	0.000498	-6.55E-19	-0.001953	1.12E-18	-0.001637	8.75E-19

J O I N T D I S P L A C E M E N T S

TRANSLATIONS AND ROTATIONS IN LOCAL COORDINATES

JOINT	U1	U2	U3	R1	R2	R3
49	0.000271	-2.84E-19	-0.001126	9.11E-19	-0.001606	4.70E-19
50	0.000111	-8.59E-20	-0.000382	5.38E-19	-0.001136	1.51E-19
51	.000000	.000000	.000000	.000000	.000000	.000000

COMB COMB1 ------------------ MIN

JOINT	U1	U2	U3	R1	R2	R3
1	.000000	.000000	.000000	.000000	.000000	.000000
2	-0.000113	[illegible]	-0.000395	[illegible]	0.001165	[illegible]
3	-0.000280	-2.13E-19	-0.001154	8.98E-19	0.001627	-3.65E-19
4	-0.000520	-5.23E-19	-0.001982	1.12E-18	0.001651	-7.42E-19
5	-0.000840	-9.92E-19	-0.002680	1.25E-18	0.001288	-1.02E-18
6	-0.001210	-1.56E-18	-0.003121	1.24E-18	0.000820	-1.22E-18
7	-0.001600	-2.19E-18	-0.003288	1.13E-18	0.000385	-1.35E-18
8	-0.001984	-2.86E-18	-0.003222	9.51E-19	4.34E-05	-1.45E-18
9	-0.002352	-3.56E-18	-0.002978	7.26E-19	-0.000184	-1.52E-18
10	-0.002682	-4.27E-18	-0.002631	4.85E-19	-0.000311	-1.56E-18
11	-0.002927	-5.00E-18	-0.002263	2.48E-19	-0.000414	-1.56E-18
12	-0.003141	-5.72E-18	-0.001823	1.00E-20	-0.000587	-1.53E-18
13	-0.003316	-6.40E-18	-0.001251	-2.26E-19	-0.000857	-1.45E-18
14	-0.003445	-7.04E-18	-0.000520	-4.59E-19	-0.001157	-1.36E-18
15	-0.003516	-7.62E-18	0.000369	-6.87E-19	-0.001441	-1.25E-18
16	-0.003520	-8.15E-18	0.001393	-9.07E-19	-0.001673	-1.13E-18
17	-0.003450	-8.61E-18	0.002515	-1.12E-18	-0.001831	-1.02E-18
18	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
19	-0.003073	-9.38E-18	0.004862	[illegible]	-0.001885	-7.95E-19
20	-0.002766	-9.69E-18	0.005987	-1.67E-18	-0.001778	-6.93E-19
21	-0.002387	-9.96E-18	0.007013	-1.82E-18	-0.001590	-5.97E-19
22	-0.001942	-1.02E-17	0.007899	-1.96E-18	-0.001330	-5.05E-19
23	-0.001444	-1.04E-17	0.008606	-2.06E-18	-0.001012	-4.17E-19
24	-0.000905	-1.05E-17	0.009105	-2.15E-18	-0.000650	-3.30E-19
25	-0.000340	-1.07E-17	0.009378	-2.21E-18	-0.000261	-2.43E-19
26	0.000236	-1.08E-17	0.009413	-2.25E-18	0.000137	-1.54E-19
27	0.000806	-1.08E-17	0.009209	-2.26E-18	0.000529	-6.17E-20
28	0.001354	-1.09E-17	0.008775	-2.24E-18	0.000896	3.67E-20
29	0.001865	-1.09E-17	0.008130	-2.20E-18	0.001222	1.43E-19
30	0.002327	-1.08E-17	0.007301	-2.14E-18	0.001492	2.57E-19
31	0.002728	-1.07E-17	0.006324	-2.04E-18	0.001694	3.82E-19
32	0.003058	-1.05E-17	0.005240	-1.93E-18	0.001815	5.17E-19
33	0.003313	-1.03E-17	0.004097	-1.79E-18	0.001850	6.62E-19
34	0.003490	-1.00E-17	0.002945	-1.62E-18	0.001795	8.16E-19
35	0.003589	-9.64E-18	0.001833	-1.44E-18	0.001656	9.77E-19
36	0.003614	-9.19E-18	0.000807	-1.24E-18	0.001444	1.14E-18
37	0.003572	-8.65E-18	-9.59E-05	-1.02E-18	0.001179	1.30E-18
38	0.003471	-8.03E-18	-0.000852	-7.83E-19	0.000897	1.45E-18
39	0.003321	-7.34E-18	-0.001460	-5.32E-19	0.000643	1.57E-18
40	0.003130	-6.59E-18	-0.001944	-2.68E-19	0.000482	1.66E-18
41	0.002906	-5.81E-18	-0.002363	9.41E-21	0.000403	1.71E-18
42	0.002671	-5.00E-18	-0.002769	2.89E-19	0.000323	1.72E-18
43	0.002280	-4.20E-18	-0.003110	5.75E-19	0.000175	1.70E-18

J O I N T D I S P L A C E M E N T S

TRANSLATIONS AND ROTATIONS IN LOCAL COORDINATES

JOINT	U1	U2	U3	R1	R2	R3
44	0.001922	-3.40E-18	-0.003325	8.40E-19	-7.14E-05	1.65E-18
45	0.001540	-2.61E-18	-0.003357	1.06E-18	-0.000428	1.55E-18
46	0.001160	-1.87E-18	-0.003150	1.20E-18	-0.000874	1.41E-18
47	0.000804	-1.21E-18	-0.002672	1.24E-18	-0.001330	1.19E-18
48	0.000498	-6.55E-19	-0.001953	1.12E-18	-0.001637	8.75E-19
49	0.000271	-2.84E-19	-0.001126	9.11E-19	-0.001606	4.70E-19
50	0.000111	-8.59E-20	-0.000382	5.38E-19	-0.001136	1.51E-19
51	.000000	.000000	.000000	.000000	.000000	.000000

COMB COMB2 ------------------ MAX

JOINT	U1	U2	U3	R1	R2	R3
1	.000000	.000000	.000000	.000000	.000000	.000000
2	-0.000113	-6.53E-20	-0.000395	5.26E-19	0.001166	-6.15E-20
3	-0.000280	-2.12E-19	-0.001155	9.02E-19	0.001632	-3.51E-19
4	-0.000521	-5.10E-19	-0.001987	1.13E-18	0.001643	-7.20E-19
5	-0.000844	-9.66E-19	-0.002688	1.26E-18	0.001291	-1.00E-18
6	-0.001215	-1.52E-18	-0.003129	1.26E-18	0.000822	-1.19E-18
7	-0.001607	-2.14E-18	-0.003296	1.15E-18	0.000382	-1.33E-18
8	-0.001997	-2.80E-18	-0.003227	9.68E-19	4.18E-05	-1.43E-18
9	-0.002366	-3.49E-18	-0.002982	7.43E-19	-0.000182	-1.50E-18
10	-0.002686	-4.19E-18	-0.002637	5.06E-19	-0.000304	-1.54E-18
11	-0.002932	-4.91E-18	-0.002271	2.70E-19	-0.000410	-1.54E-18
12	-0.003146	-5.62E-18	-0.001832	3.35E-20	-0.000586	-1.51E-18
13	-0.003322	-6.30E-18	-0.001260	-2.01E-19	-0.000858	-1.44E-18
14	-0.003451	-6.92E-18	-0.000527	-4.33E-19	-0.001160	-1.34E-18
15	-0.003522	-7.50E-18	0.000364	-6.60E-19	-0.001445	-1.23E-18
16	-0.003527	-8.01E-18	0.001390	-8.79E-19	-0.001677	-1.12E-18
17	-0.003457	-8.47E-18	0.002515	-1.09E-18	-0.001836	-1.00E-18
18	-0.003308	-8.87E-18	0.003691	-1.29E-18	-0.001908	-8.90E-19
19	-0.003080	-9.22E-18	0.004869	-1.47E-18	-0.001890	-7.83E-19
20	-0.002772	-9.53E-18	0.005996	-1.64E-18	-0.001783	-6.83E-19
21	-0.002392	-9.79E-18	0.007026	-1.79E-18	-0.001594	-5.88E-19
22	-0.001946	-1.00E-17	0.007913	-1.92E-18	-0.001333	-4.98E-19
23	-0.001447	-1.02E-17	0.008622	-2.03E-18	-0.001014	-4.11E-19
24	-0.000907	-1.04E-17	0.009123	-2.12E-18	-0.000651	-3.26E-19
25	-0.000341	-1.05E-17	0.009396	-2.18E-18	-0.000262	-2.41E-19
26	0.000236	-1.06E-17	0.009431	-2.22E-18	0.000138	-1.54E-19
27	0.000807	-1.07E-17	0.009226	-2.23E-18	0.000530	-6.34E-20
28	0.001356	-1.07E-17	0.008791	-2.21E-18	0.000898	3.33E-20
29	0.001869	-1.07E-17	0.008145	-2.17E-18	0.001226	1.37E-19
30	0.002332	-1.06E-17	0.007313	-2.10E-18	0.001497	2.50E-19
31	0.002733	-1.05E-17	0.006333	-2.01E-18	0.001699	3.73E-19
32	0.003064	-1.04E-17	0.005247	-1.89E-18	0.001820	5.07E-19
33	0.003320	-1.02E-17	0.004101	-1.75E-18	0.001855	6.51E-19
34	0.003496	-9.87E-18	0.002945	-1.59E-18	0.001801	8.03E-19
35	0.003595	-9.50E-18	0.001830	-1.41E-18	0.001661	9.63E-19
36	0.003620	-9.05E-18	0.000802	-1.21E-18	0.001447	1.13E-18
37	0.003577	-8.52E-18	-0.000103	-9.91E-19	0.001182	1.28E-18
38	0.003476	-7.92E-18	-0.000860	-7.56E-19	0.000897	1.43E-18

J O I N T D I S P L A C E M E N T S

TRANSLATIONS AND ROTATIONS IN LOCAL COORDINATES

JOINT	U1	U2	U3	R1	R2	R3
39	0.003325	-7.23E-18	-0.001468	-5.07E-19	0.000641	1.56E-18
40	0.003134	-6.49E-18	-0.001951	-2.44E-19	0.000478	1.64E-18
41	0.002909	-5.71E-18	-0.002368	3.18E-20	0.000395	1.69E-18
42	0.002624	-4.92E-18	-0.002771	3.10E-19	0.000320	1.70E-18
43	0.002289	-4.13E-18	-0.003112	5.94E-19	0.000176	1.68E-18
44	0.001925	-3.33E-18	-0.003329	8.56E-19	-6.77E-05	1.63E-18
45	0.001543	-2.56E-18	-0.003363	1.07E-18	-0.000424	1.53E-18
46	0.001161	-1.84E-18	-0.003158	1.22E-18	-0.000872	1.39E-18
47	0.000805	-1.18E-18	-0.002680	1.25E-18	-0.001333	1.17E-18
48	0.000499	-6.40E-19	-0.001958	1.13E-18	-0.001649	8.53E-19
49	0.000271	-2.77E-19	-0.001127	9.15E-19	-0.001611	4.57E-19
50	0.000111	-8.44E-20	-0.000382	5.40E-19	-0.001137	1.45E-19
51	.000000	.000000	.000000	.000000	.000000	.000000

COMB COMB2 ------------------ MIN

JOINT	U1	U2	U3	R1	R2	R3
1	.000000	.000000	.000000	.000000	.000000	.000000
2	-0.000113	-6.53E-20	-0.000395	5.26E-19	0.001166	-6.15E-20
3	-0.000280	-2.12E-19	-0.001155	9.02E-19	0.001632	-3.51E-19
4	-0.000521	-5.10E-19	-0.001987	1.13E-18	0.001643	-7.20E-19
5	-0.000844	-9.66E-19	-0.002688	1.26E-18	0.001291	-1.00E-18
6	-0.001215	-1.52E-18	-0.003129	1.26E-18	0.000822	-1.19E-18
7	-0.001607	-2.14E-18	-0.003296	1.15E-18	0.000382	-1.33E-18
8	-0.001997	-2.80E-18	-0.003227	9.68E-19	4.18E-05	-1.43E-18
9	-0.002366	-3.49E-18	-0.002982	7.43E-19	-0.000182	-1.50E-18
10	-0.002686	-4.19E-18	-0.002637	5.06E-19	-0.000304	-1.54E-18
11	-0.002932	-4.91E-18	-0.002271	2.70E-19	-0.000410	-1.54E-18
12	-0.003146	-5.62E-18	-0.001832	3.35E-20	-0.000586	-1.51E-18
13	-0.003322	-6.30E-18	-0.001260	-2.01E-19	-0.000858	-1.44E-18
14	-0.003451	-6.92E-18	-0.000527	-4.33E-19	-0.001160	-1.34E-18
15	-0.003522	-7.50E-18	0.000364	-6.60E-19	-0.001445	-1.23E-18
16	-0.003527	-8.01E-18	0.001390	-8.79E-19	-0.001677	-1.12E-18
17	-0.003457	-8.47E-18	0.002515	-1.09E-18	-0.001836	-1.00E-18
18	-0.003308	-8.87E-18	0.003691	-1.29E-18	-0.001908	-8.90E-19
19	-0.003080	-9.22E-18	0.004869	-1.47E-18	-0.001890	-7.83E-19
20	-0.002772	-9.53E-18	0.005996	-1.64E-18	-0.001783	-6.83E-19
21	-0.002392	-9.79E-18	0.007026	-1.79E-18	-0.001594	-5.88E-19
22	-0.001946	-1.00E-17	0.007913	-1.92E-18	-0.001333	-4.98E-19
23	-0.001447	-1.02E-17	0.008622	-2.03E-18	-0.001014	-4.11E-19
24	-0.000907	-1.04E-17	0.009123	-2.12E-18	-0.000651	-3.26E-19
25	-0.000341	-1.05E-17	0.009396	-2.18E-18	-0.000262	-2.41E-19
26	0.000236	-1.06E-17	0.009431	-2.22E-18	0.000138	-1.54E-19
27	0.000807	-1.07E-17	0.009226	-2.23E-18	0.000530	-6.34E-20
28	0.001356	-1.07E-17	0.008791	-2.21E-18	0.000898	3.33E-20
29	0.001869	-1.07E-17	0.008145	-2.17E-18	0.001226	1.37E-19
30	0.002332	-1.06E-17	0.007313	-2.10E-18	0.001497	2.50E-19
31	0.002733	-1.05E-17	0.006333	-2.01E-18	0.001699	3.73E-19
32	0.003064	-1.04E-17	0.005247	-1.89E-18	0.001820	5.07E-19
33	0.003320	-1.02E-17	0.004101	-1.75E-18	0.001855	6.51E-19

J O I N T   D I S P L A C E M E N T S

TRANSLATIONS AND ROTATIONS IN LOCAL COORDINATES

JOINT	U1	U2	U3	R1	R2	R3
34	[illegible]	-9.87E-18	0.002945	-1.59E-18	[illegible]	[illegible]
35	[illegible]	-9.54E-18	0.001839	-1.41E-18	0.001601	9.63E-19
36	[illegible]	-9.08E-18	0.000802	-1.21E-18	0.001447	1.13E-18
37	0.003577	-8.52E-18	-0.000103	-9.31E-19	0.001182	1.28E-18
38	[illegible]	-7.92E-18	[illegible]	7.56E-19	[illegible]	1.43E-18
39	[illegible]	-7.23E-18	-0.001466	-5.07E-19	0.000641	1.56E-18
40	[illegible]	-6.45E-18	-0.001951	[illegible]	[illegible]	1.64E-18
41	[illegible]	-5.71E-18	[illegible]	2.18E-20	[illegible]	1.69E-18
42	[illegible]	-4.92E-18	[illegible]	[illegible]	[illegible]	1.70E-18
43	[illegible]	-4.19E-18	[illegible]	5.94E-19	[illegible]	1.68E-18
44	[illegible]	-3.33E-18	[illegible]	8.56E-19	6.77E-05	1.63E-18
45	[illegible]	-2.56E-18	[illegible]	1.07E-18	0.000424	1.53E-18
46	[illegible]	-1.94E-18	-0.003158	1.27E-18	[illegible]	1.39E-18
47	[illegible]	-1.18E-18	-0.002680	1.25E-18	-0.001373	[illegible]
48	[illegible]	-6.40E-19	[illegible]	1.13E-18	-0.001649	8.53E-19
49	[illegible]	-2.77E-19	-0.001127	9.15E-19	[illegible]	[illegible]
50	[illegible]	-8.44E-20	-0.000392	1.40E-19	[illegible]	1.45E-19
51	.000000	.000000	.000000	.000000	.000000	.000000

COMB   COMB3 ------------------- MAX

JOINT	U1	U2	U3	R1	R2	R3
1	.000000	.000000	.000000	.000000	.000000	.000000
2	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
3	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
4	[illegible]	[illegible]	-0.001877	8.70E-19	[illegible]	-5.23E-19
5	[illegible]	-6.78E-19	[illegible]	9.68E-19	[illegible]	[illegible]
6	-0.001160	-1.07E-18	-0.002881	9.58E-19	0.000653	-8.32E-19
7	-0.001523	-1.48E-18	-0.002961	8.71E-19	0.000176	-8.99E-19
8	-0.001875	-1.91E-18	-0.002787	7.32E-19	-0.000214	-9.39E-19
9	-0.002196	-2.34E-18	-0.002411	5.62E-19	-0.000497	-9.61E-19
10	-0.002460	-2.76E-18	-0.001909	3.85E-19	-0.000674	-9.70E-19
11	-0.002650	-3.20E-18	-0.001363	2.08E-19	-0.000802	-9.60E-19
12	-0.002796	-3.62E-18	-0.000752	3.26E-20	-0.000917	-9.37E-19
13	-0.002896	-4.02E-18	-6.98E-05	-1.40E-19	-0.001034	-9.01E-19
14	-0.002945	-4.40E-18	0.000671	-3.09E-19	-0.001121	-8.56E-19
15	-0.002940	-4.76E-18	0.001446	-4.73E-19	-0.001161	-8.14E-19
16	-0.002881	-5.09E-18	0.002226	-6.29E-19	-0.001148	-7.69E-19
17	-0.002770	-5.41E-18	0.002981	-7.76E-19	-0.001087	-7.23E-19
18	-0.002608	-5.70E-18	0.003684	-9.13E-19	-0.000987	-6.75E-19
19	-0.002401	-5.98E-18	0.004318	-1.04E-18	-0.000861	-6.23E-19
20	-0.002154	-6.23E-18	0.004869	-1.15E-18	-0.000725	-5.65E-19
21	-0.001872	-6.45E-18	0.005332	-1.25E-18	-0.000590	-4.98E-19
22	-0.001563	-6.65E-18	0.005711	-1.33E-18	-0.000467	-4.22E-19
23	[illegible]	-6.81E-18	0.006011	-1.40E-18	-0.000364	-3.36E-19
24	-0.000882	-6.93E-18	0.006241	-1.46E-18	-0.000279	-2.41E-19
25	-0.000521	-7.02E-18	0.006409	-1.49E-18	-0.000208	-1.40E-19
26	-0.000151	-7.05E-18	0.006520	-1.52E-18	-0.000139	-3.54E-20
27	0.000225	-7.05E-18	0.006568	-1.52E-18	-5.50E-05	6.68E-20
28	0.000602	-7.00E-18	0.006544	-1.51E-18	5.59E-05	1.63E-19

J O I N T   D I S P L A C E M E N T S

TRANSLATIONS AND ROTATIONS IN LOCAL COORDINATES

JOINT	U1	U2	U3	R1	R2	R3
29	[illegible]	-6.91E-18	[illegible]	-1.48E-18	[illegible]	[illegible]
30	[illegible]	[illegible]	[illegible]	-1.43E-18	[illegible]	3.31E-19
31	0.001684	-6.63E-18	0.005879	-1.37E-18	0.000564	4.03E-19
32	[illegible]	[illegible]	0.005422	-1.29E-18	0.000766	4.67E-19
33	[illegible]	-6.25E-18	0.004843	-1.19E-18	[illegible]	5.27E-19
34	[illegible]	-6.02E-18	[illegible]	-1.07E-18	0.001134	5.85E-19
35	[illegible]	[illegible]	0.003370	-9.43E-19	0.001264	6.43E-19
36	[illegible]	-5.49E-18	0.002524	-7.99E-19	0.001338	[illegible]
37	[illegible]	[illegible]	0.001650	-6.43E-19	0.001348	[illegible]
38	[illegible]	-4.84E-18	[illegible]	-4.74E-19	0.001294	8.34E-19
39	[illegible]	-4.47E-18	3.77E-05	-2.96E-19	0.001186	[illegible]
40	[illegible]	-4.06E-18	[illegible]	-1.09E-19	0.001053	9.58E-19
41	[illegible]	-3.62E-18	-0.001465	8.55E-20	0.000900	1.01E-18
42	[illegible]	-3.17E-18	-0.002079	2.81E-19	0.000728	1.03E-18
43	[illegible]	-2.70E-18	-0.002584	4.80E-19	0.000488	1.05E-18
44	0.001806	-2.22E-18	[illegible]	6.65E-19	0.000166	1.04E-18
45	[illegible]	-1.73E-18	[illegible]	8.20E-19	-0.000245	1.01E-18
46	0.001104	-1.25E-18	-0.002921	9.22E-19	-0.000725	9.40E-19
47	0.000769	-8.04E-19	-0.002507	9.45E-19	-0.001203	8.13E-19
48	0.000478	-4.25E-19	-0.001846	8.58E-19	-0.001528	5.95E-19
49	0.000261	-1.78E-19	-0.001069	6.93E-19	-0.001516	2.84E-19
50	0.000107	-5.67E-20	-0.000364	4.07E-19	-0.001078	6.02E-20
51	.000000	.000000	.000000	.000000	.000000	.000000

COMB   COMB3 ------------------- MIN

JOINT	U1	U2	U3	R1	R2	R3
1	.000000	.000000	.000000	.000000	.000000	.000000
2	-0.000110	-4.45E-20	-0.000379	4.06E-19	0.001111	-1.85E-20
3	-0.000272	-1.37E-19	-0.001100	6.98E-19	0.001538	-2.21E-19
4	-0.000503	-3.48E-19	-0.001877	8.70E-19	0.001518	-5.23E-19
5	-0.000810	-6.78E-19	-0.002513	9.68E-19	0.001147	-7.16E-19
6	-0.001160	-1.07E-18	-0.002881	9.58E-19	0.000653	-8.32E-19
7	-0.001523	-1.48E-18	-0.002961	8.71E-19	0.000176	-8.99E-19
8	-0.001875	-1.91E-18	-0.002787	7.32E-19	-0.000214	-9.39E-19
9	-0.002196	-2.34E-18	-0.002411	5.62E-19	-0.000497	-9.61E-19
10	-0.002460	-2.76E-18	-0.001909	3.85E-19	-0.000674	-9.70E-19
11	-0.002650	-3.20E-18	-0.001363	2.08E-19	-0.000802	-9.60E-19
12	-0.002796	-3.62E-18	-0.000752	3.26E-20	-0.000917	-9.37E-19
13	-0.002896	-4.02E-18	-6.98E-05	-1.40E-19	-0.001034	-9.01E-19
14	-0.002945	-4.40E-18	0.000671	-3.09E-19	-0.001121	-8.58E-19
15	-0.002940	-4.76E-18	0.001446	-4.73E-19	-0.001161	-8.14E-19
16	-0.002881	-5.09E-18	0.002226	-6.29E-19	-0.001148	-7.69E-19
17	-0.002770	-5.41E-18	0.002981	-7.76E-19	-0.001087	-7.23E-19
18	-0.002608	-5.70E-18	0.003684	-9.13E-19	-0.000987	-6.75E-19
19	-0.002401	-5.98E-18	0.004318	-1.04E-18	-0.000861	-6.23E-19
20	-0.002154	-6.23E-18	0.004869	-1.15E-18	-0.000725	-5.65E-19
21	-0.001872	-6.45E-18	0.005332	-1.25E-18	-0.000590	-4.98E-19
22	-0.001563	-6.65E-18	0.005711	-1.33E-18	-0.000467	-4.22E-19
23	-0.001231	-6.81E-18	0.006011	-1.40E-18	-0.000364	-3.36E-19

J O I N T   D I S P L A C E M E N T S

TRANSLATIONS AND ROTATIONS IN LOCAL COORDINATES

JOINT	U1	U2	U3	R1	R2	R3
24	-0.000882	-6.93E-18	0.006241	-1.46E-18	-0.000279	-2.41E-19
25	-0.000521	-7.02E-18	0.006409	-1.49E-18	-0.000208	-1.40E-19
26	-0.000151	-7.05E-18	0.006520	-1.52E-18	-0.000139	-3.54E-20
27	0.000225	-7.05E-18	0.006568	-1.52E-18	-5.50E-05	6.68E-20
28	0.000602	-7.00E-18	0.006544	-1.51E-18	5.59E-05	1.63E-19
29	0.000976	-6.91E-18	0.006430	-1.48E-18	0.000198	2.52E-19
30	0.001339	-6.78E-18	0.006213	-1.43E-18	0.000370	3.31E-19
31	0.001684	-6.63E-18	0.005879	-1.37E-18	0.000564	4.03E-19
32	0.002002	-6.45E-18	0.005422	-1.29E-18	0.000766	4.67E-19
33	0.002285	-6.25E-18	0.004843	-1.19E-18	0.000962	5.27E-19
34	0.002525	-6.02E-18	0.004152	-1.07E-18	0.001134	5.85E-19
35	0.002714	-5.77E-18	0.003370	-9.43E-19	0.001264	6.43E-19
36	0.002847	-5.49E-18	0.002524	-7.99E-19	0.001338	7.03E-19
37	0.002921	-5.18E-18	0.001650	-6.43E-19	0.001348	7.67E-19
38	0.002934	-4.84E-18	0.000784	-4.74E-19	0.001294	8.34E-19
39	0.002887	-4.47E-18	3.77E-05	-2.96E-19	0.001186	8.99E-19
40	0.002784	-4.06E-18	-0.000790	-1.09E-19	0.001053	9.58E-19
41	0.002630	-3.62E-18	-0.001465	8.55E-20	0.000900	1.01E-18
42	0.002410	-3.17E-18	-0.002079	2.81E-19	0.000728	1.03E-18
43	0.002130	-2.70E-18	-0.002584	4.80E-19	0.000488	1.05E-18
44	0.001806	-2.22E-18	-0.002924	6.65E-19	0.000166	1.04E-18
45	0.001459	-1.73E-18	-0.003052	8.20E-19	-0.000245	1.01E-18
46	0.001104	-1.25E-18	-0.002921	9.22E-19	-0.000725	9.40E-19
47	0.000769	-8.04E-19	-0.002507	9.45E-19	-0.001203	8.13E-19
48	0.000478	-4.25E-19	-0.001846	8.58E-19	-0.001528	5.95E-19
49	0.000261	-1.78E-19	-0.001069	6.93E-19	-0.001516	2.84E-19
50	0.000107	-5.67E-20	-0.000364	4.07E-19	-0.001078	6.02E-20
51	.000000	.000000	.000000	.000000	.000000	.000000

COMB   COMB4 ------------------- MAX

JOINT	U1	U2	U3	R1	R2	R3
1	.000000	.000000	.000000	.000000	.000000	.000000
2	-0.000110	-4.30E-20	-0.000379	4.08E-19	0.001112	-1.23E-20
3	-0.000272	-1.31E-19	-0.001101	7.02E-19	0.001543	-2.07E-19
4	-0.000503	-3.32E-19	-0.001882	8.77E-19	0.001530	-5.02E-19
5	-0.000811	-6.52E-19	-0.002521	9.77E-19	0.001151	-6.94E-19
6	-0.001162	-1.03E-18	-0.002889	9.70E-19	0.000652	-8.08E-19
7	-0.001525	-1.43E-18	-0.002968	8.85E-19	0.000174	-8.77E-19
8	-0.001878	-1.85E-18	-0.002792	7.48E-19	-0.000216	-9.17E-19
9	-0.002200	-2.27E-18	-0.002416	5.81E-19	-0.000496	-9.41E-19
10	-0.002464	-2.68E-18	-0.001915	4.05E-19	-0.000667	-9.52E-19
11	-0.002654	-3.11E-18	-0.001371	2.30E-19	-0.000798	-9.42E-19
12	-0.002801	-3.52E-18	-0.000761	5.61E-20	-0.000916	-9.19E-19
13	-0.002901	-3.91E-18	-7.87E-05	-1.16E-19	-0.001035	-8.83E-19
14	-0.002951	-4.28E-18	0.000663	-2.83E-19	-0.001124	-8.41E-19
15	-0.002947	-4.63E-18	0.001441	-4.46E-19	-0.001165	-7.98E-19
16	-0.002888	-4.96E-18	0.002223	-6.01E-19	-0.001153	-7.54E-19
17	-0.002777	-5.27E-18	0.002981	-7.47E-19	-0.001092	-7.09E-19
18	-0.002615	-5.56E-18	0.003688	-8.83E-19	-0.000992	-6.62E-19

J O I N T   D I S P L A C E M E N T S

TRANSLATIONS AND ROTATIONS IN LOCAL COORDINATES

JOINT	U1	U2	U3	R1	R2	R3
19	-0.002407	-5.82E-18	0.004324	-1.01E-18	-0.000866	-6.12E-19
20	-0.002160	-6.07E-18	0.004878	-1.12E-18	-0.000729	-5.55E-19
21	-0.001877	-6.29E-18	0.005345	-1.22E-18	-0.000594	-4.89E-19
22	-0.001567	-6.48E-18	0.005725	-1.30E-18	-0.000471	-4.15E-19
23	-0.001234	-6.64E-18	0.006027	-1.37E-18	-0.000366	-3.30E-19
24	-0.000884	-6.76E-18	0.006258	-1.42E-18	-0.000280	-2.37E-19
25	-0.000522	-6.84E-18	0.006427	-1.46E-18	-0.000209	-1.38E-19
26	-0.000151	-6.88E-18	0.006538	-1.48E-18	0.000138	-3.53E-20
27	0.000226	-6.87E-18	0.006585	-1.49E-18	-5.33E-05	6.51E-20
28	0.000605	-6.82E-18	0.006560	-1.48E-18	5.85E-05	1.60E-19
29	0.000980	-6.73E-18	0.006445	-1.45E-18	0.000202	2.47E-19
30	0.001344	-6.61E-18	0.006225	-1.40E-18	0.000375	3.25E-19
31	0.001689	-6.47E-18	0.005889	-1.34E-18	0.000569	3.94E-19
32	0.002008	-6.29E-18	0.005429	-1.25E-18	0.000772	4.57E-19
33	0.002291	-6.09E-18	0.004846	-1.16E-18	0.000967	5.16E-19
34	0.002531	-5.87E-18	0.004153	-1.04E-18	0.001139	5.72E-19
35	0.002720	-5.62E-18	0.003368	-9.14E-19	0.001268	6.29E-19
36	0.002853	-5.35E-18	0.002519	-7.71E-19	0.001342	6.88E-19
37	0.002926	-5.05E-18	0.001643	-6.15E-19	0.001351	7.51E-19
38	0.002939	-4.72E-18	0.000776	-4.48E-19	0.001295	8.17E-19
39	0.002892	-4.36E-18	-4.60E-05	-2.70E-19	0.001185	8.82E-19
40	0.002789	-3.96E-18	-0.000798	-8.49E-20	0.001049	9.40E-19
41	0.002634	-3.53E-18	-0.001469	1.08E-19	0.000892	9.88E-19
42	0.002414	-3.09E-18	-0.002082	3.01E-19	0.000725	1.01E-18
43	0.002133	-2.63E-18	-0.002587	4.99E-19	0.000489	1.03E-18
44	0.001811	-2.16E-18	-0.002929	6.82E-19	0.000170	1.02E-18
45	0.001462	-1.68E-18	-0.003058	8.34E-19	-0.000241	9.86E-19
46	0.001106	-1.21E-18	-0.002929	9.34E-19	-0.000724	9.16E-19
47	0.000770	-7.77E-19	-0.002516	9.54E-19	-0.001206	7.90E-19
48	0.000479	-4.11E-19	-0.001851	8.64E-19	-0.001540	5.74E-19
49	0.000261	-1.72E-19	-0.001070	6.97E-19	-0.001521	2.71E-19
50	0.000107	-5.51E-20	-0.000364	4.09E-19	-0.001080	5.40E-20
51	.000000	.000000	.000000	.000000	.000000	.000000

COMB   COMB4 ------------------- MIN

JOINT	U1	U2	U3	R1	R2	R3
1	.000000	.000000	.000000	.000000	.000000	.000000
2	-0.000110	-4.30E-20	-0.000379	4.08E-19	0.001112	-1.23E-20
3	-0.000272	-1.31E-19	-0.001101	7.02E-19	0.001543	-2.07E-19
4	-0.000503	-3.32E-19	-0.001882	8.77E-19	0.001530	-5.02E-19
5	-0.000811	-6.52E-19	-0.002521	9.77E-19	0.001151	-6.94E-19
6	-0.001162	-1.03E-18	-0.002889	9.70E-19	0.000652	-8.08E-19
7	-0.001525	-1.43E-18	-0.002968	8.85E-19	0.000174	-8.77E-19
8	-0.001878	-1.85E-18	-0.002792	7.48E-19	-0.000216	-9.17E-19
9	-0.002200	-2.27E-18	-0.002416	5.81E-19	-0.000496	-9.41E-19
10	-0.002464	-2.68E-18	-0.001915	4.05E-19	-0.000667	-9.52E-19
11	-0.002654	-3.11E-18	-0.001371	2.30E-19	-0.000798	-9.42E-19
12	-0.002801	-3.52E-18	-0.000761	5.61E-20	-0.000916	-9.19E-19
13	-0.002901	-3.91E-18	-7.87E-05	-1.16E-19	-0.001035	-8.83E-19

J O I N T D I S P L A C E M E N T S

TRANSLATIONS AND ROTATIONS IN LOCAL COORDINATES

JOINT	U1	U2	U3	R1	R2	R3
14	-0.002951	-4.28E-18	0.000663	-2.83E-19	-0.001174	-8.41E-19
15	-0.002947	-4.63E-18	0.001411	-4.45E-19	-0.001165	-7.98E-19
16	-0.002938	-4.96E-18	0.002223	-6.01E-19	-0.001153	-7.54E-19
17	-0.002777	-5.27E-18	0.002981	-7.47E-19	-0.001052	-7.09E-19
18	-0.002615	-5.56E-18	0.003688	-8.83E-19	-0.000992	-6.62E-19
19	-0.002407	-5.82E-18	0.004324	-1.01E-18	-0.000886	-6.12E-19
20	-0.002165	-6.07E-18	0.004878	-1.12E-18	-0.000729	-5.55E-19
21	-0.001877	-6.29E-18	0.005345	-1.22E-18	-0.000594	-4.89E-19
22	-0.001567	-6.45E-18	0.005725	-1.30E-18	-0.000471	-4.15E-19
23	-0.001234	-6.64E-18	0.006027	-1.37E-18	-0.000366	-3.30E-19
24	-0.000884	-6.76E-18	0.006258	-1.42E-18	-0.000280	-2.37E-19
25	-0.000522	-6.84E-18	0.006427	-1.46E-18	-0.000209	-1.38E-19
26	-0.000151	-6.88E-18	0.006536	-1.49E-18	-0.000156	-3.53E-20
27	0.000226	-6.87E-18	0.006585	-1.49E-18	-5.33E-05	6.51E-20
28	0.000605	-6.82E-18	0.006580	-1.48E-18	5.85E-05	1.60E-19
29	0.000980	-6.73E-18	0.006445	-1.45E-18	0.000202	2.47E-19
30	0.001344	-6.61E-18	0.006225	-1.40E-18	0.000375	3.25E-19
31	0.001689	-6.47E-18	0.005889	-1.34E-18	0.000569	3.94E-19
32	0.002008	-6.29E-18	0.005479	-1.25E-18	0.000772	4.57E-19
33	0.002291	-6.09E-18	0.004846	-1.16E-18	0.000967	5.16E-19
34	0.002531	-5.87E-18	0.004153	-1.04E-18	0.001139	5.72E-19
35	0.002720	-5.62E-18	0.003368	-9.14E-19	0.001268	6.29E-19
36	0.002853	-5.35E-18	0.002519	-7.71E-19	0.001342	6.88E-19
37	0.002926	-5.05E-18	0.001643	-6.15E-19	0.001351	7.51E-19
38	0.002931	-4.72E-18	0.000779	-4.43E-19	0.001299	8.17E-19
39	0.002892	-4.35E-18	-4.60E-05	-2.70E-19	0.001185	8.82E-19
40	0.002789	-3.99E-18	-0.000798	-8.49E-20	0.001049	9.40E-19
41	0.002634	-3.53E-18	-0.001469	1.08E-19	0.000892	9.88E-19
42	0.002414	-3.09E-18	-0.002062	3.01E-19	0.000725	1.01E-18
43	0.002133	-2.63E-18	-0.002587	4.99E-19	0.000489	1.03E-18
44	0.001811	-2.16E-18	-0.002929	6.82E-19	0.000170	1.02E-18
45	0.001462	-1.68E-18	-0.003058	8.34E-19	-0.000241	9.86E-19
46	0.001106	-1.21E-18	-0.002929	9.34E-19	-0.000724	9.16E-19
47	0.000770	-7.77E-19	-0.002516	9.54E-19	-0.001206	7.90E-19
48	0.000479	-4.11E-19	-0.001851	8.64E-19	-0.001540	5.74E-19
49	0.000261	-1.72E-19	-0.001070	6.97E-19	-0.001521	2.71E-19
50	0.000107	-5.51E-20	-0.000364	4.09E-19	-0.001080	5.40E-20
51	.000000	.000000	.000000	.000000	.000000	.000000

S P R I N G F O R C E S

FORCES AND MOMENTS ACTING ON JOINTS, IN LOCAL COORDINATES

COMB COMB1 ---------- MAX

JOINT	F1	F2	F3	M1	M2	M3
2	-6.03E-17	4.03E-32	2.076951	.000000	.000000	.000000
3	-1.71E-17	3.68E-32	4.043829	.000000	.000000	.000000
4	-1.98E-18	-2.92E-31	6.945128	.000000	.000000	.000000
5	1.40E-16	4.48E-31	9.389839	.000000	.000000	.000000
6	-1.64E-16	-6.05E-32	10.936365	.000000	.000000	.000000
7	-6.38E-17	6.25E-32	11.526970	.000000	.000000	.000000
8	1.24E-15	4.34E-31	11.291162	.000000	.000000	.000000
9	-1.04E-16	2.89E-31	10.433697	.000000	.000000	.000000
10	-8.11E-17	6.28E-33	9.217573	.000000	.000000	.000000
11	5.60E-16	-2.35E-31	7.926487	.000000	.000000	.000000
40	3.74E-16	2.45E-31	6.811049	.000000	.000000	.000000
41	7.02E-16	-1.10E-31	8.281649	.000000	.000000	.000000
42	-4.32E-16	4.55E-31	9.702433	.000000	.000000	.000000
43	2.37E-16	-3.17E-31	10.896746	.000000	.000000	.000000
44	-3.59E-16	1.37E-30	11.649716	.000000	.000000	.000000
45	4.70E-17	-2.48E-31	11.761491	.000000	.000000	.000000
46	-2.12E-16	1.42E-30	11.036821	.000000	.000000	.000000
47	6.39E-17	-1.32E-31	9.361355	.000000	.000000	.000000
48	-2.55E-18	-4.08E-31	6.843568	.000000	.000000	.000000
49	-2.39E-17	-1.68E-31	3.945841	.000000	.000000	.000000
50	2.99E-17	1.19E-31	2.007330	.000000	.000000	.000000

COMB COMB1 ---------- MIN

JOINT	F1	F2	F3	M1	M2	M3
2	-6.03E-17	4.03E-32	2.076951	.000000	.000000	.000000
3	-1.71E-17	3.68E-32	4.043829	.000000	.000000	.000000
4	-1.98E-18	-2.92E-31	6.945128	.000000	.000000	.000000
5	1.40E-16	4.48E-31	9.389839	.000000	.000000	.000000
6	-1.64E-16	-6.05E-32	10.936365	.000000	.000000	.000000
7	-6.38E-17	6.25E-32	11.526970	.000000	.000000	.000000
8	1.24E-15	4.34E-31	11.291162	.000000	.000000	.000000
9	-1.04E-16	2.89E-31	10.433697	.000000	.000000	.000000
10	-8.11E-17	6.28E-33	9.217573	.000000	.000000	.000000
11	5.60E-16	-2.35E-31	7.926487	.000000	.000000	.000000
40	3.74E-16	2.45E-31	6.811049	.000000	.000000	.000000
41	7.02E-16	-1.10E-31	8.281649	.000000	.000000	.000000
42	-4.32E-16	4.55E-31	9.702433	.000000	.000000	.000000
43	2.37E-16	-3.17E-31	10.896746	.000000	.000000	.000000
44	-3.59E-16	1.37E-30	11.649716	.000000	.000000	.000000
45	4.70E-17	-2.48E-31	11.761491	.000000	.000000	.000000
46	-2.12E-16	1.42E-30	11.036821	.000000	.000000	.000000
47	6.39E-17	-1.32E-31	9.361355	.000000	.000000	.000000
48	-2.55E-18	-4.08E-31	6.843568	.000000	.000000	.000000
49	-2.39E-17	-1.68E-31	3.945841	.000000	.000000	.000000
50	2.99E-17	1.19E-31	2.007330	.000000	.000000	.000000

S P R I N G F O R C E S

FORCES AND MOMENTS ACTING ON JOINTS, IN LOCAL COORDINATES

COMB COMB2 ---------- MAX

JOINT	F1	F2	F3	M1	M2	M3
2	-5.03E-17	4.04E-32	2.076487	.000000	.000000	.000000
3	-1.72E-17	3.69E-32	4.047471	.000000	.000000	.000000
4	-1.98E-18	-2.91E-31	6.962207	.000000	.000000	.000000
5	1.40E-16	4.48E-31	9.418606	.000000	.000000	.000000
6	-1.64E-16	-6.08E-32	10.965231	.000000	.000000	.000000
7	-6.44E-17	6.14E-32	11.550505	.000000	.000000	.000000
8	1.24E-15	4.35E-31	11.309087	.000000	.000000	.000000
9	-1.05E-16	2.90E-31	10.449992	.000000	.000000	.000000
10	-8.21E-17	8.33E-33	9.239823	.000000	.000000	.000000
11	5.58E-16	-2.35E-31	7.958468	.000000	.000000	.000000
40	3.76E-16	2.44E-31	6.836145	.000000	.000000	.000000
41	7.01E-16	-1.10E-31	8.297621	.000000	.000000	.000000
42	-4.32E-16	4.55E-31	9.711045	.000000	.000000	.000000
43	2.38E-16	-3.17E-31	10.906123	.000000	.000000	.000000
44	-3.59E-16	1.37E-30	11.665145	.000000	.000000	.000000
45	4.72E-17	-2.49E-31	11.785074	.000000	.000000	.000000
46	-2.12E-16	1.42E-30	11.066863	.000000	.000000	.000000
47	6.40E-17	-1.32E-31	9.391489	.000000	.000000	.000000
48	-2.42E-18	-4.08E-31	6.861690	.000000	.000000	.000000
49	-2.41E-17	-1.68E-31	3.950053	.000000	.000000	.000000
50	2.99E-17	1.19E-31	2.007083	.000000	.000000	.000000

COMB COMB2 ---------- MIN

JOINT	F1	F2	F3	M1	M2	M3
2	-6.03E-17	4.04E-32	2.076487	.000000	.000000	.000000
3	-1.72E-17	3.69E-32	4.047471	.000000	.000000	.000000
4	-1.98E-18	-2.91E-31	6.962207	.000000	.000000	.000000
5	1.40E-16	4.48E-31	9.418606	.000000	.000000	.000000
6	-1.64E-16	-6.08E-32	10.965231	.000000	.000000	.000000
7	-6.44E-17	6.14E-32	11.550505	.000000	.000000	.000000
8	1.24E-15	4.35E-31	11.309087	.000000	.000000	.000000
9	-1.05E-16	2.90E-31	10.449992	.000000	.000000	.000000
10	-8.21E-17	8.33E-33	9.239823	.000000	.000000	.000000
11	5.58E-16	-2.35E-31	7.958468	.000000	.000000	.000000
40	3.76E-16	2.44E-31	6.836145	.000000	.000000	.000000
41	7.01E-16	-1.10E-31	8.297621	.000000	.000000	.000000
42	-4.32E-16	4.55E-31	9.711045	.000000	.000000	.000000
43	2.38E-16	-3.17E-31	10.906123	.000000	.000000	.000000
44	-3.59E-16	1.37E-30	11.665145	.000000	.000000	.000000
45	4.72E-17	-2.49E-31	11.785074	.000000	.000000	.000000
46	-2.12E-16	1.42E-30	11.066863	.000000	.000000	.000000
47	6.40E-17	-1.32E-31	9.391489	.000000	.000000	.000000
48	-2.42E-18	-4.08E-31	6.861690	.000000	.000000	.000000
49	-2.41E-17	-1.68E-31	3.950053	.000000	.000000	.000000
50	2.99E-17	1.19E-31	2.007083	.000000	.000000	.000000

S P R I N G F O R C E S

FORCES AND MOMENTS ACTING ON JOINTS, IN LOCAL COORDINATES

COMB COMB3 ---------- MAX

JOINT	F1	F2	F3	M1	M2	M3
2	-5.74E-17	4.02E-32	1.990482	.000000	.000000	.000000
3	-1.54E-17	3.77E-32	3.853938	.000000	.000000	.000000
4	-2.09E-18	-2.97E-31	6.577083	.000000	.000000	.000000
5	1.46E-16	4.57E-31	8.805621	.000000	.000000	.000000
6	-1.66E-16	-8.29E-32	10.094121	.000000	.000000	.000000
7	-7.75E-17	6.85E-32	10.375940	.000000	.000000	.000000
8	1.25E-15	3.95E-31	9.764237	.000000	.000000	.000000
9	2.83E-17	2.66E-31	8.448974	.000000	.000000	.000000
10	3.16E-17	-2.51E-33	6.687975	.000000	.000000	.000000
11	4.53E-16	-3.19E-31	4.775160	.000000	.000000	.000000
40	3.80E-16	2.77E-31	2.769861	.000000	.000000	.000000
41	4.94E-16	-2.28E-32	5.132091	.000000	.000000	.000000
42	-2.18E-16	2.72E-31	7.285899	.000000	.000000	.000000
43	3.26E-16	-3.23E-31	9.055877	.000000	.000000	.000000
44	-3.09E-16	1.18E-30	10.246976	.000000	.000000	.000000
45	6.99E-17	-2.08E-31	10.692618	.000000	.000000	.000000
46	-2.05E-16	1.33E-30	10.233763	.000000	.000000	.000000
47	6.20E-17	-1.22E-31	8.784617	.000000	.000000	.000000
48	-3.20E-18	-3.95E-31	6.467569	.000000	.000000	.000000
49	-2.15E-17	-1.57E-31	3.745893	.000000	.000000	.000000
50	2.48E-17	1.16E-31	1.913182	.000000	.000000	.000000

COMB COMB3 ---------- MIN

JOINT	F1	F2	F3	M1	M2	M3
2	-5.74E-17	4.02E-32	1.990482	.000000	.000000	.000000
3	-1.54E-17	3.77E-32	3.853938	.000000	.000000	.000000
4	-2.09E-18	-2.97E-31	6.577083	.000000	.000000	.000000
5	1.46E-16	4.57E-31	8.805621	.000000	.000000	.000000
6	-1.66E-16	-8.29E-32	10.094121	.000000	.000000	.000000
7	-7.75E-17	6.85E-32	10.375940	.000000	.000000	.000000
8	1.25E-15	3.95E-31	9.764237	.000000	.000000	.000000
9	2.83E-17	2.66E-31	8.448974	.000000	.000000	.000000
10	3.16E-17	-2.51E-33	6.687975	.000000	.000000	.000000
11	4.53E-16	-3.19E-31	4.775160	.000000	.000000	.000000
40	3.80E-16	2.77E-31	2.769861	.000000	.000000	.000000
41	4.94E-16	-2.28E-32	5.132091	.000000	.000000	.000000
42	-2.18E-16	2.72E-31	7.285899	.000000	.000000	.000000
43	3.26E-16	-3.23E-31	9.055877	.000000	.000000	.000000
44	-3.09E-16	1.18E-30	10.246976	.000000	.000000	.000000
45	6.99E-17	-2.08E-31	10.692618	.000000	.000000	.000000
46	-2.05E-16	1.33E-30	10.233763	.000000	.000000	.000000
47	6.20E-17	-1.22E-31	8.784617	.000000	.000000	.000000
48	-3.20E-18	-3.95E-31	6.467569	.000000	.000000	.000000
49	-2.15E-17	-1.57E-31	3.745893	.000000	.000000	.000000
50	2.48E-17	1.16E-31	1.913182	.000000	.000000	.000000

S P R I N G F O R C E S

FORCES AND MOMENTS ACTING ON JOINTS, IN LOCAL COORDINATES

COMB COMB4 ---------- MAX

JOINT	F1	F2	F3	M1	M2	M3
2	-5.74E-17	4.02E-32	1.989978	0.000000	0.000000	0.000000
3	-1.55E-17	3.78E-32	3.857580	0.000000	0.000000	0.000000
4	-2.09E-18	-2.97E-31	6.594162	0.000000	0.000000	0.000000
5	1.46E-16	4.57E-31	8.854389	0.000000	0.000000	0.000000
6	-1.65E-16	-8.32E-32	10.122966	0.000000	0.000000	0.000000
7	-7.81E-17	6.74E-32	10.399475	0.000000	0.000000	0.000000
8	1.25E-15	3.95E-31	9.782161	0.000000	0.000000	0.000000
9	2.75E-17	2.67E-31	8.465269	0.000000	0.000000	0.000000
10	3.06E-17	-4.54E-34	6.710225	0.000000	0.000000	0.000000
11	4.51E-16	-3.19E-31	4.865141	0.000000	0.000000	0.000000
40	3.81E-16	2.76E-31	2.794956	0.000000	0.000000	0.000000
41	4.94E-16	-2.28E-32	5.148063	0.000000	0.000000	0.000000
42	-2.18E-16	2.72E-31	7.294511	0.000000	0.000000	0.000000
43	3.26E-16	-3.23E-31	9.065254	0.000000	0.000000	0.000000
44	-3.09E-16	1.18E-30	10.262406	0.000000	0.000000	0.000000
45	7.01E-17	-2.09E-31	10.716200	0.000000	0.000000	0.000000
46	-2.05E-16	1.34E-30	10.263805	0.000000	0.000000	0.000000
47	6.22E-17	-1.22E-31	9.814751	0.000000	0.000000	0.000000
48	-3.07E-18	-3.95E-31	8.485691	0.000000	0.000000	0.000000
49	-2.17E-17	-1.57E-31	3.750104	0.000000	0.000000	0.000000
50	2.48E-17	1.16E-31	1.912934	0.000000	0.000000	0.000000

COMB COMB4 ---------- MIN

JOINT	F1	F2	F3	M1	M2	M3
2	-5.74E-17	4.02E-32	1.989978	0.000000	0.000000	0.000000
3	-1.55E-17	3.78E-32	3.857580	0.000000	0.000000	0.000000
4	-2.09E-18	-2.97E-31	6.594162	0.000000	0.000000	0.000000
5	1.46E-16	4.57E-31	8.854389	0.000000	0.000000	0.000000
6	-1.65E-16	-8.32E-32	10.122966	0.000000	0.000000	0.000000
7	-7.81E-17	6.74E-32	10.399475	0.000000	0.000000	0.000000
8	1.25E-15	3.95E-31	9.782161	0.000000	0.000000	0.000000
9	2.75E-17	2.67E-31	8.465269	0.000000	0.000000	0.000000
10	3.06E-17	-4.54E-34	6.710225	0.000000	0.000000	0.000000
11	4.51E-16	-3.19E-31	4.865141	0.000000	0.000000	0.000000
40	3.81E-16	2.76E-31	2.794956	0.000000	0.000000	0.000000
41	4.94E-16	-2.28E-32	5.148063	0.000000	0.000000	0.000000
42	-2.18E-16	2.72E-31	7.294511	0.000000	0.000000	0.000000
43	3.26E-16	-3.23E-31	9.065254	0.000000	0.000000	0.000000
44	-3.09E-16	1.18E-30	10.262406	0.000000	0.000000	0.000000
45	7.01E-17	-2.09E-31	10.716200	0.000000	0.000000	0.000000
46	-2.05E-16	1.34E-30	10.263805	0.000000	0.000000	0.000000
47	6.22E-17	-1.22E-31	9.814751	0.000000	0.000000	0.000000
48	-3.07E-18	-3.95E-31	8.485691	0.000000	0.000000	0.000000
49	-2.17E-17	-1.57E-31	3.750104	0.000000	0.000000	0.000000
50	2.48E-17	1.16E-31	1.912934	0.000000	0.000000	0.000000

R E S T R A I N T F O R C E S (R E A C T I O N S)

FORCES AND MOMENTS ACTING ON JOINTS, IN LOCAL COORDINATES

COMB COMB1 ---------- MAX

JOINT	F1	F2	F3	M1	M2	M3
1	6.943074	-2.71E-14	210.719367	8.36E-14	51.728869	-1.63E-15
51	1.612862	-2.95E-14	209.563595	9.39E-14	-49.995713	-2.55E-15

COMB COMB1 ---------- MIN

JOINT	F1	F2	F3	M1	M2	M3
1	6.943074	-2.71E-14	210.719367	8.36E-14	51.728869	-1.63E-15
51	1.612862	-2.95E-14	209.563595	9.39E-14	-49.995713	-2.55E-15

COMB COMB2 ---------- MAX

JOINT	F1	F2	F3	M1	M2	M3
1	6.746423	-2.72E-14	210.775393	8.38E-14	50.114737	-1.64E-15
51	1.804912	-2.96E-14	209.607257	9.41E-14	-48.387768	-2.54E-15

COMB COMB2 ---------- MIN

JOINT	F1	F2	F3	M1	M2	M3
1	6.746423	-2.72E-14	210.775393	8.38E-14	50.114737	-1.64E-15
51	1.804912	-2.96E-14	209.607257	9.41E-14	-48.387768	-2.54E-15

COMB COMB3 ---------- MAX

JOINT	F1	F2	F3	M1	M2	M3
1	6.525657	-2.30E-14	205.940839	6.76E-14	49.612492	-4.00E-16
51	1.811250	-2.45E-14	202.923243	7.36E-14	-47.691693	-2.80E-15

COMB COMB3 ---------- MIN

JOINT	F1	F2	F3	M1	M2	M3
1	6.525657	-2.30E-14	205.940839	6.76E-14	49.612492	-4.00E-16
51	1.811250	-2.45E-14	202.923243	7.36E-14	-47.691693	-2.80E-15

COMB COMB4 ---------- MAX

JOINT	F1	F2	F3	M1	M2	M3
1	6.329007	-2.31E-14	205.996865	6.78E-14	47.998360	-4.15E-16
51	2.003300	-2.45E-14	202.966905	7.38E-14	-46.083748	-2.79E-15

COMB COMB4 ---------- MIN

JOINT	F1	F2	F3	M1	M2	M3
1	6.329007	-2.31E-14	205.996865	6.78E-14	47.998360	-4.15E-16
51	2.003300	-2.45E-14	202.966905	7.38E-14	-46.083748	-2.79E-15

G L O B A L F O R C E B A L A N C E

TOTAL FORCE AND MOMENT AT THE ORIGIN, IN GLOBAL COORDINATES

LOAD LOAD1 ----------

	FX	FY	FZ	MX	MY	MZ
APPLIED	3.80E-16	-3.58E-32	-21.606229	2.42E-31	3.166127	1.29E-31
SPRINGS	-0.461334	3.44E-15	-3.110453	-1.21E-14	-0.332996	1.14E-15
REACTNS	0.461334	-3.44E-15	24.716682	1.21E-14	-2.833261	-1.14E-15
TOTAL	-1.45E-13	-2.45E-28	1.99E-13	2.14E-27	-7.88E-13	9.11E-28

LOAD LOAD2 ----------

	FX	FY	FZ	MX	MY	MZ
APPLIED	8.50E-15	-6.07E-31	-352.387947	4.67E-30	-9.595169	3.38E-30
SPRINGS	-8.092302	5.32E-14	-43.228177	-1.78E-13	-6.007563	2.00E-14
REACTNS	8.092302	-5.32E-14	395.616124	1.78E-13	15.602732	-2.00E-14
TOTAL	-2.84E-13	-2.92E-27	3.41E-12	2.50E-26	3.55E-13	9.81E-27

LOAD LOAD3 ----------

	FX	FY	FZ	MX	MY	MZ
APPLIED	-2.952475	1.94E-32	-1.32E-15	-7.99E-32	-16.293074	2.44E-31
SPRINGS	3.171503	-9.13E-15	11.418879	3.82E-14	3.047245	-7.72E-15
REACTNS	-0.219028	9.13E-15	-11.418879	-3.82E-14	13.245829	7.72E-15
TOTAL	5.53E-13	1.21E-27	-3.25E-13	-1.07E-26	1.55E-12	-5.28E-27

LOAD LOAD4 ----------

	FX	FY	FZ	MX	MY	MZ
APPLIED	9.86E-32	0.000000	1.48E-31	2.96E-31	-1.54E-17	-1.26E-32
SPRINGS	-0.002300	-5.92E-17	0.049844	2.02E-16	-0.004128	5.12E-18
REACTNS	0.002300	5.92E-17	-0.049844	-2.02E-16	0.004128	-5.12E-18
TOTAL	3.25E-15	-2.12E-29	-2.56E-15	2.00E-28	1.87E-14	3.89E-29

LOAD LOAD5 ----------

	FX	FY	FZ	MX	MY	MZ
APPLIED	-9.86E-32	0.000000	-1.48E-31	-2.96E-31	1.54E-17	1.26E-32
SPRINGS	0.002300	5.92E-17	-0.049844	-2.02E-16	0.004128	-5.12E-18
REACTNS	-0.002300	-5.92E-17	0.049844	2.02E-16	-0.004128	5.12E-18
TOTAL	-3.25E-15	2.12E-29	2.56E-15	-2.00E-28	-1.87E-14	-3.89E-29

G L O B A L F O R C E B A L A N C E

TOTAL FORCE AND MOMENT AT THE ORIGIN, IN GLOBAL COORDINATES

COMB COMB1 ---------- MAX

	FX	FY	FZ	MX	MY	MZ
APPLIED	8.88E-15	-6.43E-31	-373.994176	5.21E-30	-6.429042	3.50E-30
SPRINGS	-8.555936	5.66E-14	-46.288786	-1.90E-13	-6.344556	2.11E-14
REACTNS	8.555936	-5.66E-14	420.282962	1.90E-13	12.773599	-2.11E-14
TOTAL	-4.26E-13	-3.19E-27	3.61E-12	2.74E-26	-1.12E-12	1.08E-26

COMB COMB1 ---------- MIN

	FX	FY	FZ	MX	MY	MZ
APPLIED	8.88E-15	-6.43E-31	-373.994176	5.21E-30	-6.429042	3.50E-30
SPRINGS	-8.555936	5.66E-14	-46.288786	-1.90E-13	-6.344556	2.11E-14
REACTNS	8.555936	-5.66E-14	420.282962	1.90E-13	12.773599	-2.11E-14
TOTAL	-4.26E-13	-3.19E-27	3.61E-12	2.74E-26	-1.12E-12	1.08E-26

COMB COMB2 ---------- MAX

	FX	FY	FZ	MX	MY	MZ
APPLIED	8.88E-15	-6.43E-31	-373.994176	4.62E-30	-6.429042	3.52E-30
SPRINGS	-8.551336	5.68E-14	-46.388474	-1.90E-13	-6.336301	2.11E-14
REACTNS	8.551336	-5.68E-14	420.382650	1.90E-13	12.765343	-2.11E-14
TOTAL	-4.32E-13	-3.15E-27	3.61E-12	2.70E-26	-1.16E-12	1.07E-26

COMB COMB2 ---------- MIN

	FX	FY	FZ	MX	MY	MZ
APPLIED	8.88E-15	-6.43E-31	-373.994176	4.62E-30	-6.429042	3.52E-30
SPRINGS	-8.551336	5.68E-14	-46.388474	-1.90E-13	-6.336301	2.11E-14
REACTNS	8.551336	-5.68E-14	420.382650	1.90E-13	12.765343	-2.11E-14
TOTAL	-4.32E-13	-3.15E-27	3.61E-12	2.70E-26	-1.16E-12	1.07E-26

COMB COMB3 ---------- MAX

	FX	FY	FZ	MX	MY	MZ
APPLIED	-2.952475	-6.24E-31	-373.994176	5.13E-30	-22.722116	3.74E-30
SPRINGS	-5.384432	4.75E-14	-34.869907	-1.52E-13	-3.297311	1.34E-14
REACTNS	8.336907	-4.75E-14	408.864082	1.52E-13	26.019428	-1.34E-14
TOTAL	1.27E-13	-1.98E-27	3.28E-12	1.67E-26	4.25E-13	5.49E-27

G L O B A L F O R C E B A L A N C E

TOTAL FORCE AND MOMENT AT THE ORIGIN, IN GLOBAL COORDINATES

COMB COMB3 ---------- MIN

	FX	FY	FZ	MX	MY	MZ
APPLIED	-2.952475	-6.24E-31	-373.994176	4.54E-30	-22.722116	3.76E-30
SPRINGS	-5.379632	4.76E-14	-34.965595	-1.52E-13	-3.289056	1.34E-14
REACTNS	8.332307	-4.76E-14	408.960770	1.52E-13	26.011172	-1.34E-14
TOTAL	1.21E-13	-1.94E-27	3.29E-12	1.63E-26	3.87E-13	5.41E-27

COMB COMB4 ---------- MAX

	FX	FY	FZ	MX	MY	MZ
APPLIED	-2.952475	-6.24E-31	-373.994176	4.54E-30	-22.722116	3.76E-30
SPRINGS	-5.379632	4.76E-14	-34.965595	-1.52E-13	-3.289056	1.34E-14
REACTNS	8.332307	-4.76E-14	408.963770	1.52E-13	26.011172	-1.34E-14
TOTAL	1.21E-13	-1.94E-27	3.29E-12	1.63E-26	3.87E-13	5.41E-27

COMB COMB4 ---------- MIN

	FX	FY	FZ	MX	MY	MZ
APPLIED	-2.952475	-6.24E-31	-373.994176	4.54E-30	-22.722116	3.76E-30
SPRINGS	-5.379632	4.76E-14	-34.965595	-1.52E-13	-3.289056	1.34E-14
REACTNS	8.332307	-4.76E-14	408.963770	1.52E-13	26.011172	-1.34E-14
TOTAL	1.21E-13	-1.94E-27	3.29E-12	1.63E-26	3.87E-13	5.41E-27

F R A M E E L E M E N T I N T E R N A L F O R C E S

ELEM 1 ========== LENGTH = 0.503047

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-203.954047	53.380546	-6.80E-14	2.01E-14	-1.21E-13	51.728869
0.50000	-203.719060	53.325380	-6.80E-14	2.01E-14	-1.04E-13	38.306290
1.00000	-203.474073	53.269814	-6.79E-14	2.01E-14	-8.66E-14	24.903687

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-203.954047	53.380546	-6.80E-14	2.01E-14	-1.21E-13	51.728869
0.50000	-203.719060	53.325380	-6.80E-14	2.01E-14	-1.04E-13	38.306290
1.00000	-203.474073	53.269814	-6.79E-14	2.01E-14	-8.66E-14	24.903687

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-204.062183	53.201560	-6.79E-14	2.01E-14	-1.20E-13	50.114737
0.50000	-203.817196	53.145994	-6.79E-14	2.01E-14	-1.03E-13	36.740279
1.00000	-203.572210	53.090428	-6.78E-14	2.01E-14	-8.56E-14	23.379796

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-204.062183	53.201560	-6.79E-14	2.01E-14	-1.20E-13	50.114737
0.50000	-203.817196	53.145994	-6.79E-14	2.01E-14	-1.03E-13	36.740279
1.00000	-203.572210	53.090428	-6.78E-14	2.01E-14	-8.56E-14	23.379796

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-199.396214	51.916888	-6.28E-14	1.53E-14	-1.04E-13	49.612492
0.50000	-199.147819	51.876348	-6.28E-14	1.53E-14	-8.80E-14	36.559898
1.00000	-198.892611	51.865847	-6.28E-14	1.53E-14	-7.22E-14	23.513723

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-199.396214	51.916888	-6.28E-14	1.53E-14	-1.04E-13	49.612492
0.50000	-199.147819	51.876348	-6.28E-14	1.53E-14	-8.80E-14	36.559898
1.00000	-198.892611	51.865847	-6.28E-14	1.53E-14	-7.22E-14	23.513723

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-199.494350	51.737501	-6.27E-14	1.54E-14	-1.03E-13	47.998360
0.50000	-199.245956	51.696961	-6.27E-14	1.54E-14	-8.70E-14	34.990887
1.00000	-198.990748	51.686461	-6.27E-14	1.54E-14	-7.12E-14	21.989831

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-199.494350	51.737501	-6.27E-14	1.54E-14	-1.03E-13	47.998360
0.50000	-199.245956	51.696961	-6.27E-14	1.54E-14	-8.70E-14	34.990887
1.00000	-198.990748	51.686461	-6.27E-14	1.54E-14	-7.12E-14	21.989831

ELEM 2 ========== LENGTH = 0.503047

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-207.547039	36.752752	-5.46E-14	1.39E-14	-8.81E-14	24.903687
0.50000	-207.298035	36.719536	-5.46E-14	1.39E-14	-7.44E-14	15.663683
1.00000	-207.049032	36.686320	-5.46E-14	1.39E-14	-6.07E-14	6.432034

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-207.547039	36.752752	-5.46E-14	1.39E-14	-8.81E-14	24.903687
0.50000	-207.298035	36.719536	-5.46E-14	1.39E-14	-7.44E-14	15.663683
1.00000	-207.049032	36.686320	-5.46E-14	1.39E-14	-6.07E-14	6.432034

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-207.628552	36.564733	-5.45E-14	1.39E-14	-8.71E-14	23.379796
0.50000	-207.379549	36.531517	-5.45E-14	1.39E-14	-7.34E-14	14.187083
1.00000	-207.130545	36.498301	-5.45E-14	1.39E-14	-5.97E-14	5.002725

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-207.628552	36.564733	-5.45E-14	1.39E-14	-8.71E-14	23.379796
0.50000	-207.379549	36.531517	-5.45E-14	1.39E-14	-7.34E-14	14.187083
1.00000	-207.130545	36.498301	-5.45E-14	1.39E-14	-5.97E-14	5.002725

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-202.853603	35.681819	-4.97E-14	1.04E-14	-7.34E-14	23.513723
0.50000	-202.594373	35.725269	-4.98E-14	1.04E-14	-6.09E-14	14.534095
1.00000	-202.330988	35.799863	-4.98E-14	1.04E-14	-4.84E-14	5.539619

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-202.853603	35.681819	-4.97E-14	1.04E-14	-7.34E-14	23.513723
0.50000	-202.594373	35.725269	-4.98E-14	1.04E-14	-6.09E-14	14.534095
1.00000	-202.330988	35.799863	-4.98E-14	1.04E-14	-4.84E-14	5.539619

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-202.935116	35.493800	-4.96E-14	1.04E-14	-7.24E-14	21.989831
0.50000	-202.675886	35.537250	-4.97E-14	1.04E-14	-5.99E-14	13.057495
1.00000	-202.412501	35.611844	-4.97E-14	1.04E-14	-4.74E-14	4.110310

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-202.935116	35.493800	-4.96E-14	1.04E-14	-7.24E-14	21.989831
0.50000	-202.675886	35.537250	-4.97E-14	1.04E-14	-5.99E-14	13.057495
1.00000	-202.412501	35.611844	-4.97E-14	1.04E-14	-4.74E-14	4.110310

ELEM 3 ========== LENGTH = 0.503047

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-209.698657	21.880054	-4.19E-14	8.81E-15	-6.17E-14	6.432034
0.50000	-209.447671	21.869458	-4.19E-14	8.81E-15	-5.12E-14	0.930022
1.00000	-209.196686	21.858862	-4.19E-14	8.81E-15	-4.06E-14	-4.569325

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-209.698657	21.880054	-4.19E-14	8.81E-15	-6.17E-14	6.432034
0.50000	-209.447671	21.869458	-4.19E-14	8.81E-15	-5.12E-14	0.930022
1.00000	-209.196686	21.858862	-4.19E-14	8.81E-15	-4.06E-14	-4.569325

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-209.763024	21.689081	-4.18E-14	8.84E-15	-6.07E-14	5.002725
0.50000	-209.512038	21.678485	-4.18E-14	8.84E-15	-5.02E-14	-0.451253
1.00000	-209.261053	21.667889	-4.18E-14	8.84E-15	-3.97E-14	-5.902565

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-209.763024	21.689081	-4.18E-14	8.84E-15	-6.07E-14	5.002725
0.50000	-209.512038	21.678485	-4.18E-14	8.84E-15	-5.02E-14	-0.451253
1.00000	-209.261053	21.667889	-4.18E-14	8.84E-15	-3.97E-14	-5.902565

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-204.911259	21.233551	-3.74E-14	6.35E-15	-4.91E-14	5.539619
0.50000	-204.654356	21.363119	-3.75E-14	6.35E-15	-3.97E-14	0.183251
1.00000	-204.396124	21.524193	-3.76E-14	6.35E-15	-3.02E-14	-5.209672

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-204.911259	21.233851	-3.74E-14	6.35E-15	-4.51E-14	5.539219
0.50000	-204.654356	21.363119	-3.75E-14	6.35E-15	-3.97E-14	0.183751
1.00000	-204.396124	21.524193	-3.78E-14	6.35E-15	-3.00E-14	-5.209672

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-204.975626	21.042578	-3.73E-14	6.38E-15	-4.82E-14	4.110310
0.50000	-204.718724	21.172146	-3.74E-14	6.38E-15	-2.88E-14	-1.198023
1.00000	-204.460491	21.333220	-3.76E-14	6.39E-15	-2.91E-14	-6.542912

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-204.975626	21.042578	-3.73E-14	6.38E-15	-4.82E-14	4.110310
0.50000	-204.718724	21.172146	-3.74E-14	6.38E-15	-3.64E-14	-1.198023
1.00000	-204.460491	21.333220	-3.76E-14	6.38E-15	-2.50E-14	-6.542912

ELEM 4 ========== LENGTH = 0.503047

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-210.629789	9.816875	-2.41E-14	4.79E-15	-4.42E-14	-4.569325
0.50000	-210.408391	9.827562	-2.41E-14	4.79E-15	-3.81E-14	-7.039844
1.00000	-210.186994	9.838249	-2.41E-14	4.79E-15	-3.21E-14	-9.513051

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-210.629789	9.816875	-2.41E-14	4.79E-15	-4.42E-14	-4.569325
0.50000	-210.408391	9.827562	-2.41E-14	4.79E-15	-3.81E-14	-7.039844
1.00000	-210.186994	9.838249	-2.41E-14	4.79E-15	-3.21E-14	-9.513051

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-210.677420	9.637932	-2.41E-14	4.81E-15	-4.41E-14	-5.902565
0.50000	-210.456022	9.648619	-2.41E-14	4.81E-15	-3.81E-14	-8.328075
1.00000	-210.234625	9.659306	-2.42E-14	4.81E-15	-3.20E-14	-10.756274

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-210.677420	9.637932	-2.41E-14	4.81E-15	-4.41E-14	-5.902565
0.50000	-210.456022	9.648619	-2.41E-14	4.81E-15	-3.81E-14	-8.328075
1.00000	-210.234625	9.659306	-2.42E-14	4.81E-15	-3.20E-14	-10.756274

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-205.801964	9.545401	-2.02E-14	3.03E-15	-3.40E-14	-5.209672
0.50000	-205.590394	9.763272	-2.02E-14	3.23E-15	-2.90E-14	-7.637807
1.00000	-205.380325	10.006629	-2.03E-14	3.23E-15	-2.39E-14	-10.123701

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-205.801964	9.545401	-2.02E-14	3.03E-15	-3.40E-14	-5.209672
0.50000	-205.590394	9.763272	-2.02E-14	3.23E-15	-2.90E-14	-7.637807
1.00000	-205.380325	10.006629	-2.03E-14	3.23E-15	-2.39E-14	-10.123701

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-205.849615	9.370457	-2.02E-14	3.26E-15	-3.40E-14	-6.542912
0.50000	-205.638026	9.584329	-2.03E-14	3.26E-15	-2.89E-14	-8.926038
1.00000	-205.427956	9.829686	-2.03E-14	3.26E-15	-2.38E-14	-11.366924

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-205.849615	9.370457	-2.02E-14	3.26E-15	-3.40E-14	-6.542912
0.50000	-205.638026	9.584329	-2.03E-14	3.26E-15	-2.89E-14	-8.926038
1.00000	-205.427956	9.829686	-2.03E-14	3.26E-15	-2.38E-14	-11.366924

ELEM 5 ========== LENGTH = 0.503047

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-210.641088	0.198918	1.99E-14	1.77E-15	-3.24E-14	-9.513051
0.50000	-203.803850	1.153049	-2.00E-14	1.77E-15	-2.73E-14	-9.683532
1.00000	-197.123510	2.085284	-2.02E-14	1.77E-15	-2.23E-14	-10.091266

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-210.641088	0.198918	-1.99E-14	1.77E-15	-3.24E-14	-9.513051
0.50000	-203.803850	1.153049	-2.00E-14	1.77E-15	-2.73E-14	-9.683532
1.00000	-197.123510	2.085284	-2.02E-14	1.77E-15	-2.23E-14	-10.091266

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-210.673667	0.045143	-2.00E-14	1.78E-15	-3.23E-14	-10.756274
0.50000	-203.836428	0.999273	-2.01E-14	1.78E-15	-2.72E-14	-10.888077
1.00000	-197.156088	1.931508	-2.02E-14	1.78E-15	-2.22E-14	-11.257133

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-210.673667	0.045143	-2.00E-14	1.78E-15	-3.23E-14	-10.756274
0.50000	-203.836428	0.999273	-2.01E-14	1.78E-15	-2.72E-14	-10.888077
1.00000	-197.156088	1.931508	-2.02E-14	1.78E-15	-2.22E-14	-11.257133

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-205.843036	0.219012	-1.62E-14	9.56E-16	-2.41E-14	-10.123701
0.50000	-199.042620	1.437014	-1.64E-14	9.56E-16	-2.00E-14	-10.331771
1.00000	-192.403424	2.664079	-1.65E-14	9.56E-16	-1.58E-14	-10.847364

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-205.843036	0.219012	-1.62E-14	9.56E-16	-2.41E-14	-10.123701
0.50000	-199.042620	1.437014	-1.64E-14	9.56E-16	-2.00E-14	-10.331771
1.00000	-192.403424	2.664079	-1.65E-14	9.56E-16	-1.58E-14	-10.847364

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-205.875615	0.065237	-1.63E-14	9.71E-16	-2.40E-14	-11.366924
0.50000	-199.075199	1.283238	-1.64E-14	9.71E-16	-1.99E-14	-11.536316
1.00000	-192.436003	2.510303	-1.66E-14	9.71E-16	-1.57E-14	-12.013231

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-205.875615	0.065237	-1.63E-14	9.71E-16	-2.40E-14	-11.366924
0.50000	-199.075199	1.283238	-1.64E-14	9.71E-16	-1.99E-14	-11.536316
1.00000	-192.436003	2.510303	-1.66E-14	9.71E-16	-1.57E-14	-12.013231

ELEM 6 ========== LENGTH = 0.503048

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-197.000741	-4.798573	-1.58E-14	-3.59E-16	-2.23E-14	-10.091266
0.50000	-190.582551	-3.302035	-1.60E-14	-3.59E-16	-1.83E-14	-9.073255
1.00000	-184.316136	-1.840887	-1.62E-14	-3.59E-16	-1.43E-14	-8.427240

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-197.000741	-4.798573	-1.58E-14	-3.59E-16	-2.23E-14	-10.091266
0.50000	-190.582551	-3.302035	-1.60E-14	-3.59E-16	-1.83E-14	-9.073255
1.00000	-184.316136	-1.840887	-1.62E-14	-3.59E-16	-1.43E-14	-8.427240

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-197.020605	-4.925826	-1.58E-14	-3.49E-16	-2.22E-14	-11.257133
0.50000	-190.602415	-3.429288	-1.60E-14	-3.49E-16	-1.82E-14	-10.207115
1.00000	-184.336000	-1.968140	-1.62E-14	-3.49E-16	-1.42E-14	-9.529093

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-197.020605	-4.925826	-1.58E-14	-3.49E-16	-2.22E-14	-11.257133
0.50000	-190.602415	-3.429288	-1.60E-14	-3.49E-16	-1.82E-14	-10.207115
1.00000	-184.336000	-1.968140	-1.62E-14	-3.49E-16	-1.42E-14	-9.529093

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-192.314139	-4.637297	-1.24E-14	-5.95E-16	-1.58E-14	-10.847364
0.50000	-185.970614	-2.820543	-1.26E-14	-5.95E-16	-1.27E-14	-9.909560
1.00000	-179.785846	-1.009237	-1.28E-14	-5.95E-16	-9.48E-15	-9.428068

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-192.314139	-4.637297	-1.24E-14	-5.95E-16	-1.58E-14	-10.847364
0.50000	-185.970614	-2.820543	-1.26E-14	-5.95E-16	-1.27E-14	-9.909560
1.00000	-179.785846	-1.009237	-1.28E-14	-5.95E-16	-9.48E-15	-9.428068

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-192.334003	-4.764550	-1.24E-14	-5.84E-16	-1.57E-14	-12.013231
0.50000	-185.990478	-2.947796	-1.26E-14	-5.84E-16	-1.26E-14	-11.043419
1.00000	-179.805710	-1.136491	-1.29E-14	-5.84E-16	-9.38E-15	-10.529920

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-192.334003	-4.764550	-1.24E-14	-5.84E-16	-1.57E-14	-12.013231
0.50000	-185.990478	-2.947796	-1.26E-14	-5.84E-16	-1.26E-14	-11.043419
1.00000	-179.805710	-1.136491	-1.29E-14	-5.84E-16	-9.38E-15	-10.529920

ELEM 7 ========== LENGTH = 0.503047

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-183.917895	-6.961680	-1.18E-14	-1.74E-15	-1.42E-14	-8.427240
0.50000	-177.952934	-4.988265	-1.21E-14	-1.74E-15	-1.12E-14	-6.925387
1.00000	-172.132178	-3.062557	-1.23E-14	-1.74E-15	-8.12E-15	-5.913938

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-183.917855	-6.961560	-1.18E-14	-1.74E-15	-1.42E-14	-8.427240
0.50000	-177.962904	-4.968265	-1.21E-14	-1.74E-15	-1.12E-14	-6.925387
1.00000	-172.137178	-3.062557	-1.23E-14	-1.74E-15	-8.12E-15	-5.913938

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-183.927250	-7.066096	-1.19E-14	-1.73E-15	-1.41E-14	-9.529093
0.50000	-177.962290	-5.093261	-1.21E-14	-1.73E-15	-1.11E-14	-8.000826
1.00000	-172.141533	-3.187573	-1.23E-14	-1.73E-15	-8.02E-15	-6.962962

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-179.429187	-6.874203	-8.79E-15	-1.55E-15	-9.36E-15	-9.428068
0.50000	-173.586739	-4.530475	-9.08E-15	-1.55E-15	-7.13E-15	-7.994190
1.00000	-167.897911	-2.205954	-9.36E-15	-1.55E-15	-4.82E-15	-7.147448

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-179.429187	-6.874203	-8.79E-15	-1.55E-15	-9.36E-15	-9.428068
0.50000	-173.586739	-4.530475	-9.08E-15	-1.55E-15	-7.13E-15	-7.994190
1.00000	-167.897911	-2.205954	-9.36E-15	-1.55E-15	-4.82E-15	-7.147448

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-179.438543	-6.979219	-8.81E-15	-1.54E-15	-9.29E-15	-10.529920
0.50000	-173.596054	-4.635491	-9.09E-15	-1.54E-15	-7.03E-15	-9.069629
1.00000	-167.907266	-2.311010	-9.37E-15	-1.54E-15	-4.71E-15	-8.196472

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-179.438543	-6.979219	-8.81E-15	-1.54E-15	-9.29E-15	-10.529920
0.50000	-173.596054	-4.635491	-9.09E-15	-1.54E-15	-7.03E-15	-9.069629
1.00000	-167.907266	-2.311010	-9.37E-15	-1.54E-15	-4.71E-15	-8.196472

F R A M E E L E M E N T I N T E R N A L F O R C E S

ELEM 8 ========== LENGTH = 0.503047

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-171.662703	-7.314050	-8.16E-15	-2.53E-15	-7.93E-15	-5.913938
0.50000	-166.174540	-4.929220	-8.45E-15	-2.53E-15	-5.54E-15	-4.375420
1.00000	-160.820905	-2.602848	-8.74E-15	-2.53E-15	-3.68E-15	-3.429443

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-171.662703	-7.314050	-8.16E-15	-2.53E-15	-7.93E-15	-5.913938
0.50000	-166.174540	-4.929220	-8.45E-15	-2.53E-15	-5.54E-15	-4.375420
1.00000	-160.820905	-2.602848	-8.74E-15	-2.53E-15	-3.68E-15	-3.429443

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-171.663348	-7.401575	-8.18E-15	-2.53E-15	-7.82E-15	-6.962962
0.50000	-166.175185	-5.016746	-8.46E-15	-2.53E-15	-5.73E-15	-5.402430
1.00000	-160.821550	-2.690374	-8.75E-15	-2.53E-15	-3.57E-15	-4.434438

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-171.663348	-7.401575	-8.18E-15	-2.53E-15	-7.82E-15	-6.962962
0.50000	-166.175185	-5.016746	-8.46E-15	-2.53E-15	-5.73E-15	-5.402430
1.00000	-160.821550	-2.690374	-8.75E-15	-2.53E-15	-3.57E-15	-4.434438

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-167.454073	-7.603995	-5.57E-15	-2.06E-15	-4.65E-15	-7.147448
0.50000	-162.145118	-4.806757	-5.90E-15	-2.06E-15	-3.21E-15	-5.587309
1.00000	-156.982233	-2.041415	-6.24E-15	-2.06E-15	-1.68E-15	-4.726791

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-167.454073	-7.603995	-5.57E-15	-2.06E-15	-4.65E-15	-7.147448
0.50000	-162.145118	-4.806757	-5.90E-15	-2.06E-15	-3.21E-15	-5.587309
1.00000	-156.982233	-2.041415	-6.24E-15	-2.06E-15	-1.68E-15	-4.726791

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-167.454717	-7.691521	-5.58E-15	-2.05E-15	-4.55E-15	-8.196472
0.50000	-162.145762	-4.894283	-5.92E-15	-2.05E-15	-3.10E-15	-6.614318
1.00000	-156.982878	-2.128940	-6.25E-15	-2.05E-15	-1.57E-15	-5.731786

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-167.454717	-7.691521	-5.58E-15	-2.05E-15	-4.55E-15	-8.196472
0.50000	-162.145762	-4.894283	-5.92E-15	-2.05E-15	-3.10E-15	-6.614318
1.00000	-156.982878	-2.128940	-6.25E-15	-2.05E-15	-1.57E-15	-5.731786

ELEM 9 ========== LENGTH = 0.503060

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-160.405126	-6.577587	-4.90E-15	-2.89E-15	-3.43E-15	-3.429443
0.50000	-155.109614	-3.687125	-5.25E-15	-2.89E-15	-2.16E-15	-2.139901
1.00000	-149.936416	-0.863425	-5.59E-15	-2.89E-15	-7.92E-16	-1.569000

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-160.405126	-6.577587	-4.90E-15	-2.89E-15	-3.43E-15	-3.429443
0.50000	-155.109614	-3.687125	-5.25E-15	-2.89E-15	-2.16E-15	-2.139901
1.00000	-149.936416	-0.863425	-5.59E-15	-2.89E-15	-7.92E-16	-1.569000

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-160.398651	-6.648539	-4.91E-15	-2.88E-15	-3.32E-15	-4.434438
0.50000	-155.103139	-3.758077	-5.26E-15	-2.88E-15	-2.05E-15	-3.127049
1.00000	-149.929941	-0.934377	-5.60E-15	-2.88E-15	-6.80E-16	-2.538302

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-160.398651	-6.648539	-4.91E-15	-2.88E-15	-3.32E-15	-4.434438
0.50000	-155.103139	-3.758077	-5.26E-15	-2.88E-15	-2.05E-15	-3.127049
1.00000	-149.929941	-0.934377	-5.60E-15	-2.88E-15	-6.80E-16	-2.538302

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-156.543895	-7.657247	-2.84E-15	-2.25E-15	-1.49E-15	-4.726791
0.50000	-151.491332	-4.321688	-3.25E-15	-2.25E-15	-7.23E-16	-3.221151
1.00000	-146.574338	-1.028606	-3.64E-15	-2.25E-15	1.44E-16	-2.549161

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-156.543895	-7.657247	-2.84E-15	-2.25E-15	-1.49E-15	-4.726791
0.50000	-151.491332	-4.321688	-3.25E-15	-2.25E-15	-7.23E-16	-3.221151
1.00000	-146.574338	-1.028606	-3.64E-15	-2.25E-15	1.44E-16	-2.549161

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-156.537420	-7.728199	-2.85E-15	-2.25E-15	-1.38E-15	-5.731786
0.50000	-151.484857	-4.392640	-3.25E-15	-2.25E-15	-6.13E-16	-4.208299
1.00000	-146.567863	-1.099558	-3.65E-15	-2.25E-15	2.56E-16	-3.518463

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-156.537420	-7.728199	-2.85E-15	-2.25E-15	-1.38E-15	-5.731786
0.50000	-151.484857	-4.392640	-3.25E-15	-2.25E-15	-6.13E-16	-4.208299
1.00000	-146.567863	-1.099558	-3.65E-15	-2.25E-15	2.56E-16	-3.518463

ELEM 10 ========== LENGTH = 0.503126

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-149.776709	-2.626627	-2.41E-15	-2.95E-15	-5.78E-16	-1.569000
0.50000	-145.233813	0.303986	-2.77E-15	-2.95E-15	7.33E-17	-1.278372
1.00000	-140.803500	3.161971	-3.11E-15	-2.95E-15	8.13E-16	-1.715876

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-149.776709	-2.626627	-2.41E-15	-2.95E-15	-5.78E-16	-1.569000
0.50000	-145.233813	0.303986	-2.77E-15	-2.95E-15	7.33E-17	-1.278372
1.00000	-140.803500	3.161971	-3.11E-15	-2.95E-15	8.13E-16	-1.715876

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-149.765795	-2.674677	-2.42E-15	-2.95E-15	-4.66E-16	-2.538302
0.50000	-145.222899	0.255936	-2.77E-15	-2.95E-15	1.86E-16	-2.235586
1.00000	-140.792586	3.113921	-3.12E-15	-2.95E-15	9.27E-16	-2.661003

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-149.765795	-2.674677	-2.42E-15	-2.95E-15	-4.66E-16	-2.538302
0.50000	-145.222899	0.255936	-2.77E-15	-2.95E-15	1.86E-16	-2.235586
1.00000	-140.792586	3.113921	-3.12E-15	-2.95E-15	9.27E-16	-2.661003

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-146.327599	-5.073406	-1.00E-15	-2.26E-15	3.09E-16	-2.549161
0.50000	-142.089353	-1.670539	-1.42E-15	-2.26E-15	6.13E-16	-1.701945
1.00000	-137.978112	1.682057	-1.82E-15	-2.26E-15	1.02E-15	-1.704483

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB5 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-140.953117	1.719906	-3.88E-16	-2.90E-15	1.12E-15	-2.661003
0.50000	-136.826491	4.787985	-7.60E-16	-2.90E-15	1.27E-15	-3.481170
1.00000	-132.802616	7.779671	-1.12E-15	-2.90E-15	1.50E-15	-5.063580

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-130.529953	4.324142	4.42E-16	-2.12E-15	1.52E-15	-3.067812
0.50000	-127.238790	-0.646286	-3.76E-18	-2.12E-15	1.46E-15	-2.443885
1.00000	-124.055526	2.971098	-4.42E-16	-2.12E-15	1.52E-15	-2.737608

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-130.529953	-4.324142	4.42E-16	-2.12E-15	1.52E-15	-3.067812
0.50000	-127.238790	-0.646286	-3.76E-18	-2.12E-15	1.46E-15	-2.443885
1.00000	-124.055526	2.971098	-4.42E-16	-2.12E-15	1.52E-15	-2.737608

ELEM 13 ========== LENGTH = 0.503127

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-125.758249	-3.117993	1.98E-16	-2.76E-15	1.99E-15	-5.196996
0.50000	-122.425212	0.127626	-1.95E-16	-2.76E-15	1.99E-15	-4.822528
1.00000	-119.174050	3.293518	-5.79E-16	-2.76E-15	2.08E-15	-5.254549

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-125.758249	-3.117993	1.98E-16	-2.76E-15	1.99E-15	-5.196996
0.50000	-122.425212	0.127626	-1.95E-16	-2.76E-15	1.99E-15	-4.822528
1.00000	-119.174050	3.293518	-5.79E-16	-2.76E-15	2.08E-15	-5.254549

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-137.944185	-2.763674	2.45E-16	-2.20E-15	1.17E-15	-1.704483
0.50000	-134.154315	0.857750	-1.86E-16	-2.20E-15	1.16E-15	-1.473474
1.00000	-130.542516	4.363067	-6.11E-16	-2.20E-15	1.26E-15	-2.131367

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-137.944185	-2.763674	2.45E-16	-2.20E-15	1.17E-15	-1.704483
0.50000	-134.154315	0.857750	-1.86E-16	-2.20E-15	1.16E-15	-1.473474
1.00000	-130.542516	4.363067	-6.11E-16	-2.20E-15	1.26E-15	-2.131367

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-137.931102	-2.720880	2.47E-16	-2.20E-15	1.28E-15	-2.649609
0.50000	-134.171232	0.840494	-1.84E-16	-2.20E-15	1.27E-15	-2.414259
1.00000	-130.529233	4.345811	-6.08E-16	-2.20E-15	1.37E-15	-3.067812

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-137.931102	-2.720880	2.47E-16	-2.20E-15	1.28E-15	-2.649609
0.50000	-134.171232	0.840494	-1.84E-16	-2.20E-15	1.27E-15	-2.414259
1.00000	-130.529233	4.345811	-6.08E-16	-2.20E-15	1.37E-15	-3.067812

ELEM 12 ========== LENGTH = 0.503125

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-133.040356	-1.032334	-5.50E-17	-2.84E-15	1.58E-15	-4.127136
0.50000	-129.318007	2.139497	-4.39E-16	-2.84E-15	1.64E-15	-4.268040
1.00000	-125.688021	5.232624	-8.14E-16	-2.84E-15	1.80E-15	-5.196996

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-133.040356	-1.032334	-5.50E-17	-2.84E-15	1.58E-15	-4.127136
0.50000	-129.318007	2.139497	-4.39E-16	-2.84E-15	1.64E-15	-4.268040
1.00000	-125.688021	5.232624	-8.14E-16	-2.84E-15	1.80E-15	-5.196996

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-133.026157	-1.048683	-5.28E-17	-2.84E-15	1.69E-15	-5.063580
0.50000	-129.303808	2.123147	-4.37E-16	-2.84E-15	1.75E-15	-5.200372
1.00000	-125.673822	5.216275	-8.12E-16	-2.84E-15	1.91E-15	-6.125215

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-133.026157	-1.048683	-5.28E-17	-2.84E-15	1.69E-15	-5.063580
0.50000	-129.303808	2.123147	-4.37E-16	-2.84E-15	1.75E-15	-5.200372
1.00000	-125.673822	5.216275	-8.12E-16	-2.84E-15	1.91E-15	-6.125215

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-130.544152	-4.307792	4.39E-16	-2.13E-15	1.41E-15	-2.131367
0.50000	-127.252989	-0.629937	-5.96E-18	-2.13E-15	1.35E-15	-1.511553
1.00000	-124.069725	2.987447	-4.44E-16	-2.13E-15	1.41E-15	-1.809389

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-130.544152	-4.307792	4.39E-16	-2.13E-15	1.41E-15	-2.131367
0.50000	-127.252989	-0.629937	-5.96E-18	-2.13E-15	1.35E-15	-1.511553
1.00000	-124.069725	2.987447	-4.44E-16	-2.13E-15	1.41E-15	-1.809389

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-130.529953	-4.324142	4.42E-16	-2.12E-15	1.52E-15	-3.067812
0.50000	-127.238790	-0.646286	-3.76E-18	-2.12E-15	1.46E-15	-2.443885
1.00000	-124.055526	2.971098	-4.42E-16	-2.12E-15	1.52E-15	-2.737608

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-130.529953	-4.324142	4.42E-16	-2.12E-15	1.52E-15	-3.067812
0.50000	-127.238790	-0.646286	-3.76E-18	-2.12E-15	1.46E-15	-2.443885
1.00000	-124.055526	2.971098	-4.42E-16	-2.12E-15	1.52E-15	-2.737608

ELEM 13 ========== LENGTH = 0.503127

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-125.758249	-3.117993	1.98E-16	-2.76E-15	1.99E-15	-5.196996
0.50000	-122.425212	0.127626	-1.95E-16	-2.76E-15	1.99E-15	-4.822528
1.00000	-119.174050	3.293518	-5.79E-16	-2.76E-15	2.08E-15	-5.254549

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-125.758249	-3.117993	1.98E-16	-2.76E-15	1.99E-15	-5.196996
0.50000	-122.425212	0.127626	-1.95E-16	-2.76E-15	1.99E-15	-4.822528
1.00000	-119.174050	3.293518	-5.79E-16	-2.76E-15	2.08E-15	-5.254549

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-125.742996	-3.133364	2.00E-16	-2.75E-15	2.10E-15	-6.125215
0.50000	-122.409960	0.112255	-1.93E-16	-2.75E-15	2.10E-15	-5.746880
1.00000	-119.158798	3.278146	-5.77E-16	-2.75E-15	2.19E-15	-6.175034

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-125.742996	-3.133364	2.00E-16	-2.75E-15	2.10E-15	-6.125215
0.50000	-122.409960	0.112255	-1.93E-16	-2.75E-15	2.10E-15	-5.746880
1.00000	-119.158798	3.278146	-5.77E-16	-2.75E-15	2.19E-15	-6.175034

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-123.994557	-5.250853	5.54E-16	-2.04E-15	1.55E-15	-1.809389
0.50000	-121.158370	-1.495002	9.88E-17	-2.04E-15	1.46E-15	-0.962209
1.00000	-118.419800	2.197287	-3.48E-16	-2.04E-15	1.50E-15	-1.051914

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-123.994557	-5.250853	5.54E-16	-2.04E-15	1.55E-15	-1.809389
0.50000	-121.158370	-1.495002	9.88E-17	-2.04E-15	1.46E-15	-0.962209
1.00000	-118.419800	2.197287	-3.48E-16	-2.04E-15	1.50E-15	-1.051914

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-123.979304	-5.266224	5.56E-16	-2.04E-15	1.66E-15	-2.737608
0.50000	-121.143117	-1.510374	1.01E-16	-2.04E-15	1.57E-15	-1.886561
1.00000	-118.404547	2.181916	-3.46E-16	-2.04E-15	1.61E-15	-1.972399

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-123.979304	-5.266224	5.56E-16	-2.04E-15	1.66E-15	-2.737608
0.50000	-121.143117	-1.510374	1.01E-16	-2.04E-15	1.57E-15	-1.886561
1.00000	-118.404547	2.181916	-3.46E-16	-2.04E-15	1.61E-15	-1.972399

ELEM 14 ========== LENGTH = 0.503126

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-119.129981	-4.620516	3.80E-16	-2.65E-15	2.26E-15	-5.254549
0.50000	-116.169277	-1.327370	-1.93E-17	-2.65E-15	2.22E-15	-4.508070
1.00000	-113.279832	1.886516	-4.08E-16	-2.65E-15	2.27E-15	-4.580095

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-119.129861	-4.650610	3.80E-16	-2.65E-15	2.26E-15	-5.264549
0.50000	-116.169277	-1.327370	-1.90E-17	-2.65E-15	2.27E-15	-4.508070
1.00000	-113.279832	1.995616	-4.08E-16	-2.65E-15	2.27E-15	-4.580095

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-119.113742	-4.634842	3.82E-16	-2.65E-15	2.37E-15	-6.175034
0.50000	-116.153038	-1.341095	-1.73E-17	-2.65E-15	2.33E-15	-5.424952
1.00000	-113.263593	1.872190	-4.07E-16	-2.65E-15	2.38E-15	-5.493372

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-119.113742	-4.634842	3.82E-16	-2.65E-15	2.37E-15	-6.175034
0.50000	-116.153038	-1.341095	-1.73E-17	-2.65E-15	2.33E-15	-5.424952
1.00000	-113.263593	1.872190	-4.07E-16	-2.65E-15	2.38E-15	-5.493372

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-118.304661	-5.664289	6.04E-16	-1.95E-15	1.63E-15	-1.051914
0.50000	-115.906721	-1.865190	1.44E-16	-1.95E-15	1.53E-15	-0.106202
1.00000	-113.595786	1.868808	-3.09E-16	-1.95E-15	1.56E-15	-0.108060

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-118.304661	-5.664289	6.04E-16	-1.95E-15	1.63E-15	-1.051914
0.50000	-115.906721	-1.865190	1.44E-16	-1.95E-15	1.53E-15	-0.106202
1.00000	-113.595788	1.868808	-3.09E-16	-1.95E-15	1.56E-15	-0.108060

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-118.288422	-5.678615	6.06E-16	-1.95E-15	1.74E-15	-1.972399
0.50000	-115.890482	-1.879515	1.46E-16	-1.95E-15	1.64E-15	-1.023084
1.00000	-113.579550	1.854482	-3.07E-16	-1.95E-15	1.66E-15	-1.021338

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-118.288422	-5.678615	6.06E-16	-1.95E-15	1.74E-15	-1.972399
0.50000	-115.890482	-1.879515	1.46E-16	-1.95E-15	1.64E-15	-1.023084
1.00000	-113.579550	1.854482	-3.07E-16	-1.95E-15	1.66E-15	-1.021338

F R A M E E L E M E N T I N T E R N A L F O R C E S

ELEM 15 ========== LENGTH = 0.503126

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-113.155395	-5.633441	5.02E-16	-2.53E-15	2.45E-15	-4.580095
0.50000	-110.545364	-2.314914	1.00E-16	-2.53E-15	2.37E-15	-3.561957
1.00000	-108.002230	0.926142	-2.92E-16	-2.53E-15	2.39E-15	-3.408933

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-113.155395	-5.633441	5.02E-16	-2.53E-15	2.45E-15	-4.580095
0.50000	-110.545364	-2.314914	1.00E-16	-2.53E-15	2.37E-15	-3.561957
1.00000	-108.002230	0.926142	-2.92E-16	-2.53E-15	2.39E-15	-3.408933

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-113.138242	-5.646658	5.04E-16	-2.53E-15	2.55E-15	-5.493372
0.50000	-110.531230	-2.328131	1.02E-16	-2.53E-15	2.48E-15	-4.491910
1.00000	-107.995077	0.912929	-2.90E-16	-2.53E-15	2.50E-15	-4.315561

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-113.138242	-5.646658	5.04E-16	-2.53E-15	2.55E-15	-5.493372
0.50000	-110.531230	-2.328131	1.02E-16	-2.53E-15	2.48E-15	-4.491910
1.00000	-107.995077	0.912929	-2.90E-16	-2.53E-15	2.50E-15	-4.315561

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-113.469481	-5.672073	6.05E-16	-1.84E-15	1.68E-15	-0.108060
0.50000	-111.490301	-1.860326	1.43E-16	-1.84E-15	1.59E-15	0.838010
1.00000	-109.587243	1.885946	-3.11E-16	-1.84E-15	1.61E-15	0.833376

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-113.469481	-5.672073	6.05E-16	-1.84E-15	1.68E-15	-0.108060
0.50000	-111.490301	-1.860326	1.43E-16	-1.84E-15	1.59E-15	0.838010
1.00000	-109.587243	1.885946	-3.11E-16	-1.84E-15	1.61E-15	0.833376

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-113.452328	-5.685290	6.06E-16	-1.84E-15	1.79E-15	-1.021338
0.50000	-111.473148	-1.873542	1.45E-16	-1.84E-15	1.70E-15	-0.071943
1.00000	-109.570090	1.872729	-3.09E-16	-1.84E-15	1.72E-15	-0.073252

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-113.452328	-5.685290	6.06E-16	-1.84E-15	1.79E-15	-1.021338
0.50000	-111.473148	-1.873542	1.45E-16	-1.84E-15	1.70E-15	-0.071943
1.00000	-109.570090	1.872729	-3.09E-16	-1.84E-15	1.72E-15	-0.073252

ELEM 16 ========== LENGTH = 0.503126

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-107.825690	-6.241789	5.76E-16	-2.40E-15	2.56E-15	-3.408933
0.50000	-105.552937	-2.916118	1.73E-16	-2.40E-15	2.46E-15	-2.258590
1.00000	-103.331002	0.335191	-2.21E-16	-2.40E-15	2.47E-15	-1.935549

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-107.825690	-6.241789	5.76E-16	-2.40E-15	2.56E-15	-3.408933
0.50000	-105.552937	-2.916118	1.73E-16	-2.40E-15	2.46E-15	-2.258590
1.00000	-103.331002	0.335191	-2.21E-16	-2.40E-15	2.47E-15	-1.935549

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-107.807698	-6.253838	5.78E-16	-2.39E-15	2.66E-15	-4.315561
0.50000	-105.534944	-2.928168	1.75E-16	-2.39E-15	2.57E-15	-3.162187
1.00000	-103.313009	0.323141	-2.19E-16	-2.39E-15	2.58E-15	-2.836115

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-107.807698	-6.253838	5.78E-16	-2.39E-15	2.66E-15	-4.315561
0.50000	-105.534944	-2.928168	1.75E-16	-2.39E-15	2.57E-15	-3.162187
1.00000	-103.313009	0.323141	-2.19E-16	-2.39E-15	2.58E-15	-2.836115

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-109.470893	-5.389268	5.70E-16	-1.72E-15	1.73E-15	0.833376
0.50000	-107.888832	-1.591581	1.10E-16	-1.72E-15	1.64E-15	1.710097
1.00000	-106.372262	2.141772	-3.42E-16	-1.72E-15	1.67E-15	1.639506

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-109.470893	-5.389268	5.70E-16	-1.72E-15	1.73E-15	0.833376
0.50000	-107.888832	-1.591581	1.10E-16	-1.72E-15	1.64E-15	1.710097
1.00000	-106.372262	2.141772	-3.42E-16	-1.72E-15	1.67E-15	1.639506

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-109.452901	-5.401318	5.72E-16	-1.72E-15	1.83E-15	-0.073252
0.50000	-107.870839	-1.603631	1.12E-16	-1.72E-15	1.75E-15	0.806500
1.00000	-106.354269	2.129723	-3.40E-16	-1.72E-15	1.78E-15	0.738941

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-109.452901	-5.401318	5.72E-16	-1.72E-15	1.83E-15	-0.073252
0.50000	-107.870839	-1.603631	1.12E-16	-1.72E-15	1.75E-15	0.806500
1.00000	-106.354269	2.129723	-3.40E-16	-1.72E-15	1.78E-15	0.738941

ELEM 17 ========== LENGTH = 0.503126

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-103.125568	-6.521160	6.10E-16	-2.24E-15	2.62E-15	-1.935549
0.50000	-101.167320	-3.202603	2.08E-16	-2.24E-15	2.52E-15	-0.713935
1.00000	-99.250233	0.046199	-1.86E-16	-2.24E-15	2.52E-15	-0.318412

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-103.125568	-6.521160	6.10E-16	-2.24E-15	2.62E-15	-1.935549
0.50000	-101.167320	-3.202603	2.08E-16	-2.24E-15	2.52E-15	-0.713935
1.00000	-99.250233	0.046199	-1.86E-16	-2.24E-15	2.52E-15	-0.318412

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-103.106816	-6.531989	6.11E-16	-2.24E-15	2.73E-15	-2.836115
0.50000	-101.148568	-3.213432	2.09E-16	-2.24E-15	2.63E-15	-1.611776
1.00000	-99.231481	0.035370	-1.84E-16	-2.24E-15	2.62E-15	-1.213530

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-103.106816	-6.531989	6.11E-16	-2.24E-15	2.73E-15	-2.836115
0.50000	-101.148568	-3.213432	2.09E-16	-2.24E-15	2.63E-15	-1.611776
1.00000	-99.231481	0.035370	-1.84E-16	-2.24E-15	2.62E-15	-1.213530

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-106.279987	-4.920335	5.14E-16	-1.60E-15	1.78E-15	1.639506
0.50000	-105.072232	-1.158919	5.81E-17	-1.60E-15	1.71E-15	2.402880
1.00000	-103.919426	2.540878	-3.90E-16	-1.60E-15	1.75E-15	2.227726

F R A M E E L E M E N T I N T E R N A L F O R C E S

ELEM COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-102.261235	-4.931164	5.15E-16	-1.59E-15	1.89E-15	0.738941
0.50000	-103.063480	-1.169748	5.96E-17	-1.59E-15	1.82E-15	1.505039
1.00000	-103.990674	2.530049	-3.88E-16	-1.59E-15	1.86E-15	1.332608

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-102.261235	-4.931164	5.15E-16	-1.59E-15	1.89E-15	0.738941
0.50000	-103.063480	-1.169748	5.96E-17	-1.59E-15	1.82E-15	1.505039
1.00000	-103.990674	2.530049	-3.88E-16	-1.59E-15	1.86E-15	1.332608

ELEM 18 ========== LENGTH = 0.503126

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-99.034600	-6.539028	6.12E-16	-2.07E-15	2.66E-15	-0.318412
0.50000	-97.371938	-3.237764	2.12E-16	-2.07E-15	2.56E-15	0.909990
1.00000	-95.740880	-0.000617	-1.80E-16	-2.07E-15	2.55E-15	1.315942

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-99.034600	-6.539028	6.12E-16	-2.07E-15	2.66E-15	-0.318412
0.50000	-97.371938	-3.237764	2.12E-16	-2.07E-15	2.56E-15	0.909990
1.00000	-95.740880	-0.000617	-1.80E-16	-2.07E-15	2.55E-15	1.315942

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-99.015171	-6.548590	6.13E-16	-2.07E-15	2.77E-15	-1.213530
0.50000	-97.351909	-3.247325	2.13E-16	-2.07E-15	2.66E-15	0.017278
1.00000	-95.720951	-0.010179	-1.79E-16	-2.07E-15	2.66E-15	0.425635

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-99.015171	-6.548590	6.13E-16	-2.07E-15	2.77E-15	-1.213530
0.50000	-97.351909	-3.247325	2.13E-16	-2.07E-15	2.66E-15	0.017278
1.00000	-95.720951	-0.010179	-1.79E-16	-2.07E-15	2.66E-15	0.425635

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-103.859023	-4.359642	4.46E-16	-1.46E-15	1.85E-15	2.227726
0.50000	-103.001897	-0.652225	-3.27E-16	-1.46E-15	1.80E-15	2.656922
1.00000	-102.189685	2.997426	-4.45E-16	-1.46E-15	1.85E-15	2.560691

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-103.859023	-4.359642	4.46E-16	-1.46E-15	1.85E-15	2.227726
0.50000	-103.001897	-0.652225	-3.27E-16	-1.46E-15	1.80E-15	2.656922
1.00000	-102.189685	2.997426	-4.45E-16	-1.46E-15	1.85E-15	2.560691

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-103.839594	-4.369203	4.47E-16	-1.46E-15	1.96E-15	1.332608
0.50000	-102.982468	-0.661786	-1.68E-16	-1.46E-15	1.90E-15	1.964210
1.00000	-102.170255	2.987865	-4.44E-16	-1.46E-15	1.96E-15	1.670384

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-103.839594	-4.369203	4.47E-16	-1.46E-15	1.96E-15	1.332608
0.50000	-102.982468	-0.661786	-1.68E-16	-1.46E-15	1.90E-15	1.964210
1.00000	-102.170255	2.987865	-4.44E-16	-1.46E-15	1.96E-15	1.670384

ELEM 19 ========== LENGTH = 0.503126

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-95.529382	-6.352766	5.89E-16	-1.89E-15	2.69E-15	1.315942
0.50000	-94.142660	-3.075667	1.92E-16	-1.89E-15	2.59E-15	2.500668
1.00000	-92.780236	0.144012	-1.97E-16	-1.89E-15	2.59E-15	2.868180

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-95.529382	-6.352766	5.89E-16	-1.89E-15	2.69E-15	1.315942
0.50000	-94.142660	-3.075667	1.92E-16	-1.89E-15	2.59E-15	2.500668
1.00000	-92.780236	0.144012	-1.97E-16	-1.89E-15	2.59E-15	2.868180

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-95.509361	-6.361017	5.91E-16	-1.89E-15	2.79E-15	0.425635
0.50000	-94.122639	-3.083918	1.94E-16	-1.89E-15	2.69E-15	1.612437
1.00000	-92.760215	0.135761	-1.96E-16	-1.89E-15	2.69E-15	1.982024

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-95.509361	-6.361017	5.91E-16	-1.89E-15	2.79E-15	0.425635
0.50000	-94.122639	-3.083918	1.94E-16	-1.89E-15	2.69E-15	1.612437
1.00000	-92.760215	0.135761	-1.96E-16	-1.89E-15	2.69E-15	1.982024

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-102.163389	-3.789224	3.77E-16	-1.31E-15	1.95E-15	2.560691
0.50000	-101.633286	-0.149642	-6.41E-17	-1.31E-15	1.91E-15	3.055032
1.00000	-101.138743	3.437285	-4.99E-16	-1.31E-15	1.98E-15	2.640366

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-102.163389	-3.789224	3.77E-16	-1.31E-15	1.95E-15	2.560691
0.50000	-101.633286	-0.149642	-6.41E-17	-1.31E-15	1.91E-15	3.055032
1.00000	-101.138743	3.437285	-4.99E-16	-1.31E-15	1.98E-15	2.640366

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-102.143368	-3.797475	3.78E-16	-1.31E-15	2.05E-15	1.670384
0.50000	-101.613265	-0.157893	-6.29E-17	-1.31E-15	2.01E-15	2.166800
1.00000	-101.118722	3.429034	-4.97E-16	-1.31E-15	2.08E-15	1.754211

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-102.143368	-3.797475	3.78E-16	-1.31E-15	2.05E-15	1.670384
0.50000	-101.613265	-0.157893	-6.29E-17	-1.31E-15	2.01E-15	2.166800
1.00000	-101.118722	3.429034	-4.97E-16	-1.31E-15	2.08E-15	1.754211

ELEM 20 ========== LENGTH = 0.503126

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-92.585361	-6.011974	5.48E-16	-1.69E-15	2.71E-15	2.868180
0.50000	-91.458139	-2.762571	1.55E-16	-1.69E-15	2.62E-15	3.970824
1.00000	-90.348092	0.437324	-2.33E-16	-1.69E-15	2.63E-15	4.262227

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-92.585361	-6.011974	5.48E-16	-1.69E-15	2.71E-15	2.868180
0.50000	-91.458139	-2.762571	1.55E-16	-1.69E-15	2.62E-15	3.970824
1.00000	-90.348092	0.437324	-2.33E-16	-1.69E-15	2.63E-15	4.262227

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-92.564837	-6.018878	5.49E-16	-1.69E-15	2.81E-15	1.982024
0.50000	-91.437615	-2.769476	1.56E-16	-1.69E-15	2.72E-15	3.086405
1.00000	-90.327567	0.430419	-2.32E-16	-1.69E-15	2.73E-15	3.379545

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-92.564837	-6.018878	5.49E-16	-1.69E-15	2.81E-15	1.982024
0.50000	-91.437615	-2.769476	1.56E-16	-1.69E-15	2.72E-15	3.086405
1.00000	-90.327567	0.430419	-2.32E-16	-1.69E-15	2.73E-15	3.379545

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-101.143949	-3.280517	3.15E-16	-1.16E-15	2.06E-15	2.640366
0.50000	-100.917907	0.281506	-1.16E-16	-1.16E-15	2.03E-15	3.016627
1.00000	-100.718808	3.797410	-5.42E-16	-1.16E-15	2.12E-15	2.502572

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-101.143949	-3.280517	3.15E-16	-1.16E-15	2.06E-15	2.640366
0.50000	-100.917907	0.281506	-1.16E-16	-1.16E-15	2.03E-15	3.016627
1.00000	-100.718808	3.797410	-5.42E-16	-1.16E-15	2.12E-15	2.502572

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-101.123425	-3.287422	3.16E-16	-1.15E-15	2.16E-15	1.754211
0.50000	-100.897383	0.274601	-1.15E-16	-1.15E-15	2.14E-15	2.132208
1.00000	-100.698284	3.790506	-5.41E-16	-1.15E-15	2.22E-15	1.619890

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-101.123425	-3.287422	3.16E-16	-1.15E-15	2.16E-15	1.754211
0.50000	-100.897383	0.274601	-1.15E-16	-1.15E-15	2.14E-15	2.132208
1.00000	-100.698284	3.790506	-5.41E-16	-1.15E-15	2.22E-15	1.619890

ELEM 21 ========== LENGTH = 0.503126

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-90.178019	-5.558225	4.93E-16	-1.48E-15	2.73E-15	4.262227
0.50000	-89.295062	-2.336724	1.03E-16	-1.48E-15	2.66E-15	5.254417
1.00000	-88.423261	0.844075	-2.82E-16	-1.48E-15	2.68E-15	5.441279

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB FRME1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-90.157082	-5.556225	4.93E-16	-1.48E-15	2.73E-15	4.262227
0.50000	-89.299062	-2.336724	1.03E-16	-1.48E-15	2.66E-15	5.254417
1.00000	-88.429251	0.844075	-2.82E-16	-1.48E-15	2.68E-15	5.441279

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-90.157082	-5.563753	4.94E-16	-1.48E-15	2.84E-15	3.379545
0.50000	-89.274125	-2.342251	1.04E-16	-1.48E-15	2.76E-15	4.373126
1.00000	-88.402324	0.838548	-2.81E-16	-1.48E-15	2.78E-15	4.561379

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-90.157082	-5.563753	4.94E-16	-1.48E-15	2.84E-15	3.379545
0.50000	-89.274125	-2.342251	1.04E-16	-1.48E-15	2.76E-15	4.373126
1.00000	-88.402324	0.838548	-2.81E-16	-1.48E-15	2.78E-15	4.561379

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-100.748824	-2.893639	2.68E-16	-9.93E-16	2.19E-15	2.502572
0.50000	-100.804909	0.585238	-1.53E-16	-9.93E-16	2.17E-15	2.792125
1.00000	-100.680058	4.025578	-5.70E-16	-9.93E-16	2.27E-15	2.211328

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-100.748824	-2.893639	2.68E-16	-9.93E-16	2.19E-15	2.502572
0.50000	-100.804909	0.585238	-1.53E-16	-9.93E-16	2.17E-15	2.792125
1.00000	-100.680058	4.025578	-5.70E-16	-9.93E-16	2.27E-15	2.211328

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-100.727687	-2.899166	2.69E-16	-9.92E-16	2.29E-15	1.619890
0.50000	-100.783972	0.579710	-1.52E-16	-9.92E-16	2.28E-15	1.910834
1.00000	-100.859121	4.020051	-5.69E-16	-9.92E-16	2.37E-15	1.331427

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-100.727687	-2.899166	2.69E-16	-9.92E-16	2.29E-15	1.619890
0.50000	-100.783972	0.579710	-1.52E-16	-9.92E-16	2.28E-15	1.910834
1.00000	-100.859121	4.020051	-5.69E-16	-9.92E-16	2.37E-15	1.331427

F R A M E E L E M E N T I N T E R N A L F O R C E S

ELEM 22 ========== LENGTH = 0.503126

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-88.264437	-5.024218	4.28E-16	-1.25E-15	2.77E-15	5.441279
0.50000	-87.632888	-1.626487	4.14E-17	-1.25E-15	2.71E-15	6.302581
1.00000	-86.987756	1.335867	-3.42E-16	-1.25E-15	2.75E-15	6.363851

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-88.264437	-5.024218	4.28E-16	-1.25E-15	2.77E-15	5.441279
0.50000	-87.632888	-1.626487	4.14E-17	-1.25E-15	2.71E-15	6.302581
1.00000	-86.987756	1.335867	-3.42E-16	-1.25E-15	2.75E-15	6.363851

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-88.263179	-5.028444	4.29E-16	-1.25E-15	2.88E-15	4.561379
0.50000	-87.611839	1.532658	4.22E-17	-1.25E-15	2.82E-15	5.423718
1.00000	-86.966500	1.331741	-3.41E-16	-1.25E-15	2.85E-15	5.486026

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-88.263179	-5.028444	4.29E-16	-1.25E-15	2.88E-15	4.561379
0.50000	-87.611839	1.532658	4.22E-17	-1.25E-15	2.82E-15	5.423718
1.00000	-86.966500	1.331741	-3.41E-16	-1.25E-15	2.85E-15	5.486026

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-100.924867	-2.676283	2.42E-16	-8.23E-16	2.33E-15	2.211328
0.50000	-101.242650	0.717175	-1.69E-16	-8.23E-16	2.32E-15	2.457120
1.00000	-101.572914	4.080382	-5.76E-16	-8.23E-16	2.41E-15	1.853008

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-100.924867	-2.676283	2.42E-16	-8.23E-16	2.33E-15	2.211328
0.50000	-101.242650	0.717175	-1.69E-16	-8.23E-16	2.32E-15	2.457120
1.00000	-101.572914	4.080382	-5.76E-16	-8.23E-16	2.41E-15	1.853008

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-100.903610	-2.680409	2.43E-16	-8.21E-16	2.43E-15	1.331427
0.50000	-101.221393	0.713049	-1.68E-16	-8.21E-16	2.42E-15	1.578257
1.00000	-101.551657	4.076255	-5.76E-16	-8.21E-16	2.51E-15	0.975183

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-100.903610	-2.680409	2.43E-16	-8.21E-16	2.43E-15	1.331427
0.50000	-101.221393	0.713049	-1.68E-16	-8.21E-16	2.42E-15	1.578257
1.00000	-101.551657	4.076255	-5.76E-16	-8.21E-16	2.51E-15	0.975183

ELEM 23 ========== LENGTH = 0.503126

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-86.884717	-4.438524	3.58E-16	-1.02E-15	2.83E-15	6.363851
0.50000	-86.454480	-1.264337	-2.69E-17	-1.02E-15	2.79E-15	7.080723
1.00000	-86.027139	1.888481	-4.09E-16	-1.02E-15	2.84E-15	7.001738

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-86.884717	-4.438524	3.58E-16	-1.02E-15	2.83E-15	6.363851
0.50000	-86.454480	-1.264337	-2.69E-17	-1.02E-15	2.79E-15	7.080723
1.00000	-86.027139	1.888481	-4.09E-16	-1.02E-15	2.84E-15	7.001738

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-86.863233	-4.441230	3.58E-16	-1.01E-15	2.93E-15	5.486026
0.50000	-86.432995	-1.267044	-2.63E-17	-1.01E-15	2.89E-15	6.203579
1.00000	-86.005654	1.885774	-4.08E-16	-1.01E-15	2.94E-15	6.125275

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-86.863233	-4.441230	3.58E-16	-1.01E-15	2.93E-15	5.486026
0.50000	-86.432995	-1.267044	-2.63E-17	-1.01E-15	2.89E-15	6.203579
1.00000	-86.005654	1.885774	-4.08E-16	-1.01E-15	2.94E-15	6.125275

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-101.619828	-2.667750	2.41E-16	-6.46E-16	2.46E-15	1.853008
0.50000	-102.181365	0.640864	-1.60E-16	-6.46E-16	2.45E-15	2.107523
1.00000	-102.749933	3.928670	-5.58E-16	-6.46E-16	2.54E-15	1.532291

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-101.619828	-2.667750	2.41E-16	-6.46E-16	2.46E-15	1.853008
0.50000	-102.181365	0.640864	-1.60E-16	-6.46E-16	2.45E-15	2.107523
1.00000	-102.749933	3.928670	-5.58E-16	-6.46E-16	2.54E-15	1.532291

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-101.598344	-2.670457	2.41E-16	-6.45E-16	2.56E-15	0.975183
0.50000	-102.159880	0.638157	-1.59E-16	-6.45E-16	2.55E-15	1.230379
1.00000	-102.728448	3.925963	-5.57E-16	-6.45E-16	2.64E-15	0.655828

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-101.598344	-2.670457	2.41E-16	-6.45E-16	2.56E-15	0.975183
0.50000	-102.159880	0.638157	-1.59E-16	-6.45E-16	2.55E-15	1.230379
1.00000	-102.728448	3.925963	-5.57E-16	-6.45E-16	2.64E-15	0.655828

ELEM 24 ========== LENGTH = 0.503126

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-85.962885	-3.823274	2.83E-16	-7.69E-16	2.90E-15	7.001738
0.50000	-85.746742	-0.664805	-9.95E-17	-7.69E-16	2.88E-15	7.566026
1.00000	-85.531367	2.482444	-4.81E-16	-7.69E-16	2.95E-15	7.337134

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-85.962885	-3.823274	2.83E-16	-7.69E-16	2.90E-15	7.001738
0.50000	-85.746742	-0.664805	-9.95E-17	-7.69E-16	2.88E-15	7.566026
1.00000	-85.531367	2.482444	-4.81E-16	-7.69E-16	2.95E-15	7.337134

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-85.941268	-3.824550	2.83E-16	-7.68E-16	3.00E-15	6.125275
0.50000	-85.725125	-0.666080	-9.91E-17	-7.68E-16	2.98E-15	6.689884
1.00000	-85.509750	2.481169	-4.80E-16	-7.68E-16	3.05E-15	6.461312

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-85.941268	-3.824550	2.83E-16	-7.68E-16	3.00E-15	6.125275
0.50000	-85.725125	-0.666080	-9.91E-17	-7.68E-16	2.98E-15	6.689884
1.00000	-85.509750	2.481169	-4.80E-16	-7.68E-16	3.05E-15	6.461312

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-102.784192	-2.897079	2.69E-16	-4.64E-16	2.58E-15	1.532291
0.50000	-103.574024	0.330233	-1.22E-16	-4.64E-16	2.56E-15	1.854927
1.00000	-104.366652	3.546463	-5.12E-16	-4.64E-16	2.64E-15	1.367046

F R A M E   E L E M E N T   I N T E R N A L   F O R C E S

COMB COMB3 ------------------ MIN

REL DIST P V2 V3 T M2 M3
0.00000 -102.784192 2.897079 2.69E-16 -4.64E-16 2.58E-15 1.532291
0.50000 -103.574924 0.330233 -1.22E-16 -4.64E-16 2.56E-15 1.854927
1.00000 104.366652 3.546463 -5.12E-16 -4.64E-16 2.64E-15 1.367046

COMB COMB4 ------------------ MAX

REL DIST P V2 V3 T M2 M3
0.00000 -102.762575 -2.898354 2.69E-16 -4.63E-16 2.68E-15 0.655828
0.50000 -103.552407 0.328958 -1.22E-16 -4.63E-16 2.66E-15 0.978785
1.00000 -104.345035 3.545187 -5.11E-16 -4.63E-16 2.74E-15 0.491224

COMB COMB4 ------------------ MIN

REL DIST P V2 V3 T M2 M3
0.00000 -102.762575 -2.898354 2.69E-16 -4.63E-16 2.68E-15 0.655828
0.50000 -103.552407 0.328958 -1.22E-16 -4.63E-16 2.66E-15 0.978785
1.00000 -104.345035 3.545187 -5.11E-16 -4.63E-16 2.74E-15 0.491224

ELEM 25 ================== LENGTH = 0.503126

COMB COMB1 ------------------ MAX

REL DIST P V2 V3 T M2 M3
0.00000 -85.507608 -3.197827 2.07E-16 -5.13E-16 2.99E-15 7.337134
0.25000 -85.504569 -1.623108 1.66E-17 -5.13E-16 2.98E-15 7.640326
0.50000 -85.501530 -0.048390 -1.74E-16 -5.13E-16 2.99E-15 7.745448
0.75000 -85.498491 1.526328 -3.65E-16 -5.13E-16 3.02E-15 7.652499
1.00000 -85.495453 3.100743 -5.56E-16 -5.13E-16 3.08E-15 7.361480

COMB COMB1 ------------------ MIN

REL DIST P V2 V3 T M2 M3
0.00000 -85.507608 -3.197827 2.07E-16 5.13E-16 2.99E-15 7.337134
0.25000 -85.504569 -1.623108 1.66E-17 -5.13E-16 2.98E-15 7.640326
0.50000 -85.501530 -0.048390 -1.74E-16 -5.13E-16 2.99E-15 7.745448
0.75000 -85.498491 1.526328 -3.65E-16 -5.13E-16 3.02E-15 7.652499
1.00000 -85.495453 3.100743 -5.56E-16 -5.13E-16 3.08E-15 7.361480

COMB COMB2 ------------------ MAX

REL DIST P V2 V3 T M2 M3
0.00000 -85.485955 -3.197665 2.07E-16 -5.12E-16 3.09E-15 6.461312
0.25000 -85.482916 -1.622946 1.68E-17 -5.12E-16 3.08E-15 6.764484
0.50000 -65.479876 -0.048228 -1.74E-16 -5.12E-16 3.09E-15 6.869586
0.75000 -85.476837 1.526490 -3.65E-16 -5.12E-16 3.12E-15 6.776617
1.00000 -85.473799 3.100905 -5.55E-16 -5.12E-16 3.18E-15 6.485577

F R A M E   E L E M E N T   I N T E R N A L   F O R C E S

COMB COMB2 ------------------ MIN

REL DIST P V2 V3 T M2 M3
0.00000 -85.485955 -3.197665 2.07E-16 -5.12E-16 3.09E-15 6.461312
0.25000 -85.482916 -1.622946 1.68E-17 -5.12E-16 3.08E-15 6.764484
0.50000 -85.479876 -0.048228 -1.74E-16 -5.12E-16 3.09E-15 6.869586
0.75000 -85.476837 1.526490 -3.65E-16 -5.12E-16 3.12E-15 6.776617
1.00000 -85.473799 3.100905 -5.55E-16 -5.12E-16 3.18E-15 6.485577

COMB COMB3 ------------------ MAX

REL DIST P V2 V3 T M2 M3
0.00000 -104.371987 -3.385829 3.28E-16 -2.77E-16 2.66E-15 1.367046
0.25000 -104.368948 -1.811111 1.37E-16 -2.77E-16 2.63E-15 1.693885
0.50000 -104.365909 -0.236392 -5.36E-17 -2.77E-16 2.63E-15 1.822654
0.75000 -104.362870 1.338326 -2.44E-16 -2.77E-16 2.65E-15 1.753352
1.00000 -104.359831 2.912741 -4.35E-16 -2.77E-16 2.69E-15 1.485981

COMB COMB3 ------------------ MIN

REL DIST P V2 V3 T M2 M3
0.00000 -104.371987 -3.385829 3.28E-16 -2.77E-16 2.66E-15 1.367046
0.25000 -104.368948 -1.811111 1.37E-16 -2.77E-16 2.63E-15 1.693885
0.50000 -104.365909 -0.236392 -5.36E-17 -2.77E-16 2.63E-15 1.822654
0.75000 -104.362870 1.338326 -2.44E-16 -2.77E-16 2.65E-15 1.753352
1.00000 -104.359831 2.912741 -4.35E-16 -2.77E-16 2.69E-15 1.485981

COMB COMB4 ------------------ MAX

REL DIST P V2 V3 T M2 M3
0.00000 -104.350333 -3.385667 3.28E-16 -2.76E-15 2.76E-15 0.491224
0.25000 -104.347294 -1.810949 1.37E-16 -2.76E-16 2.74E-15 0.818043
0.50000 -104.344255 -0.236230 -5.34E-17 -2.76E-16 2.73E-15 0.946792
0.75000 -104.341216 1.338488 -2.44E-16 -2.76E-16 2.75E-15 0.877470
1.00000 -104.338177 2.912903 -4.35E-16 -2.76E-16 2.79E-15 0.610078

COMB COMB4 ------------------ MIN

REL DIST P V2 V3 T M2 M3
0.00000 -104.350333 -3.385667 3.28E-16 -2.76E-16 2.76E-15 0.491224
0.25000 -104.347294 -1.810949 1.37E-16 -2.76E-16 2.74E-15 0.818043
0.50000 -104.344255 -0.236230 -5.34E-17 -2.76E-16 2.73E-15 0.946792
0.75000 -104.341216 1.338488 -2.44E-16 -2.76E-16 2.75E-15 0.877470
1.00000 -104.338177 2.912903 -4.35E-16 -2.76E-16 2.79E-15 0.610078

ELEM 26 ================== LENGTH = 0.503126

COMB COMB1 ------------------ MAX

REL DIST P V2 V3 T M2 M3
0.00000 -85.512793 -2.578631 1.32E-16 -2.48E-16 3.11E-15 7.361480
0.50000 -85.716010 0.569227 -2.49E-16 -2.48E-16 3.12E-15 7.614434
1.00000 -85.919848 3.726696 -6.31E-16 -2.48E-16 3.23E-15 7.074256

F R A M E   E L E M E N T   I N T E R N A L   F O R C E S

COMB COMB1 ------------------ MIN

REL DIST P V2 V3 T M2 M3
0.00000 -85.512793 -2.578631 1.32E-16 -2.48E-16 3.11E-15 7.361480
0.50000 -85.716010 0.569227 -2.49E-16 -2.48E-16 3.12E-15 7.614434
1.00000 -85.919848 3.726696 -6.31E-16 -2.48E-16 3.23E-15 7.074256

COMB COMB2 ------------------ MAX

REL DIST P V2 V3 T M2 M3
0.00000 -85.491197 -2.577033 1.32E-16 -2.48E-16 3.21E-15 6.485577
0.50000 -85.694415 0.570825 -2.49E-16 -2.48E-16 3.22E-15 6.738129
1.00000 -85.898252 3.728294 -6.31E-16 -2.48E-16 3.33E-15 6.197549

COMB COMB2 ------------------ MIN

REL DIST P V2 V3 T M2 M3
0.00000 -85.491197 -2.577033 1.32E-16 -2.48E-16 3.21E-15 6.485577
0.50000 -85.694415 0.570825 -2.49E-16 -2.48E-16 3.22E-15 6.738129
1.00000 -85.898252 3.728294 6.31E-16 -2.48E-16 3.33E-15 6.197549

COMB COMB3 ------------------ MAX

REL DIST P V2 V3 T M2 M3
0.00000 -104.323129 -4.017853 4.04E-16 -8.60E-17 2.70E-15 1.485981
0.50000 -103.460429 -0.801182 1.48E-17 -8.60E-17 2.65E-15 2.092331
1.00000 -102.600468 2.424963 -3.76E-16 -8.60E-17 2.69E-15 1.888255

COMB COMB3 ------------------ MIN

REL DIST P V2 V3 T M2 M3
0.00000 -104.323129 -4.017853 4.04E-16 -8.60E-17 2.70E-15 1.485981
0.50000 -103.460429 -0.801182 1.48E-17 -8.60E-17 2.65E-15 2.092331
1.00000 -102.600468 2.424963 -3.76E-16 -8.60E-17 2.69E-15 1.888255

COMB COMB4 ------------------ MAX

REL DIST P V2 V3 T M2 M3
0.00000 -104.301534 -4.016255 4.04E-16 -8.57E-17 2.80E-15 0.610078
0.50000 -103.438834 -0.799584 1.48E-17 -8.57E-17 2.75E-15 1.216026
1.00000 -102.578873 2.426561 -3.76E-16 -8.57E-17 2.80E-15 1.011548

COMB COMB4 ------------------ MIN

REL DIST P V2 V3 T M2 M3
0.00000 -104.301534 -4.016255 4.04E-16 -8.57E-17 2.80E-15 0.610078
0.50000 -103.438834 -0.799584 1.48E-17 -8.57E-17 2.75E-15 1.216026
1.00000 -102.578873 2.426561 -3.76E-16 -8.57E-17 2.80E-15 1.011548

F R A M E   E L E M E N T   I N T E R N A L   F O R C E S

ELEM 27 ================== LENGTH = 0.503126

COMB COMB1 ------------------ MAX

REL DIST P V2 V3 T M2 M3
0.00000 -85.977784 -1.982194 6.01E-17 2.37E-17 3.24E-15 7.074256
0.50000 -86.392710 1.170309 -3.22E-16 2.37E-17 3.27E-15 7.176807
1.00000 -86.810303 4.343083 -7.06E-16 2.37E-17 3.40E-15 6.483718

COMB COMB1 ------------------ MIN

REL DIST P V2 V3 T M2 M3
0.00000 -85.977784 -1.982194 6.01E-17 2.37E-17 3.24E-15 7.074256
0.50000 -86.392710 1.170309 -3.22E-16 2.37E-17 3.27E-15 7.176807
1.00000 -86.810303 4.343083 -7.06E-16 2.37E-17 3.40E-15 6.483718

COMB COMB2 ------------------ MAX

REL DIST P V2 V3 T M2 M3
0.00000 -85.956343 -1.979166 5.99E-17 2.37E-17 3.34E-15 6.197549
0.50000 -86.371268 1.173337 -3.22E-16 2.37E-17 3.37E-15 6.299339
1.00000 -86.788861 4.346110 -7.06E-16 2.37E-17 3.50E-15 5.605488

COMB COMB2 ------------------ MIN

REL DIST P V2 V3 T M2 M3
0.00000 -85.956343 -1.979166 5.99E-17 2.37E-17 3.34E-15 6.197549
0.50000 -86.371268 1.173337 -3.22E-16 2.37E-17 3.37E-15 6.299339
1.00000 -86.788861 4.346110 -7.06E-16 2.37E-17 3.50E-15 5.605488

COMB COMB3 ------------------ MAX

REL DIST P V2 V3 T M2 M3
0.00000 -102.535280 -4.387797 4.49E-16 1.08E-16 2.69E-15 1.888255
0.50000 -101.896254 -1.096575 5.05E-17 1.08E-16 2.63E-15 2.578508
1.00000 -101.264118 2.214361 -3.50E-16 1.08E-16 2.67E-15 2.438291

COMB COMB3 ------------------ MIN

REL DIST P V2 V3 T M2 M3
0.00000 -102.535280 -4.387797 4.49E-16 1.08E-16 2.69E-15 1.888255
0.50000 -101.896254 -1.096575 5.05E-17 1.08E-16 2.63E-15 2.578508
1.00000 -101.264118 2.214361 -3.50E-16 1.08E-16 2.67E-15 2.438291

COMB COMB4 ------------------ MAX

REL DIST P V2 V3 T M2 M3
0.00000 -102.513838 -4.384770 4.49E-16 1.08E-16 2.80E-15 1.011548
0.50000 -101.874812 -1.093548 5.04E-17 1.08E-16 2.73E-15 1.701039
1.00000 -101.242677 2.217388 -3.51E-16 1.08E-16 2.77E-15 1.560060

F R A M E   E L E M E N T   I N T E R N A L   F O R C E S

COMB   COMB4 ------------------ MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-102.[illegible]	-4.384770	4.49E-16	1.08E-16	2.80E-15	1.011546
0.50000	-101.8[illegible]	-1.093548	5.04E-17	1.08E-16	2.73E-15	1.701039
1.00000	-101.24[illegible]	2.217388	-3.51E-16	1.08E-16	2.77E-15	1.560060

ELEM   28 ================== LENGTH =   0.503126

COMB   COMB1 ------------------ MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-86.867179	-1.425941	-7.31E-18	3.01E-16	3.39E-15	6.483718
0.50000	-87.539502	1.737912	-3.90E-16	3.01E-16	3.44E-15	6.445119
1.00000	-88.177876	4.932045	-7.77E-16	3.01E-16	3.59E-15	5.606764

COMB   COMB1 ------------------ MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-86.867179	-1.425941	-7.31E-18	3.01E-16	3.39E-15	6.483718
0.50000	-87.539502	1.737912	-3.90E-16	3.01E-16	3.44E-15	6.445119
1.00000	-88.177876	4.932045	-7.77E-16	3.01E-16	3.59E-15	5.606764

COMB   COMB2 ------------------ MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-86.885985	-1.421498	-7.63E-18	3.01E-16	3.49E-15	5.605488
0.50000	-87.518308	1.742355	-3.91E-16	3.01E-16	3.54E-15	5.565771
1.00000	-88.156683	4.936488	-7.78E-16	3.01E-16	3.69E-15	4.726298

COMB   COMB2 ------------------ MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-86.885985	-1.421498	-7.63E-18	3.01E-16	3.49E-15	5.605488
0.50000	-87.518308	1.742355	-3.91E-16	3.01E-16	3.54E-15	5.565771
1.00000	-88.156683	4.936488	-7.78E-16	3.01E-16	3.69E-15	4.726298

COMB   COMB3 ------------------ MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-101.187918	-4.508916	4.64E-16	3.05E-16	2.65E-15	2.438291
0.50000	-100.786941	-1.138549	5.56E-17	3.05E-16	2.59E-15	3.149253
1.00000	-100.398166	2.260869	-3.56E-16	3.05E-16	2.63E-15	3.008660

COMB   COMB3 ------------------ MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-101.187918	-4.508916	4.64E-16	3.05E-16	2.65E-15	2.438291
0.50000	-100.786941	-1.138549	5.56E-17	3.05E-16	2.59E-15	3.149253
1.00000	-100.398166	2.260869	-3.56E-16	3.05E-16	2.63E-15	3.008660

F R A M E   E L E M E N T   I N T E R N A L   F O R C E S

COMB   COMB4 ------------------ MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-101.166724	-4.504472	4.63E-16	3.04E-16	2.76E-15	1.560060
0.50000	-100.765748	-1.134106	5.53E-17	3.04E-16	2.69E-15	2.269905
1.00000	-100.376973	2.265312	-3.56E-16	3.04E-16	2.73E-15	2.128195

COMB   COMB4 ------------------ MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-101.166724	-4.504472	4.63E-16	3.04E-16	2.76E-15	1.560060
0.50000	-100.765748	-1.134106	5.53E-17	3.04E-16	2.69E-15	2.269905
1.00000	-100.376973	2.265312	-3.56E-16	3.04E-16	2.73E-15	2.128195

ELEM   29 ================== LENGTH =   0.503126

COMB   COMB1 ------------------ MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-88.310811	-0.929273	-6.75E-17	5.84E-16	3.56E-15	5.606764
0.50000	-89.169244	2.250807	-4.53E-16	5.84E-16	3.62E-15	5.441377
1.00000	-90.038378	5.470528	-8.43E-16	5.84E-16	3.78E-15	4.470973

COMB   COMB1 ------------------ MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-88.310811	-0.929273	-6.75E-17	5.84E-16	3.56E-15	5.606764
0.50000	-89.169244	2.250807	-4.53E-16	5.84E-16	3.62E-15	5.441377
1.00000	-90.038378	5.470528	-8.43E-16	5.84E-16	3.78E-15	4.470973

COMB   COMB2 ------------------ MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-88.289959	-0.923433	-6.79E-17	5.83E-16	3.66E-15	4.726298
0.50000	-89.148392	2.256647	-4.53E-16	5.83E-16	3.72E-15	4.559442
1.00000	-90.017526	5.476367	-8.43E-16	5.83E-16	3.89E-15	3.587570

COMB   COMB2 ------------------ MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-88.289959	-0.923433	-6.79E-17	5.83E-16	3.66E-15	4.726298
0.50000	-89.148392	2.256647	-4.53E-16	5.83E-16	3.72E-15	4.559442
1.00000	-90.017526	5.476367	-8.43E-16	5.83E-16	3.89E-15	3.587570

COMB   COMB3 ------------------ MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-100.326946	-4.405358	4.51E-16	5.02E-16	2.60E-15	3.008660
0.50000	-100.180991	-0.954153	3.33E-17	5.02E-16	2.54E-15	3.683580
1.00000	-100.053853	2.534502	-3.89E-16	5.02E-16	2.58E-15	3.485551

F R A M E   E L E M E N T   I N T E R N A L   F O R C E S

COMB   COMB3 ------------------ MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-100.326946	-4.405358	4.51E-16	5.02E-16	2.60E-15	3.008660
0.50000	-100.180991	-0.954153	3.33E-17	5.02E-16	2.54E-15	3.683580
1.00000	-100.053853	2.534502	-3.89E-16	5.02E-16	2.58E-15	3.485551

COMB   COMB4 ------------------ MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-100.306094	-4.399519	4.51E-16	5.02E-16	2.70E-15	2.128195
0.50000	-100.160139	-0.948313	3.28E-17	5.02E-16	2.64E-15	2.801645
1.00000	-100.033001	2.540342	-3.90E-16	5.02E-16	2.69E-15	2.602147

COMB   COMB4 ------------------ MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-100.306094	-4.399519	4.51E-16	5.02E-16	2.70E-15	2.128195
0.50000	-100.160139	-0.948313	3.28E-17	5.02E-16	2.64E-15	2.801645
1.00000	-100.033001	2.540342	-3.90E-16	5.02E-16	2.69E-15	2.602147

ELEM   30 ================== LENGTH =   0.503126

COMB   COMB1 ------------------ MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-90.202941	-0.515404	-1.18E-16	8.69E-16	3.74E-15	4.470973
0.50000	-91.298929	2.683770	-5.05E-16	8.69E-16	3.81E-15	4.199253
1.00000	-92.411482	5.931297	-8.98E-16	8.69E-16	3.99E-15	3.116617

COMB   COMB1 ------------------ MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-90.202941	-0.515404	-1.18E-16	8.69E-16	3.74E-15	4.470973
0.50000	-91.298929	2.683770	-5.05E-16	8.69E-16	3.81E-15	4.199253
1.00000	-92.411482	5.931297	-8.98E-16	8.69E-16	3.99E-15	3.116617

COMB   COMB2 ------------------ MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-90.182522	-0.508194	-1.18E-16	8.68E-16	3.84E-15	3.587570
0.50000	-91.278510	2.690980	-5.06E-16	8.68E-16	3.92E-15	3.314036
1.00000	-92.391063	5.938507	-8.99E-16	8.68E-16	4.09E-15	2.229586

COMB   COMB2 ------------------ MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-90.182522	-0.508194	-1.18E-16	8.68E-16	3.84E-15	3.587570
0.50000	-91.278510	2.690980	-5.06E-16	8.68E-16	3.92E-15	3.314036
1.00000	-92.391063	5.938507	-8.99E-16	8.68E-16	4.09E-15	2.229586

F R A M E   E L E M E N T   I N T E R N A L   F O R C E S

COMB   COMB3 ------------------ MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-100.001548	-4.109469	4.15E-16	7.01E-16	2.54E-15	3.485551
0.50000	-100.129948	-0.578814	-1.22E-17	7.01E-16	2.49E-15	4.076201
1.00000	-100.284651	2.996858	-4.45E-16	7.01E-16	2.55E-15	3.772963

COMB   COMB3 ------------------ MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-100.001548	-4.109469	4.15E-16	7.01E-16	2.54E-15	3.485551
0.50000	-100.129948	-0.578814	-1.22E-17	7.01E-16	2.49E-15	4.076201
1.00000	-100.284651	2.996858	-4.45E-16	7.01E-16	2.55E-15	3.772963

COMB   COMB4 ------------------ MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-99.981129	-4.102258	4.15E-16	7.00E-16	2.65E-15	2.602147
0.50000	-100.109529	-0.571604	-1.28E-17	7.00E-16	2.60E-15	3.190984
1.00000	-100.264232	3.004068	-4.46E-16	7.00E-16	2.65E-15	2.885931

COMB   COMB4 ------------------ MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-99.981129	-4.102258	4.15E-16	7.00E-16	2.65E-15	2.602147
0.50000	-100.109529	-0.571604	-1.28E-17	7.00E-16	2.60E-15	3.190984
1.00000	-100.264232	3.004068	-4.46E-16	7.00E-16	2.65E-15	2.885931

ELEM   31 ================== LENGTH =   0.503125

COMB   COMB1 ------------------ MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-92.601387	-0.212895	-1.54E-16	1.16E-15	3.92E-15	3.116617
0.50000	-93.948858	3.006002	-5.44E-16	1.16E-15	4.01E-15	2.766484
1.00000	-95.319898	6.281201	-9.41E-16	1.16E-15	4.20E-15	1.599474

COMB   COMB1 ------------------ MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-92.601387	-0.212895	-1.54E-16	1.16E-15	3.92E-15	3.116617
0.50000	-93.948858	3.006002	-5.44E-16	1.16E-15	4.01E-15	2.766484
1.00000	-95.319898	6.281201	-9.41E-16	1.16E-15	4.20E-15	1.599474

COMB   COMB2 ------------------ MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-92.581492	-0.204346	-1.55E-16	1.16E-15	4.03E-15	2.229586
0.50000	-93.928963	3.014551	-5.45E-16	1.16E-15	4.11E-15	1.877301
1.00000	-95.300003	6.289750	-9.42E-16	1.16E-15	4.30E-15	0.708141

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-95.526610	-0.057012	-1.73E-16	1.45E-15	4.11E-15	1.599474
0.50000	-97.141633	3.179518	-5.65E-16	1.45E-15	4.20E-15	1.208051
1.00000	-98.788170	6.479203	-9.65E-16	1.45E-15	4.40E-15	-0.005548

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-102.746437	-2.540517	2.25E-16	1.29E-15	2.47E-15	3.514576
0.50000	-103.829412	1.186126	-2.26E-16	1.29E-15	2.47E-15	3.686215
1.00000	-104.966522	4.973492	-6.85E-16	1.29E-15	2.58E-15	2.912682

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-102.746437	-2.540517	2.25E-16	1.29E-15	2.47E-15	3.514576
0.50000	-103.829412	1.186126	-2.26E-16	1.29E-15	2.47E-15	3.686215
1.00000	-104.966522	4.973492	-6.85E-16	1.29E-15	2.58E-15	2.912682

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-102.727849	-2.529409	2.24E-16	1.29E-15	2.57E-15	2.618288
0.50000	-103.810824	1.197234	-2.27E-16	1.29E-15	2.57E-15	2.787131
1.00000	-104.947933	4.984600	-6.86E-16	1.29E-15	2.68E-15	2.010805

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-102.727849	-2.529409	2.24E-16	1.29E-15	2.57E-15	2.618288
0.50000	-103.810824	1.197234	-2.27E-16	1.29E-15	2.57E-15	2.787131
1.00000	-104.947933	4.984600	-6.86E-16	1.29E-15	2.68E-15	2.010805

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-95.507326	-0.047162	-1.74E-16	1.44E-15	4.21E-15	0.708141
0.50000	-97.122348	3.189368	-5.66E-16	1.44E-15	4.31E-15	0.314240
1.00000	-98.768886	6.489054	-9.66E-16	1.44E-15	4.50E-15	-0.901837

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-95.507326	-0.047162	-1.74E-16	1.44E-15	4.21E-15	0.708141
0.50000	-97.122348	3.189368	-5.66E-16	1.44E-15	4.31E-15	0.314240
1.00000	-98.768886	6.489054	-9.66E-16	1.44E-15	4.50E-15	-0.901837

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-101.160856	-3.119287	2.96E-16	1.10E-15	2.47E-15	3.797608
0.50000	-101.902567	0.553024	-1.49E-16	1.10E-15	2.45E-15	4.121594
1.00000	-102.688598	4.282100	-6.01E-16	1.10E-15	2.55E-15	3.514576

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-101.160856	-3.119287	2.96E-16	1.10E-15	2.47E-15	3.797608
0.50000	-101.902567	0.553024	-1.49E-16	1.10E-15	2.45E-15	4.121594
1.00000	-102.688598	4.282100	-6.01E-16	1.10E-15	2.55E-15	3.514576

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-101.141572	-3.109437	2.95E-16	1.09E-15	2.57E-15	2.906275
0.50000	-101.883282	0.562874	-1.50E-16	1.09E-15	2.55E-15	3.227784
1.00000	-102.669314	4.291950	-6.02E-16	1.09E-15	2.65E-15	2.618288

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-101.141572	-3.109437	2.95E-16	1.09E-15	2.57E-15	2.906275
0.50000	-101.883282	0.562874	-1.50E-16	1.09E-15	2.55E-15	3.227784
1.00000	-102.669314	4.291950	-6.02E-16	1.09E-15	2.65E-15	2.618288

ELEM 33 ========== LENGTH = 0.503126

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-99.000377	-0.089469	-1.69E-16	1.73E-15	4.29E-15	-0.005548
0.50000	-100.900528	3.159207	-5.63E-16	1.73E-15	4.38E-15	-0.390214
1.00000	-102.840941	6.476721	-9.64E-16	1.73E-15	4.57E-15	-1.600827

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-99.000377	-0.089469	-1.69E-16	1.73E-15	4.29E-15	-0.005548
0.50000	-100.900528	3.159207	-5.63E-16	1.73E-15	4.38E-15	-0.390214
1.00000	-102.840941	5.476721	-9.64E-16	1.73E-15	4.57E-15	-1.600827

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-98.981788	-0.078361	-1.70E-16	1.73E-15	4.39E-15	-0.901837
0.50000	-100.881939	3.170315	-5.64E-16	1.73E-15	4.49E-15	-1.289298
1.00000	-102.822353	6.487829	-9.65E-16	1.73E-15	4.68E-15	-2.502704

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-98.981788	-0.078361	-1.70E-16	1.73E-15	4.39E-15	-0.901837
0.50000	-100.881939	3.170315	-5.64E-16	1.73E-15	4.49E-15	-1.289298
1.00000	-102.822353	6.487829	-9.65E-16	1.73E-15	4.68E-15	-2.502704

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-102.746437	-2.540517	2.25E-16	1.29E-15	2.47E-15	3.514576
0.50000	-103.829412	1.186126	-2.26E-16	1.29E-15	2.47E-15	3.686215
1.00000	-104.966522	4.973492	-6.85E-16	1.29E-15	2.58E-15	2.912682

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-102.746437	-2.540517	2.25E-16	1.29E-15	2.47E-15	3.514576
0.50000	-103.829412	1.186126	-2.26E-16	1.29E-15	2.47E-15	3.686215
1.00000	-104.966522	4.973492	-6.85E-16	1.29E-15	2.58E-15	2.912682

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-102.727849	-2.529409	2.24E-16	1.29E-15	2.57E-15	2.618288
0.50000	-103.810824	1.197234	-2.27E-16	1.29E-15	2.57E-15	2.787131
1.00000	-104.947933	4.984600	-6.86E-16	1.29E-15	2.68E-15	2.010805

F R A M E E L E M E N T I N T E R N A L F O R C E S

ELEM 34 ========== LENGTH = 0.503126

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-103.044053	-0.360822	-1.36E-16	2.02E-15	4.45E-15	-1.600827
0.50000	-105.248007	2.891027	-5.30E-16	2.02E-15	4.53E-15	-1.917532
1.00000	-107.501773	6.216373	-9.33E-16	2.02E-15	4.72E-15	-3.061569

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-103.044053	-0.360822	-1.36E-16	2.02E-15	4.45E-15	-1.600827
0.50000	-105.248007	2.891027	-5.30E-16	2.02E-15	4.53E-15	-1.917532
1.00000	-107.501773	6.216373	-9.33E-16	2.02E-15	4.72E-15	-3.061569

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-103.026243	-0.348505	-1.38E-16	2.02E-15	4.55E-15	-2.502704
0.50000	-105.230197	2.903344	-5.31E-16	2.02E-15	4.64E-15	-2.822508
1.00000	-107.483963	6.228689	-9.34E-16	2.02E-15	4.82E-15	-3.969644

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-103.026243	-0.348505	-1.38E-16	2.02E-15	4.55E-15	-2.502704
0.50000	-105.230197	2.903344	-5.31E-16	2.02E-15	4.64E-15	-2.822508
1.00000	-107.483963	6.228689	-9.34E-16	2.02E-15	4.82E-15	-3.969644

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-105.065214	-2.001766	1.60E-16	1.48E-15	2.49E-15	2.912682
0.50000	-106.512679	1.762797	-2.96E-16	1.48E-15	2.51E-15	2.944079
1.00000	-108.024713	5.590853	-7.59E-16	1.48E-15	2.64E-15	2.020417

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-105.065214	-2.001766	1.60E-16	1.48E-15	2.49E-15	2.912682
0.50000	-106.512679	1.762797	-2.96E-16	1.48E-15	2.51E-15	2.944079
1.00000	-108.024713	5.590853	-7.59E-16	1.48E-15	2.64E-15	2.020417

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-105.047404	-1.989449	1.59E-16	1.48E-15	2.59E-15	2.010805
0.50000	-106.494868	1.775114	-2.97E-16	1.48E-15	2.61E-15	2.039103
1.00000	-108.006903	5.603170	-7.61E-16	1.48E-15	2.74E-15	1.112342

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-107.660389	-0.916246	-6.88E-17	2.30E-15	4.68E-15	-3.969644
0.50000	-110.187464	2.326212	-4.62E-16	2.30E-15	4.75E-15	-4.145377
1.00000	-112.774287	5.645330	-8.63E-16	2.30E-15	4.91E-15	-5.146477

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-108.157629	-1.588554	1.10E-16	1.67E-15	2.53E-15	2.020417
0.50000	-109.992523	2.193371	-3.48E-16	1.67E-15	2.56E-15	1.945706
1.00000	-111.902511	6.039994	-8.14E-16	1.67E-15	2.71E-15	0.911418

COMB COMB5 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-108.157629	-1.588554	1.10E-16	1.67E-15	2.53E-15	2.020417
0.50000	-109.992523	2.193371	-3.48E-16	1.67E-15	2.56E-15	1.945706
1.00000	-111.902511	6.039994	-8.14E-16	1.67E-15	2.71E-15	0.911418

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-108.140676	-1.575082	1.09E-16	1.67E-15	2.64E-15	1.112342
0.50000	-109.975569	2.206842	-3.49E-16	1.67E-15	2.67E-15	1.034243
1.00000	-111.885557	6.053465	-8.15E-16	1.67E-15	2.81E-15	-0.003435

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-108.140676	-1.575082	1.09E-16	1.67E-15	2.64E-15	1.112342
0.50000	-109.975569	2.206842	-3.49E-16	1.67E-15	2.67E-15	1.034243
1.00000	-111.885557	6.053465	-8.15E-16	1.67E-15	2.81E-15	-0.003435

ELEM 36 ========== LENGTH = 0.503126

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-112.916372	-1.864091	4.57E-17	2.59E-15	4.64E-15	-4.231625
0.50000	-115.785685	1.352276	-3.44E-16	2.59E-15	4.68E-15	-4.165593
1.00000	-118.725129	4.647255	-7.43E-16	2.59E-15	4.82E-15	-4.918609

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-112.916372	-1.864091	4.57E-17	2.59E-15	4.64E-15	-4.231625
0.50000	-115.785685	1.352276	-3.44E-16	2.59E-15	4.68E-15	-4.165593
1.00000	-118.725129	4.647255	-7.43E-16	2.59E-15	4.82E-15	-4.918609

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-112.900349	-1.849524	4.42E-17	2.58E-15	4.75E-15	-5.146477
0.50000	-115.769663	1.366843	-3.45E-16	2.58E-15	4.79E-15	-5.084110
1.00000	-118.709107	4.661822	-7.44E-16	2.58E-15	4.92E-15	-5.840790

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-112.900349	-1.849524	4.42E-17	2.58E-15	4.75E-15	-5.146477
0.50000	-115.769663	1.366843	-3.45E-16	2.58E-15	4.79E-15	-5.084110
1.00000	-118.709107	4.661822	-7.44E-16	2.58E-15	4.92E-15	-5.840790

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-112.056679	-1.397889	8.70E-17	1.85E-15	2.59E-15	0.911418
0.50000	-114.300695	2.376305	-3.70E-16	1.85E-15	2.63E-15	0.789711
1.00000	-116.630672	6.214988	-8.35E-16	1.85E-15	2.78E-15	-0.289602

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-112.056679	-1.397889	8.70E-17	1.85E-15	2.59E-15	0.911418
0.50000	-114.300695	2.376305	-3.70E-16	1.85E-15	2.63E-15	0.789711
1.00000	-116.630672	6.214988	-8.35E-16	1.85E-15	2.78E-15	-0.289602

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-112.040656	-1.383322	8.55E-17	1.85E-15	2.70E-15	-0.003435
0.50000	-114.284672	2.390872	-3.72E-16	1.85E-15	2.73E-15	-0.128806
1.00000	-116.614649	6.229555	-8.36E-16	1.85E-15	2.89E-15	-1.211783

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-112.040656	-1.383322	8.55E-17	1.85E-15	2.70E-15	-0.003435
0.50000	-114.284672	2.390872	-3.72E-16	1.85E-15	2.73E-15	-0.128806
1.00000	-116.614649	6.229555	-8.36E-16	1.85E-15	2.89E-15	-1.211783

ELEM 37 ========== LENGTH = 0.503126

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-118.771869	-3.239810	2.12E-16	2.86E-15	4.64E-15	-4.918609
0.50000	-122.001949	-0.070068	-1.72E-16	2.86E-15	4.63E-15	-4.500623
1.00000	-125.312590	3.178731	-5.65E-16	2.86E-15	4.72E-15	-4.890012

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-118.771869	-3.239810	2.12E-16	2.86E-15	4.64E-15	-4.918609
0.50000	-122.001949	-0.070068	-1.72E-16	2.86E-15	4.63E-15	-4.500623
1.00000	-125.312590	3.178731	-5.65E-16	2.86E-15	4.72E-15	-4.890012

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-118.756848	-3.224212	2.11E-16	2.86E-15	4.74E-15	-5.840790
0.50000	-121.986928	-0.054470	-1.73E-16	2.86E-15	4.74E-15	-5.426728
1.00000	-125.297569	3.194328	-5.67E-16	2.86E-15	4.83E-15	-5.820041

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-118.756848	-3.224212	2.11E-16	2.86E-15	4.74E-15	-5.840790
0.50000	-121.986928	-0.054470	-1.73E-16	2.86E-15	4.74E-15	-5.426728
1.00000	-125.297569	3.194328	-5.67E-16	2.86E-15	4.83E-15	-5.820041

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-116.786038	-1.536574	1.04E-16	2.03E-15	2.65E-15	-0.289602
0.50000	-119.459291	2.200594	-3.49E-16	2.03E-15	2.68E-15	-0.371796
1.00000	-122.228932	6.000691	-8.09E-16	2.03E-15	2.83E-15	-1.402087

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-116.786038	-1.536574	1.04E-16	2.03E-15	2.65E-15	-0.289602
0.50000	-119.459291	2.200594	-3.49E-16	2.03E-15	2.68E-15	-0.371796
1.00000	-122.228932	6.000691	-8.09E-16	2.03E-15	2.83E-15	-1.402087

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-116.771017	-1.520976	1.02E-16	2.03E-15	2.76E-15	-1.211783
0.50000	-119.444270	2.216191	-3.50E-16	2.03E-15	2.79E-15	-1.297901
1.00000	-122.213911	6.016289	-8.11E-16	2.03E-15	2.93E-15	-2.332116

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-116.771017	-1.520976	1.02E-16	2.03E-15	2.76E-15	-1.211783
0.50000	-119.444270	2.216191	-3.50E-16	2.03E-15	2.79E-15	-1.297901
1.00000	-122.213911	6.016289	-8.11E-16	2.03E-15	2.93E-15	-2.332116

ELEM 38 ========== LENGTH = 0.503126

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-125.247361	-5.142769	4.43E-16	3.13E-15	4.52E-15	-4.890012
0.50000	-128.855307	-2.044323	6.76E-17	3.13E-15	4.46E-15	-3.984363
1.00000	-132.554303	1.132316	-3.17E-16	3.13E-15	4.49E-15	-3.868044

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-125.247361	-5.142769	4.43E-16	3.13E-15	4.52E-15	-4.890012
0.50000	-128.855307	-2.044323	6.76E-17	3.13E-15	4.46E-15	-3.984363
1.00000	-132.554303	1.132316	-3.17E-16	3.13E-15	4.49E-15	-3.868044

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-125.233408	-5.126209	4.41E-16	3.12E-15	4.63E-15	-5.820041
0.50000	-128.841354	-2.027763	6.58E-17	3.12E-15	4.57E-15	-4.918558
1.00000	-132.540350	1.148876	-3.19E-16	3.12E-15	4.60E-15	-4.806405

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-125.233468	-5.124209	4.41E-16	3.12E-15	4.63E-15	-5.640041
0.50000	-128.841354	-2.027783	6.58E-17	3.12E-15	4.57E-15	-4.916558
1.00000	-132.340250	1.148878	-3.19E-16	3.12E-15	4.60E-15	-4.806405

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-122.357735	-2.122426	1.75E-16	2.20E-15	2.69E-15	-1.402467
0.50000	-125.477567	1.544407	-2.69E-16	2.20E-15	2.70E-15	-1.326105
1.00000	-128.704135	5.271149	-7.21E-16	2.20E-15	2.82E-15	-2.184173

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-122.357735	-2.122426	1.75E-16	2.20E-15	2.69E-15	-1.402467
0.50000	-125.477567	1.544407	-2.69E-16	2.20E-15	2.70E-15	-1.326105
1.00000	-128.704135	5.271149	-7.21E-16	2.20E-15	2.82E-15	-2.184173

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-122.343782	2.105867	1.73E-16	2.20E-15	2.79E-15	-2.332116
0.50000	-125.463607	1.560966	-2.71E-16	2.20E-15	2.81E-15	-2.262314
1.00000	-128.690182	5.287709	-7.22E-16	2.20E-15	2.93E-15	-3.122534

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-122.343782	-2.105867	1.73E-16	2.20E-15	2.79E-15	-2.332116
0.50000	-125.463607	1.560966	-2.71E-16	2.20E-15	2.81E-15	-2.262314
1.00000	-128.690182	5.287709	-7.22E-16	2.20E-15	2.93E-15	-3.122534

ELEM 39 ========== LENGTH 0.503126

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-132.337351	-7.664903	7.48E-16	3.39E-15	4.28E-15	-3.806044
0.50000	-136.338433	-4.666131	3.85E-16	3.39E-15	4.13E-15	-2.315430
1.00000	-140.440866	-1.591398	1.27E-17	3.39E-15	4.08E-15	-1.526789

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-132.337351	-7.664903	7.48E-16	3.39E-15	4.28E-15	-3.869044
0.50000	-136.338433	-4.666131	3.85E-16	3.39E-15	4.13E-15	-2.315430
1.00000	-140.440866	-1.591398	1.27E-17	3.39E-15	4.08E-15	-1.526789

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-132.324528	-7.647453	7.48E-16	3.38E-15	4.38E-15	-4.806405
0.50000	-136.325610	-4.648682	3.83E-16	3.38E-15	4.24E-15	-3.256180
1.00000	-140.428042	-1.573949	1.08E-17	3.38E-15	4.19E-15	-2.473929

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-122.324528	-7.647453	7.48E-16	3.38E-15	4.38E-15	-4.806405
0.50000	-136.325610	-4.648682	3.83E-16	3.38E-15	4.24E-15	-3.256180
1.00000	-140.428042	-1.573949	1.08E-17	3.38E-15	4.19E-15	-2.473929

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-128.770271	-3.279738	3.15E-16	2.37E-15	2.67E-15	-2.184173
0.50000	-132.351250	0.279552	-1.16E-16	2.37E-15	2.64E-15	-1.805633
1.00000	-136.048859	3.894416	-5.54E-16	2.37E-15	2.73E-15	-2.329513

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-128.770271	-3.279738	3.15E-16	2.37E-15	2.67E-15	-2.184173
0.50000	-132.351250	0.279552	-1.16E-16	2.37E-15	2.64E-15	-1.805633
1.00000	-136.048859	3.894416	-5.54E-16	2.37E-15	2.73E-15	-2.329513

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-128.757447	-3.262289	3.13E-16	2.36E-15	2.78E-15	-3.122534
0.50000	-132.338426	0.297001	-1.18E-16	2.36E-15	2.75E-15	-2.748383
1.00000	-136.036036	3.911865	-5.56E-16	2.36E-15	2.84E-15	-3.276653

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-128.757447	-3.262289	3.13E-16	2.36E-15	2.78E-15	-3.122534
0.50000	-132.338426	0.297001	-1.18E-16	2.36E-15	2.75E-15	-2.748383
1.00000	-136.036036	3.911865	-5.56E-16	2.36E-15	2.84E-15	-3.276653

ELEM 40 ========== LENGTH = 0.503126

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-140.251906	-4.098445	2.51E-15	3.64E-15	3.85E-15	-1.526789
0.50000	-144.658797	-1.231435	2.16E-15	3.64E-15	3.26E-15	-0.854868
1.00000	-149.176788	1.707854	1.80E-15	3.64E-15	2.76E-15	-0.913308

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-140.251906	-4.098445	2.51E-15	3.64E-15	3.85E-15	-1.526789
0.50000	-144.658797	-1.231435	2.16E-15	3.64E-15	3.26E-15	-0.854868
1.00000	-149.176788	1.707854	1.80E-15	3.64E-15	2.76E-15	-0.913308

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-140.241101	-4.055102	2.51E-15	3.63E-15	3.96E-15	-2.473929
0.50000	-144.647992	-1.188091	2.16E-15	3.63E-15	3.37E-15	-1.812911
1.00000	-149.165984	1.751198	1.81E-15	3.63E-15	2.87E-15	-1.882255

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-140.241101	-4.055102	2.51E-15	3.63E-15	3.96E-15	-2.473929
0.50000	-144.647992	-1.188091	2.16E-15	3.63E-15	3.37E-15	-1.812911
1.00000	-149.165984	1.751198	1.81E-15	3.63E-15	2.87E-15	-1.882255

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-136.099410	-2.372283	1.10E-15	2.52E-15	2.57E-15	-2.329513
0.50000	-140.152298	1.038866	6.83E-16	2.52E-15	2.34E-15	-2.160737
1.00000	-144.330726	4.500099	2.64E-16	2.52E-15	2.22E-15	-2.856423

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-136.099410	-2.372283	1.10E-15	2.52E-15	2.57E-15	-2.329513
0.50000	-140.152298	1.038866	6.83E-16	2.52E-15	2.34E-15	-2.160737
1.00000	-144.330726	4.500099	2.64E-16	2.52E-15	2.22E-15	-2.856423

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-136.088605	-2.328940	1.10E-15	2.52E-15	2.68E-15	-3.276653
0.50000	-140.141494	1.082210	6.86E-16	2.52E-15	2.45E-15	-3.118780
1.00000	-144.319921	4.543443	2.67E-16	2.52E-15	2.33E-15	-3.825370

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-136.088605	-2.328940	1.10E-15	2.52E-15	2.68E-15	-3.276653
0.50000	-140.141494	1.082210	6.86E-16	2.52E-15	2.45E-15	-3.118780
1.00000	-144.319921	4.543443	2.67E-16	2.52E-15	2.33E-15	-3.825370

F R A M E E L E M E N T I N T E R N A L F O R C E S

ELEM 41 ========== LENGTH = 0.503083

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-149.235254	-0.561759	4.74E-15	3.82E-15	2.50E-15	-0.913308
0.50000	-154.081613	2.124066	4.42E-15	3.82E-15	1.35E-15	-1.108389
1.00000	-159.049529	4.877256	4.08E-15	3.82E-15	2.78E-16	-1.987539

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-149.235254	-0.561759	4.74E-15	3.82E-15	2.50E-15	-0.913308
0.50000	-154.081613	2.124066	4.42E-15	3.82E-15	1.35E-15	-1.108389
1.00000	-159.049529	4.877256	4.08E-15	3.82E-15	2.78E-16	-1.987539

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-149.228139	-0.501799	4.75E-15	3.81E-15	2.61E-15	-1.882255
0.50000	-154.074497	2.184025	4.42E-15	3.81E-15	1.45E-15	-2.092418
1.00000	-159.042413	4.937216	4.09E-15	3.81E-15	3.84E-16	-2.986650

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-149.228139	-0.501799	4.75E-15	3.81E-15	2.61E-15	-1.882255
0.50000	-154.074497	2.184025	4.42E-15	3.81E-15	1.45E-15	-2.092418
1.00000	-159.042413	4.937216	4.09E-15	3.81E-15	3.84E-16	-2.986650

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-144.480458	-0.581400	2.53E-15	2.65E-15	2.04E-15	-2.856423
0.50000	-149.038085	2.625417	2.14E-15	2.65E-15	1.45E-15	-3.112596
1.00000	-153.730682	5.875399	1.75E-15	2.65E-15	9.63E-16	-4.180846

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-144.480458	-0.581400	2.53E-15	2.65E-15	2.04E-15	-2.856423
0.50000	-149.038085	2.625417	2.14E-15	2.65E-15	1.45E-15	-3.112596
1.00000	-153.730682	5.875399	1.75E-15	2.65E-15	9.63E-16	-4.180846

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-144.473342	-0.521441	2.54E-15	2.65E-15	2.15E-15	-3.825370
0.50000	-149.030969	2.685376	2.15E-15	2.65E-15	1.56E-15	-4.096625
1.00000	-153.723566	5.935359	1.75E-15	2.65E-15	1.07E-15	-5.179957

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-153.991048	0.413181	4.77E-15	2.67E-15	8.47E-16	-5.179957
0.50000	-159.078623	3.293797	4.42E-15	2.67E-15	-3.08E-16	-5.645482
1.00000	-164.310079	6.207424	4.07E-15	2.67E-15	-1.38E-15	-6.839734

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-153.991048	0.413181	4.77E-15	2.67E-15	8.47E-16	-5.179957
0.50000	-159.078623	3.293797	4.42E-15	2.67E-15	-3.08E-16	-5.645482
1.00000	-164.310079	6.207424	4.07E-15	2.67E-15	-1.38E-15	-6.839734

ELEM 43 ========== LENGTH = 0.503070

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-170.436006	2.737460	1.10E-14	3.44E-15	-4.04E-15	-3.858850
0.50000	-176.202318	4.768531	1.07E-14	3.44E-15	-6.77E-15	-4.801817
1.00000	-182.109912	6.849367	1.05E-14	3.44E-15	-9.43E-15	-6.261928

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-170.436006	2.737460	1.10E-14	3.44E-15	-4.04E-15	-3.858850
0.50000	-176.202318	4.768531	1.07E-14	3.44E-15	-6.77E-15	-4.801817
1.00000	-182.109912	6.849367	1.05E-14	3.44E-15	-9.43E-15	-6.261928

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-170.440457	2.815680	1.10E-14	3.43E-15	-3.94E-15	-4.892647
0.50000	-176.206770	4.846751	1.07E-14	3.43E-15	-6.67E-15	-5.855289
1.00000	-182.114364	6.927586	1.05E-14	3.43E-15	-9.33E-15	-7.335075

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-170.440457	2.815680	1.10E-14	3.43E-15	-3.94E-15	-4.892647
0.50000	-176.206770	4.846751	1.07E-14	3.43E-15	-6.67E-15	-5.855289
1.00000	-182.114364	6.927586	1.05E-14	3.43E-15	-9.33E-15	-7.335075

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-164.627415	1.362031	7.55E-15	2.49E-15	-1.70E-15	-5.805937
0.50000	-170.233803	3.847136	7.25E-15	2.49E-15	-3.56E-15	-6.460627
1.00000	-175.991375	6.353891	6.95E-15	2.49E-15	-5.34E-15	-7.743132

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-153.991048	0.413181	4.77E-15	2.67E-15	8.47E-16	-5.179957
0.50000	-159.078623	3.293797	4.42E-15	2.67E-15	-3.08E-16	-5.645482
1.00000	-164.310079	6.207424	4.07E-15	2.67E-15	-1.38E-15	-6.839734

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-153.991048	0.413181	4.77E-15	2.67E-15	8.47E-16	-5.179957
0.50000	-159.078623	3.293797	4.42E-15	2.67E-15	-3.08E-16	-5.645482
1.00000	-164.310079	6.207424	4.07E-15	2.67E-15	-1.38E-15	-6.839734

ELEM 44 ========== LENGTH = 0.503070

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-170.436006	2.737460	1.10E-14	3.44E-15	-4.04E-15	-3.858850
0.50000	-176.202318	4.768531	1.07E-14	3.44E-15	-6.77E-15	-4.801817
1.00000	-182.109912	6.849367	1.05E-14	3.44E-15	-9.43E-15	-6.261928

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-170.436006	2.737460	1.10E-14	3.44E-15	-4.04E-15	-3.858850
0.50000	-176.202318	4.768531	1.07E-14	3.44E-15	-6.77E-15	-4.801817
1.00000	-182.109912	6.849367	1.05E-14	3.44E-15	-9.43E-15	-6.261928

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-170.440457	2.815680	1.10E-14	3.43E-15	-3.94E-15	-4.892647
0.50000	-176.206770	4.846751	1.07E-14	3.43E-15	-6.67E-15	-5.855289
1.00000	-182.114364	6.927586	1.05E-14	3.43E-15	-9.33E-15	-7.335075

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-170.440457	2.815680	1.10E-14	3.43E-15	-3.94E-15	-4.892647
0.50000	-176.206770	4.846751	1.07E-14	3.43E-15	-6.67E-15	-5.855289
1.00000	-182.114364	6.927586	1.05E-14	3.43E-15	-9.33E-15	-7.335075

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-164.627415	1.362031	7.55E-15	2.49E-15	-1.70E-15	-5.805937
0.50000	-170.233803	3.847136	7.25E-15	2.49E-15	-3.56E-15	-6.460627
1.00000	-175.991375	6.353891	6.95E-15	2.49E-15	-5.34E-15	-7.743132

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-153.991048	0.413181	4.77E-15	2.67E-15	8.47E-16	-5.179957
0.50000	-159.078623	3.293797	4.42E-15	2.67E-15	-3.08E-16	-5.645482
1.00000	-164.310079	6.207424	4.07E-15	2.67E-15	-1.38E-15	-6.839734

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-153.991048	0.413181	4.77E-15	2.67E-15	8.47E-16	-5.179957
0.50000	-159.078623	3.293797	4.42E-15	2.67E-15	-3.08E-16	-5.645482
1.00000	-164.310079	6.207424	4.07E-15	2.67E-15	-1.38E-15	-6.839734

ELEM 45 ========== LENGTH = 0.503070

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-170.436006	2.737460	1.10E-14	3.44E-15	-4.04E-15	-3.858850
0.50000	-176.202318	4.768531	1.07E-14	3.44E-15	-6.77E-15	-4.801817
1.00000	-182.109912	6.849367	1.05E-14	3.44E-15	-9.43E-15	-6.261928

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-170.436006	2.737460	1.10E-14	3.44E-15	-4.04E-15	-3.858850
0.50000	-176.202318	4.768531	1.07E-14	3.44E-15	-6.77E-15	-4.801817
1.00000	-182.109912	6.849367	1.05E-14	3.44E-15	-9.43E-15	-6.261928

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-170.440457	2.815680	1.10E-14	3.43E-15	-3.94E-15	-4.892647
0.50000	-176.206770	4.846751	1.07E-14	3.43E-15	-6.67E-15	-5.855289
1.00000	-182.114364	6.927586	1.05E-14	3.43E-15	-9.33E-15	-7.335075

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-170.440457	2.815680	1.10E-14	3.43E-15	-3.94E-15	-4.892647
0.50000	-176.206770	4.846751	1.07E-14	3.43E-15	-6.67E-15	-5.855289
1.00000	-182.114364	6.927586	1.05E-14	3.43E-15	-9.33E-15	-7.335075

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-164.627415	1.362031	7.55E-15	2.49E-15	-1.70E-15	-5.805937
0.50000	-170.233803	3.847136	7.25E-15	2.49E-15	-3.56E-15	-6.460627
1.00000	-175.991375	6.353891	6.95E-15	2.49E-15	-5.34E-15	-7.743132

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-164.627415	1.362031	7.55E-15	2.49E-15	-1.70E-15	-5.805937
0.50000	-170.233803	3.847136	7.25E-15	2.49E-15	-3.56E-15	-6.460627
1.00000	-175.991375	6.353891	6.95E-15	2.49E-15	-5.34E-15	-7.743132

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-164.631867	1.440251	7.56E-15	2.48E-15	-1.59E-15	-6.839734
0.50000	-170.238255	3.925356	7.26E-15	2.48E-15	-3.46E-15	-7.514100
1.00000	-175.995827	6.432111	6.96E-15	2.48E-15	-5.24E-15	-8.816279

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-164.631867	1.440251	7.56E-15	2.48E-15	-1.59E-15	-6.839734
0.50000	-170.238255	3.925356	7.26E-15	2.48E-15	-3.46E-15	-7.514100
1.00000	-175.995827	6.432111	6.96E-15	2.48E-15	-5.24E-15	-8.816279

ELEM 44 ========== LENGTH = 0.503070

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-182.531379	3.167827	1.47E-14	2.57E-15	-9.69E-15	-6.261928
0.50000	-188.739731	4.783298	1.45E-14	2.57E-15	-1.33E-14	-7.261110
1.00000	-195.096818	6.437471	1.43E-14	2.57E-15	-1.70E-14	-8.671508

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-182.531379	3.167827	1.47E-14	2.57E-15	-9.69E-15	-6.261928
0.50000	-188.739731	4.783298	1.45E-14	2.57E-15	-1.33E-14	-7.261110
1.00000	-195.096818	6.437471	1.43E-14	2.57E-15	-1.70E-14	-8.671508

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-182.543034	3.260812	1.47E-14	2.56E-15	-9.59E-15	-7.335075
0.50000	-188.751386	4.876283	1.45E-14	2.56E-15	-1.33E-14	-8.357647
1.00000	-195.108473	6.530457	1.43E-14	2.56E-15	-1.69E-14	-9.791434

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-182.543034	3.260812	1.47E-14	2.56E-15	-9.59E-15	-7.335075
0.50000	-188.751386	4.876283	1.45E-14	2.56E-15	-1.33E-14	-8.357647
1.00000	-195.108473	6.530457	1.43E-14	2.56E-15	-1.69E-14	-9.791434

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-176.333879	1.786543	1.08E-14	1.95E-15	-5.53E-15	-7.743132
0.50000	-182.436117	3.809819	1.05E-14	1.95E-15	-8.21E-15	-8.446781
1.00000	-188.694786	5.842220	1.03E-14	1.95E-15	-1.08E-14	-9.660504

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-176.333879	1.786543	1.08E-14	1.95E-15	-5.53E-15	-7.743132
0.50000	-182.436117	3.809819	1.05E-14	1.95E-15	-8.21E-15	-8.446781
1.00000	-188.694786	5.842220	1.03E-14	1.95E-15	-1.08E-14	-9.660504

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-176.345534	1.879529	1.08E-14	1.94E-15	-5.43E-15	-8.816279
0.50000	-182.447772	3.902805	1.06E-14	1.94E-15	-8.12E-15	-9.543318
1.00000	-188.706441	5.935206	1.03E-14	1.94E-15	-1.07E-14	-10.780429

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-176.345534	1.879529	1.08E-14	1.94E-15	-5.43E-15	-8.816279
0.50000	-182.447772	3.902805	1.06E-14	1.94E-15	-8.12E-15	-9.543318
1.00000	-188.706441	5.935206	1.03E-14	1.94E-15	-1.07E-14	-10.780429

ELEM 45 ========== LENGTH = 0.503070

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-195.442465	1.778048	1.86E-14	1.05E-15	-1.71E-14	-8.671508
0.50000	-202.068909	2.918707	1.85E-14	1.05E-15	-2.18E-14	-9.261650
1.00000	-208.849665	4.085930	1.83E-14	1.05E-15	-2.64E-14	-10.142049

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-195.442465	1.778048	1.86E-14	1.05E-15	-1.71E-14	-8.671508
0.50000	-202.068909	2.918707	1.85E-14	1.05E-15	-2.18E-14	-9.261650
1.00000	-208.849665	4.085930	1.83E-14	1.05E-15	-2.64E-14	-10.142049

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-195.462880	1.893288	1.86E-14	1.04E-15	-1.70E-14	-9.791434
0.50000	-202.089325	3.033947	1.85E-14	1.04E-15	-2.17E-14	-10.410563
1.00000	-208.870081	4.201170	1.84E-14	1.04E-15	-2.63E-14	-11.319948

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB2 ------ ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-195.462640	1.893256	1.66E-14	1.04E-15	-1.70E-14	-9.791434
0.50000	-202.086325	3.033947	1.85E-14	1.04E-15	-2.17E-14	-10.410563
1.00000	-208.870041	4.201170	1.84E-14	1.04E-15	-2.63E-14	-11.319448

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-188.968127	0.654730	1.44E-14	9.36E-16	-1.10E-14	-9.990564
0.50000	-195.533510	2.150119	1.42E-14	9.36E-16	-1.45E-14	-10.013356
1.00000	-202.255494	3.641333	1.40E-14	9.36E-16	-1.81E-14	-10.741613

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-188.968127	0.654730	1.44E-14	9.36E-16	-1.10E-14	-9.990564
0.50000	-195.533510	2.150119	1.42E-14	9.36E-16	-1.45E-14	-10.013356
1.00000	-202.255494	3.641333	1.40E-14	9.36E-16	-1.81E-14	-10.741613

COMB COMB4 ---------- ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-188.988543	0.769970	1.44E-14	9.21E-16	-1.09E-14	-10.760429
0.50000	-195.553925	2.265359	1.42E-14	9.21E-16	-1.45E-14	-11.162262
1.00000	-202.278910	3.756573	1.40E-14	9.21E-16	-1.80E-14	-11.919713

COMB2 COMB4 ---------- ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-188.988543	0.769970	1.44E-14	9.21E-16	-1.09E-14	-10.760429
0.50000	-195.553925	2.265359	1.42E-14	9.21E-16	-1.45E-14	-11.162262
1.00000	-202.278910	3.756573	1.40E-14	9.21E-16	-1.80E-14	-11.919713

ELEM 46 ========== LENGTH = 0.503070

COMB COMB1 ---------- ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-208.918695	-2.445259	2.27E-14	-1.28E-15	-2.64E-14	-10.142049
0.50000	-209.139534	-2.426139	2.27E-14	-1.28E-15	-3.21E-14	-9.529385
1.00000	-209.360373	-2.407018	2.27E-14	-1.28E-15	-3.78E-14	-8.921531

COMB COMB1 ---------- ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-208.918695	-2.445259	2.27E-14	-1.28E-15	-2.64E-14	-10.142049
0.50000	-209.139534	-2.426139	2.27E-14	-1.28E-15	-3.21E-14	-9.529385
1.00000	-209.360373	-2.407018	2.27E-14	-1.28E-15	-3.78E-14	-8.921531

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB2 ---------- ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-208.949682	2.302126	2.27E-14	1.29E-15	-2.63E-14	-11.319948
0.50000	-209.170621	2.283006	2.27E-14	1.29E-15	-3.20E-14	-10.743287
1.00000	-209.391560	2.263885	2.27E-14	1.29E-15	-3.77E-14	-10.171436

COMB COMB2 ---------- ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-208.949682	-2.302126	2.27E-14	-1.29E-15	-2.63E-14	-11.319948
0.50000	-209.170621	-2.283006	2.27E-14	-1.29E-15	-3.20E-14	-10.743287
1.00000	-209.391560	-2.263885	2.27E-14	-1.29E-15	-3.77E-14	-10.171436

COMB COMB3 ---------- ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-202.279714	-3.136961	1.81E-14	-6.97E-16	-1.81E-14	-10.741813
0.50000	-202.474902	-2.821572	1.81E-14	-6.97E-16	-2.27E-14	-9.993083
1.00000	-202.672512	-2.537632	1.80E-14	-6.97E-16	-2.72E-14	-9.319728

COMB COMB3 ---------- ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-202.279714	-3.136961	1.81E-14	-6.97E-16	-1.81E-14	-10.741813
0.50000	-202.474902	-2.821572	1.81E-14	-6.97E-16	-2.27E-14	-9.993083
1.00000	-202.672512	-2.537632	1.80E-14	-6.97E-16	-2.72E-14	-9.319728

COMB COMB4 ---------- ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-202.311001	-2.993828	1.81E-14	-7.16E-16	-1.80E-14	-11.919713
0.50000	-202.506189	-2.678439	1.81E-14	-7.16E-16	-2.26E-14	-11.206985
1.00000	-202.704099	-2.394499	1.81E-14	-7.16E-16	-2.71E-14	-10.569634

COMB COMB4 ---------- ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-202.311001	2.993828	1.81E-14	-7.16E-16	-1.80E-14	-11.919713
0.50000	-202.506189	-2.678439	1.81E-14	-7.16E-16	-2.26E-14	-11.206985
1.00000	-202.704099	-2.394499	1.81E-14	-7.16E-16	-2.71E-14	-10.569634

ELEM 47 ========== LENGTH = 0.503070

COMB COMB1 ---------- ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-208.811805	-10.631394	2.67E-14	-4.54E-15	-3.76E-14	-8.921531
0.50000	-209.033469	-10.630892	2.67E-14	-4.54E-15	-4.43E-14	-6.247425
1.00000	-209.255134	-10.630389	2.67E-14	-4.54E-15	-5.10E-14	-3.573445

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB1 ---------- ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-208.811805	-10.631394	2.67E-14	4.54E-15	-3.76E-14	8.921531
0.50000	-209.033469	-10.630892	2.67E-14	-4.54E-15	-4.43E-14	-6.247425
1.00000	-209.255134	-10.630389	2.67E-14	-4.54E-15	-5.10E-14	-3.573445

COMB COMB2 ---------- ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-208.856271	-10.461288	2.67E-14	-4.56E-15	-3.75E-14	-10.171436
0.50000	-209.077935	-10.460785	2.67E-14	-4.56E-15	-4.42E-14	-7.540118
1.00000	-209.299600	-10.460282	2.67E-14	-4.56E-15	-5.09E-14	-4.908926

COMB COMB2 ---------- ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-208.856271	-10.461288	2.67E-14	-4.56E-15	-3.75E-14	-10.171436
0.50000	-209.077935	-10.460785	2.67E-14	-4.56E-15	-4.42E-14	-7.540118
1.00000	-209.299600	-10.460282	2.67E-14	-4.56E-15	-5.09E-14	-4.908926

COMB COMB3 ---------- ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-202.112663	-10.776030	2.19E-14	-3.07E-15	-2.70E-14	-9.319728
0.50000	-202.333797	-10.541286	2.18E-14	-3.07E-15	-3.25E-14	-6.639363
1.00000	-202.555002	-10.338109	2.18E-14	-3.07E-15	-3.80E-14	-4.014074

COMB COMB3 ---------- ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-202.112663	-10.776030	2.19E-14	-3.07E-15	-2.70E-14	-9.319728
0.50000	-202.333797	-10.541286	2.18E-14	-3.07E-15	-3.25E-14	-6.639363
1.00000	-202.555002	-10.338109	2.18E-14	-3.07E-15	-3.80E-14	-4.014074

COMB COMB4 ---------- ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-202.157129	-10.605923	2.19E-14	-3.10E-15	-2.70E-14	-10.569634
0.50000	-202.378263	-10.371179	2.19E-14	-3.10E-15	-3.25E-14	-7.932056
1.00000	-202.599468	-10.168002	2.18E-14	-3.10E-15	-3.80E-14	-5.349555

COMB COMB4 ---------- ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-202.157129	-10.605923	2.19E-14	-3.10E-15	-2.70E-14	-10.569634
0.50000	-202.378263	-10.371179	2.19E-14	-3.10E-15	-3.25E-14	-7.932056
1.00000	-202.599468	-10.168002	2.18E-14	-3.10E-15	-3.80E-14	-5.349555

F R A M E E L E M E N T I N T E R N A L F O R C E S

ELEM 48 ========== LENGTH = 0.503070

COMB COMB1 ---------- ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-207.910343	-21.332386	4.39E-14	-8.84E-15	-4.81E-14	3.573445
0.50000	-208.160723	-21.352920	4.39E-14	-8.84E-15	-5.92E-14	1.794983
1.00000	-208.411104	-21.373455	4.40E-14	-8.84E-15	-7.02E-14	7.168576

COMB COMB1 ---------- ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-207.910343	-21.332386	4.39E-14	-8.84E-15	-4.81E-14	-3.573445
0.50000	-208.160723	-21.352920	4.39E-14	-8.84E-15	-5.92E-14	1.794983
1.00000	-208.411104	-21.373455	4.40E-14	-8.84E-15	-7.02E-14	7.168576

COMB COMB2 ---------- ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-207.969703	-21.148509	4.38E-14	-8.87E-15	-4.72E-14	-4.908926
0.50000	-208.220083	-21.169043	4.39E-14	-8.87E-15	-5.82E-14	0.413250
1.00000	-208.470463	-21.189578	4.39E-14	-8.87E-15	-6.93E-14	5.740592

COMB COMB2 ---------- ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-207.969703	-21.148509	4.38E-14	-8.87E-15	-4.72E-14	-4.908926
0.50000	-208.220083	-21.169043	4.39E-14	-8.87E-15	-5.82E-14	0.413250
1.00000	-208.470463	-21.189578	4.39E-14	-8.87E-15	-6.93E-14	5.740592

COMB COMB3 ---------- ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-201.242636	-20.854006	3.86E-14	-6.30E-15	-3.51E-14	-4.014074
0.50000	-201.507002	-20.704006	3.85E-14	-6.30E-15	-4.48E-14	1.211917
1.00000	-201.768787	-20.585468	3.84E-14	-6.30E-15	-5.44E-14	6.404135

COMB COMB3 ---------- ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-201.242636	-20.854006	3.86E-14	-6.30E-15	-3.51E-14	-4.014074
0.50000	-201.507002	-20.704006	3.85E-14	-6.30E-15	-4.48E-14	1.211917
1.00000	-201.768787	-20.585468	3.84E-14	-6.30E-15	-5.44E-14	6.404135

COMB COMB4 ---------- ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-201.301995	-20.670129	3.85E-14	-6.33E-15	-3.41E-14	-5.349555
0.50000	-201.566361	-20.520129	3.84E-14	-6.33E-15	-4.38E-14	-0.169815
1.00000	-201.828147	-20.401591	3.83E-14	-6.33E-15	-5.35E-14	4.976151

F R A M E   E L E M E N T   I N T E R N A L   F O R C E S

COMB   COMB4 ------------------ MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-211.3[illegible]1995	20.670129	3.85E-14	-6.33E-15	-3.41E-14	-5.349555
0.50000	-211.586301	20.520129	3.84E-14	-6.33E-15	-4.38E-14	-0.169815
1.00000	-211.826147	-20.401591	3.83E-14	-6.33E-15	-5.35E-14	4.976151

ELEM   49 ==================== LENGTH =   0.503070

COMB   COMB1 ------------------ MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-206.044966	-34.862446	5.56E-14	-1.42E-14	-6.93E-14	7.168576
0.50000	-206.292736	-34.903940	5.56E-14	-1.42E-14	-8.32E-14	15.942923
1.00000	-206.540506	-34.945434	5.56E-14	-1.42E-14	-9.72E-14	24.727708

COMB   COMB1 ------------------ MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-206.044966	-34.862446	5.56E-14	-1.42E-14	-6.93E-14	7.168576
0.50000	-206.292736	-34.903940	5.56E-14	-1.42E-14	-8.32E-14	15.942923
1.00000	-206.540506	-34.945434	5.56E-14	-1.42E-14	-9.72E-14	24.727708

COMB   COMB2 ------------------ MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-206.119738	-34.679998	5.55E-14	-1.43E-14	-6.83E-14	5.740592
0.50000	-206.367508	-34.721492	5.55E-14	-1.43E-14	-8.22E-14	14.469047
1.00000	-206.615279	-34.762986	5.55E-14	-1.43E-14	-9.62E-14	23.207940

COMB   COMB2 ------------------ MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-206.119738	-34.679998	5.55E-14	-1.43E-14	-6.83E-14	5.740592
0.50000	-206.367508	-34.721492	5.55E-14	-1.43E-14	-8.22E-14	14.469047
1.00000	-206.615279	-34.762986	5.55E-14	-1.43E-14	-9.62E-14	23.207940

COMB   COMB3 ------------------ MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-199.483913	-33.719050	4.97E-14	-1.04E-14	-5.37E-14	6.404135
0.50000	-199.749548	-33.653870	4.96E-14	-1.04E-14	-6.62E-14	14.876818
1.00000	-200.010031	-33.619451	4.96E-14	-1.04E-14	-7.87E-14	23.336974

COMB   COMB3 ------------------ MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-199.483913	-33.719050	4.97E-14	-1.04E-14	-5.37E-14	6.404135
0.50000	-199.749548	-33.653870	4.96E-14	-1.04E-14	-6.62E-14	14.876818
1.00000	-200.010031	-33.619451	4.96E-14	-1.04E-14	-7.87E-14	23.336974

F R A M E   E L E M E N T   I N T E R N A L   F O R C E S

COMB   COMB4 ------------------ MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-199.558685	-33.536602	4.96E-14	-1.05E-14	-5.27E-14	4.976151
0.50000	-199.824320	-33.471422	4.95E-14	-1.05E-14	-6.52E-14	13.402942
1.00000	-200.084804	-33.437003	4.95E-14	-1.05E-14	-7.77E-14	21.817205

COMB   COMB4 ------------------ MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-199.558685	-33.536602	4.96E-14	-1.05E-14	-5.27E-14	4.976151
0.50000	-199.824320	-33.471422	4.95E-14	-1.05E-14	-6.52E-14	13.402942
1.00000	-200.084804	-33.437003	4.95E-14	-1.05E-14	-7.77E-14	21.817205

ELEM   50 ==================== LENGTH =   0.503070

COMB   COMB1 ------------------ MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-202.959591	-50.165445	6.79E-14	-2.08E-14	-9.57E-14	24.727708
0.50000	-203.203000	-50.227605	6.80E-14	-2.08E-14	-1.13E-13	37.353893
1.00000	-203.446409	-50.289764	6.80E-14	-2.08E-14	-1.30E-13	49.995713

COMB   COMB1 ------------------ MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-202.959591	-50.165445	6.79E-14	-2.08E-14	-9.57E-14	24.727708
0.50000	-203.203000	-50.227605	6.80E-14	-2.08E-14	-1.13E-13	37.353893
1.00000	-203.446409	-50.289764	6.80E-14	-2.08E-14	-1.30E-13	49.995713

COMB   COMB2 ------------------ MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-203.049414	-49.990170	6.78E-14	-2.08E-14	-9.47E-14	23.207940
0.50000	-203.292823	-50.052329	6.79E-14	-2.08E-14	-1.12E-13	35.790036
1.00000	-203.536232	-50.114489	6.79E-14	-2.08E-14	-1.29E-13	48.387768

COMB   COMB2 ------------------ MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-203.049414	-49.990170	6.78E-14	-2.08E-14	-9.47E-14	23.207940
0.50000	-203.292823	-50.052329	6.79E-14	-2.08E-14	-1.12E-13	35.790036
1.00000	-203.536232	-50.114489	6.79E-14	-2.08E-14	-1.29E-13	48.387768

COMB   COMB3 ------------------ MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-196.559618	-48.389665	6.15E-14	-1.55E-14	-7.76E-14	23.336974
0.50000	-196.814417	-48.407225	6.15E-14	-1.55E-14	-9.31E-14	35.510255
1.00000	-197.061622	-48.454518	6.16E-14	-1.55E-14	-1.09E-13	47.691693

F R A M E   E L E M E N T   I N T E R N A L   F O R C E S

COMB   COMB3 ------------------ MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-196.559618	-48.389665	6.15E-14	-1.55E-14	-7.76E-14	23.336974
0.50000	-196.814417	-48.407225	6.15E-14	-1.55E-14	-9.31E-14	35.510255
1.00000	-197.061622	-48.454518	6.16E-14	-1.55E-14	-1.09E-13	47.691693

COMB   COMB4 ------------------ MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-196.649441	-48.214389	6.14E-14	-1.56E-14	-7.66E-14	21.817205
0.50000	-196.904240	-48.231949	6.15E-14	-1.56E-14	-9.20E-14	33.946399
1.00000	-197.151445	-48.279243	6.15E-14	-1.56E-14	-1.07E-13	46.083748

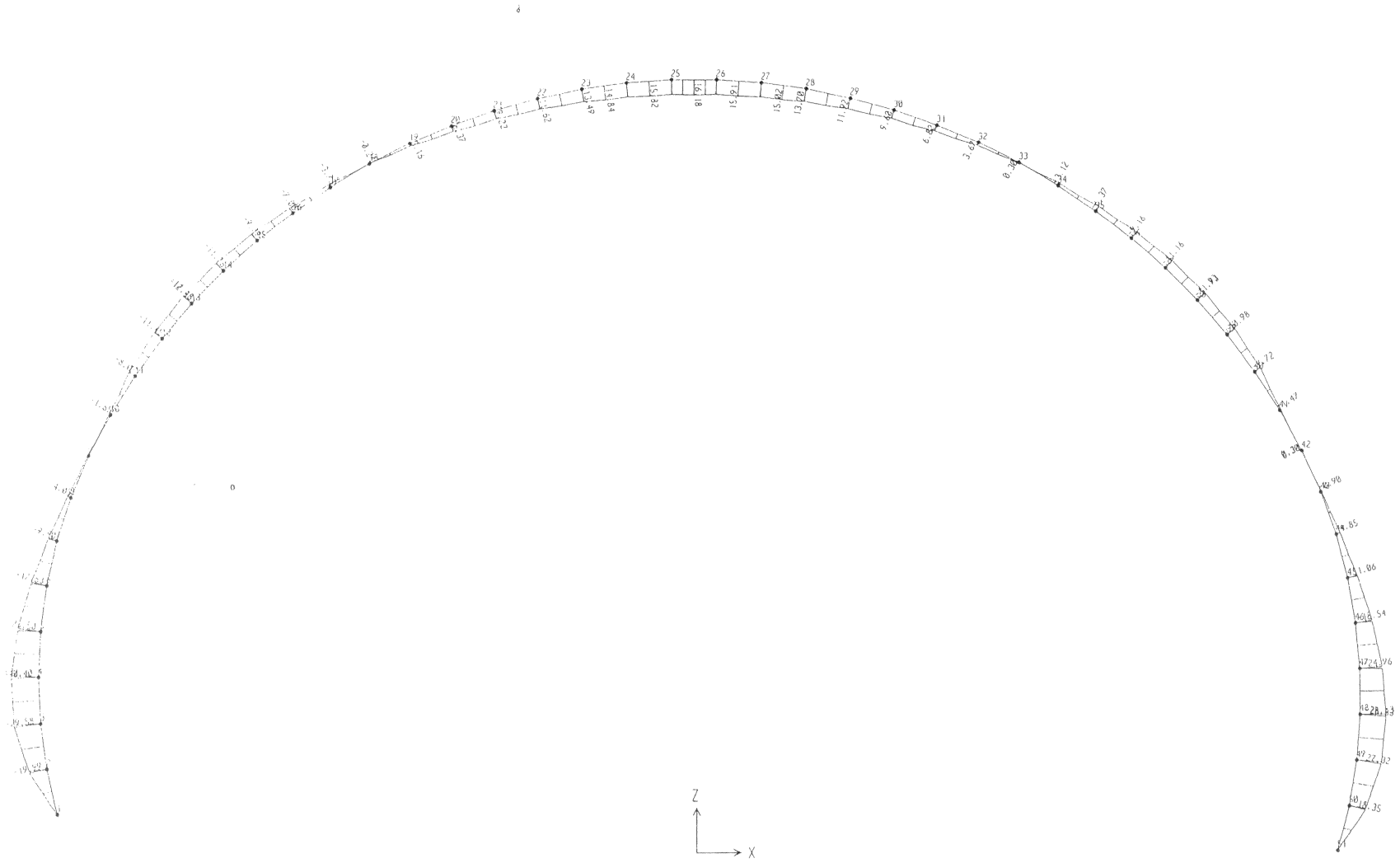
COMB   COMB4 ------------------ MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-196.649441	-48.214389	6.14E-14	-1.56E-14	-7.66E-14	21.817205
0.50000	-196.904240	-48.231949	6.15E-14	-1.56E-14	-9.20E-14	33.946399
1.00000	-197.151445	-48.279243	6.15E-14	-1.56E-14	-1.07E-13	46.083748

5-4. 철근 콘크리트 라이닝 해석결과

(TYPE : 5 - 6)

단면력도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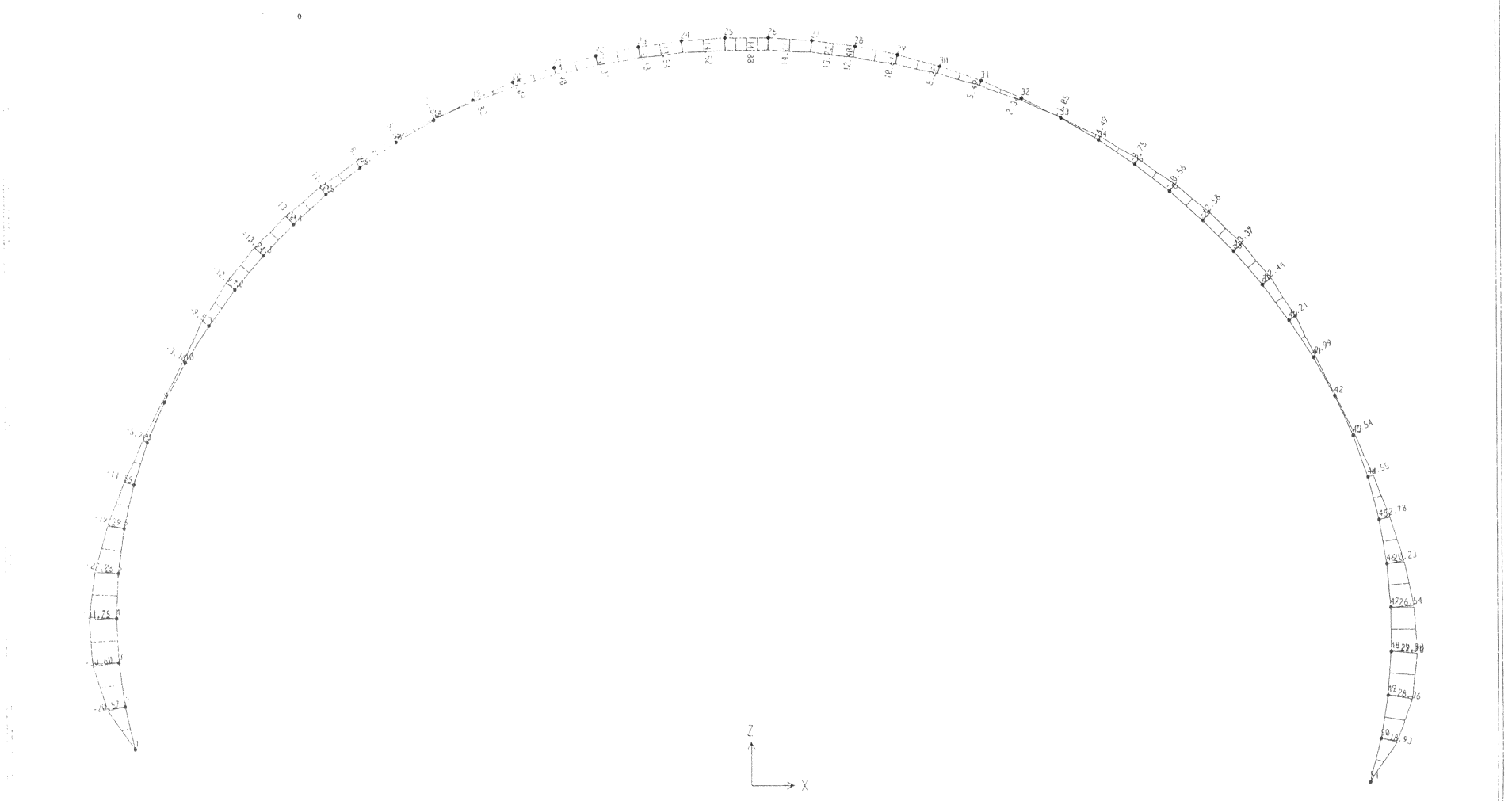

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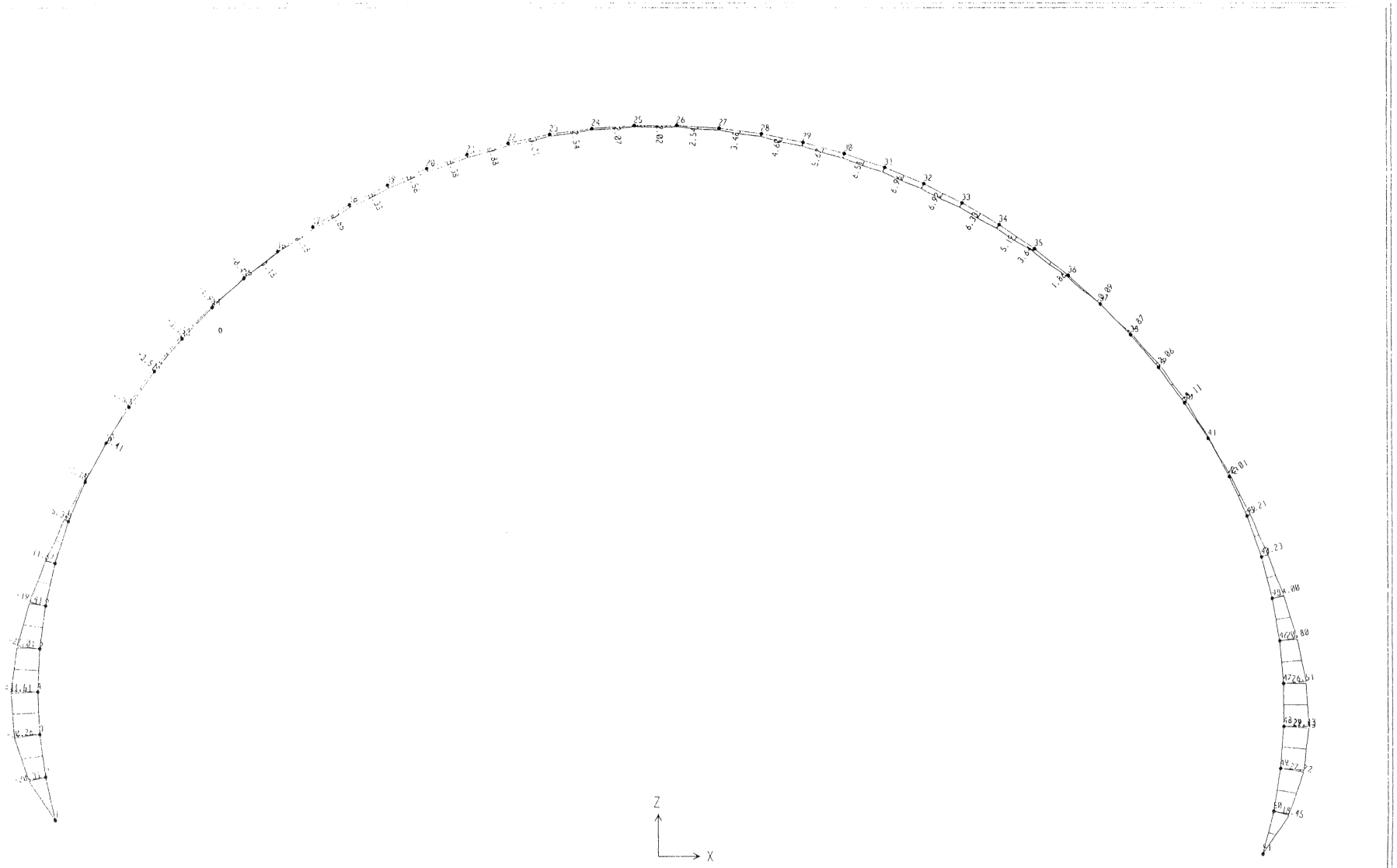
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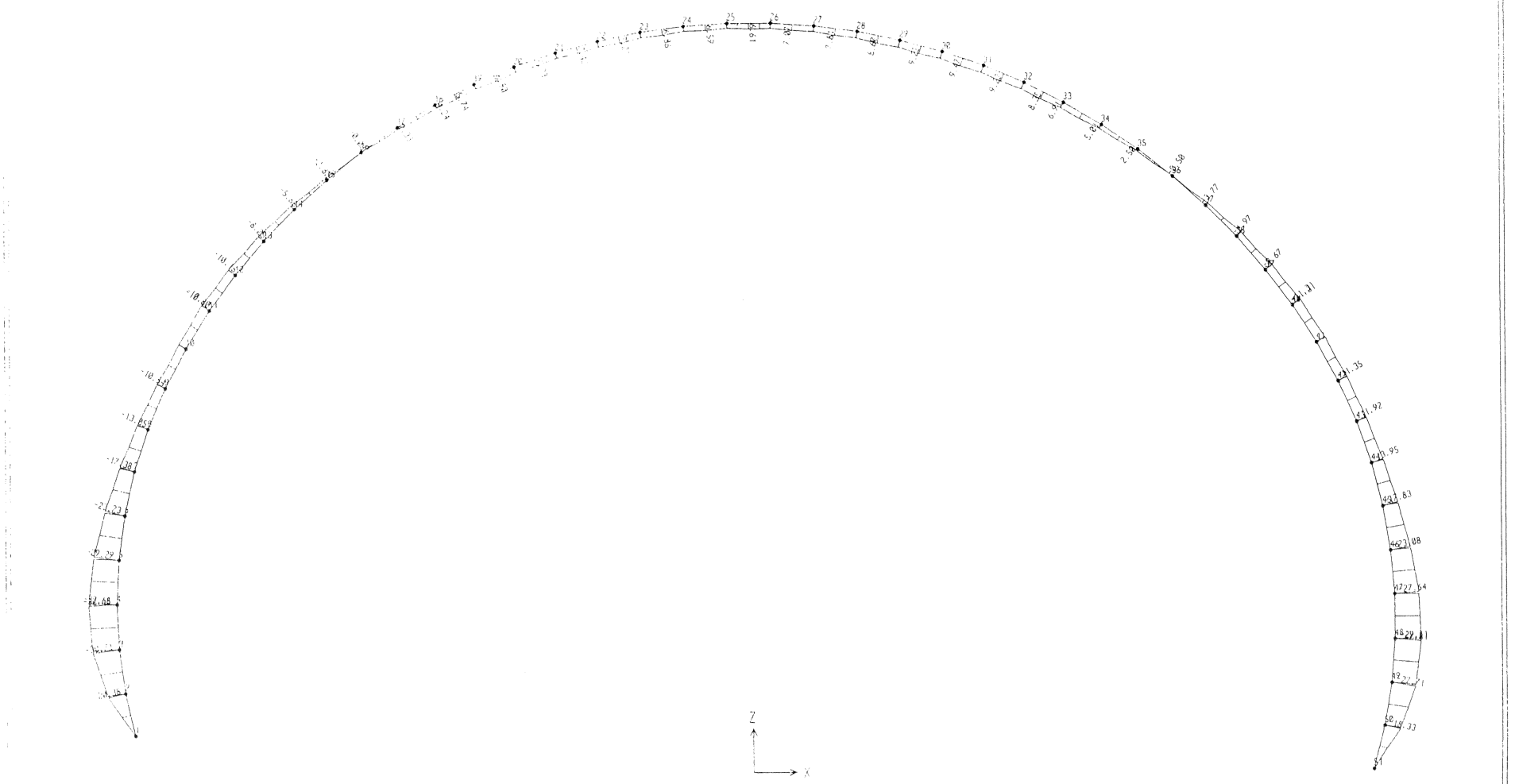
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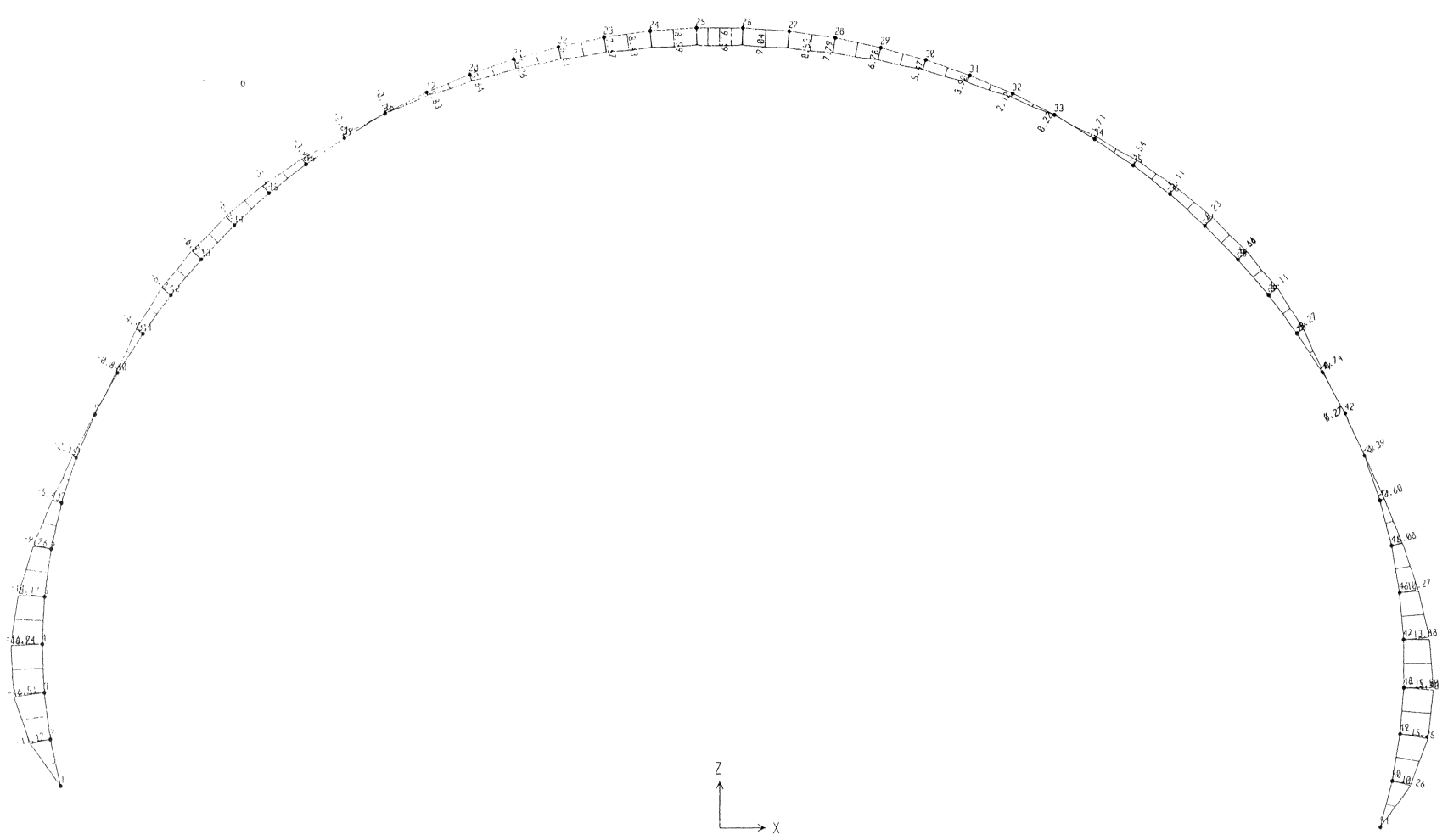

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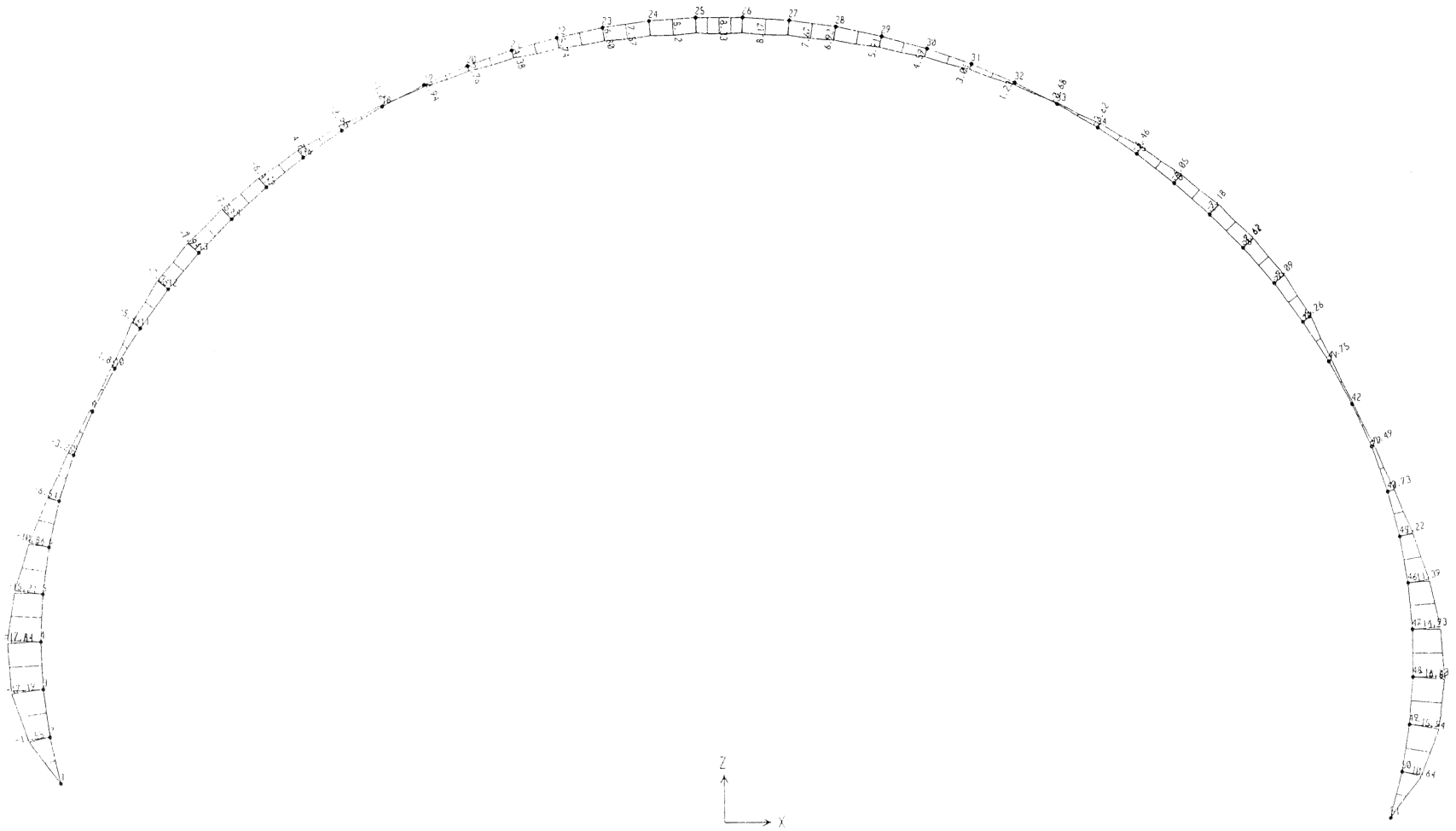

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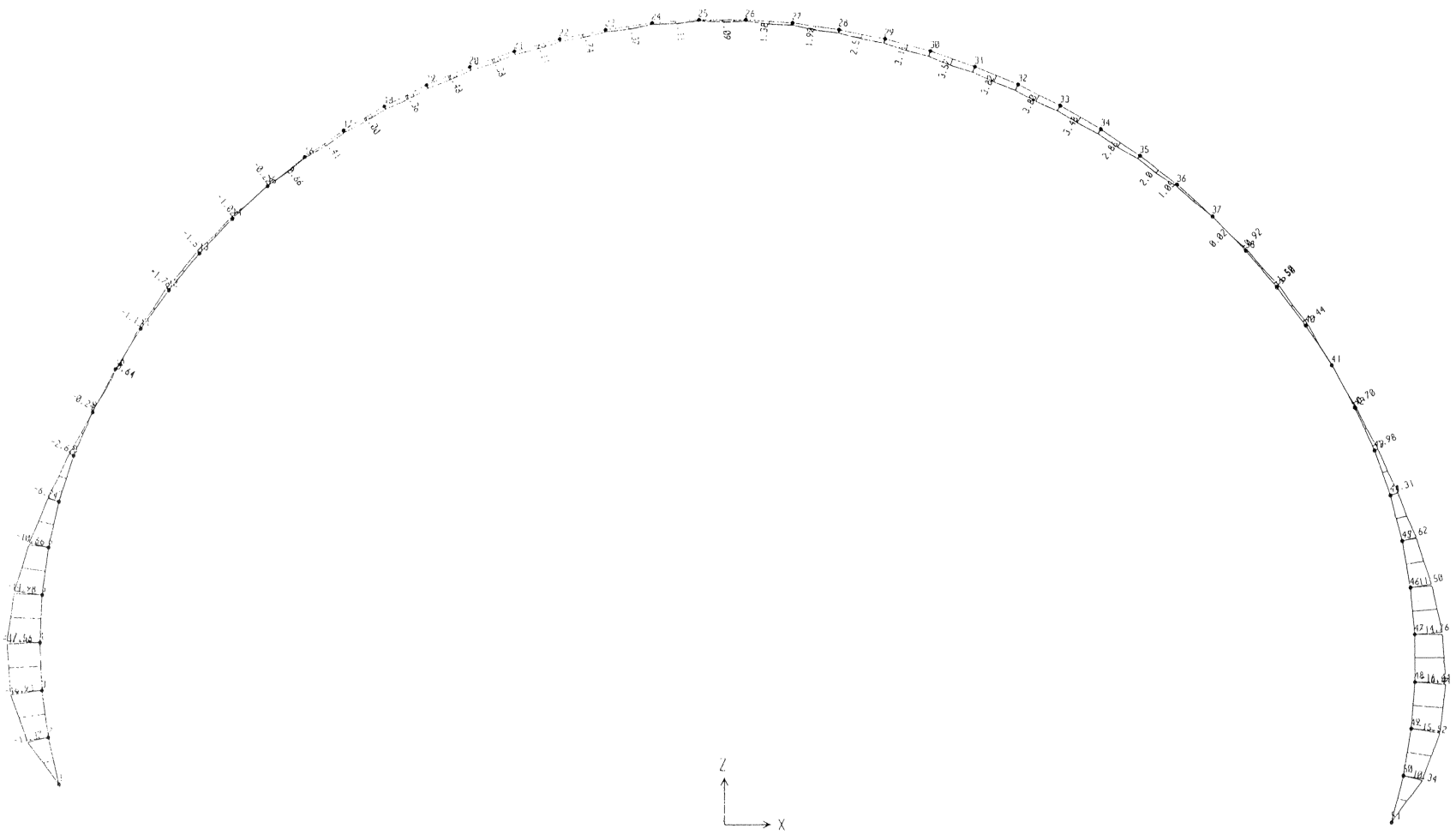
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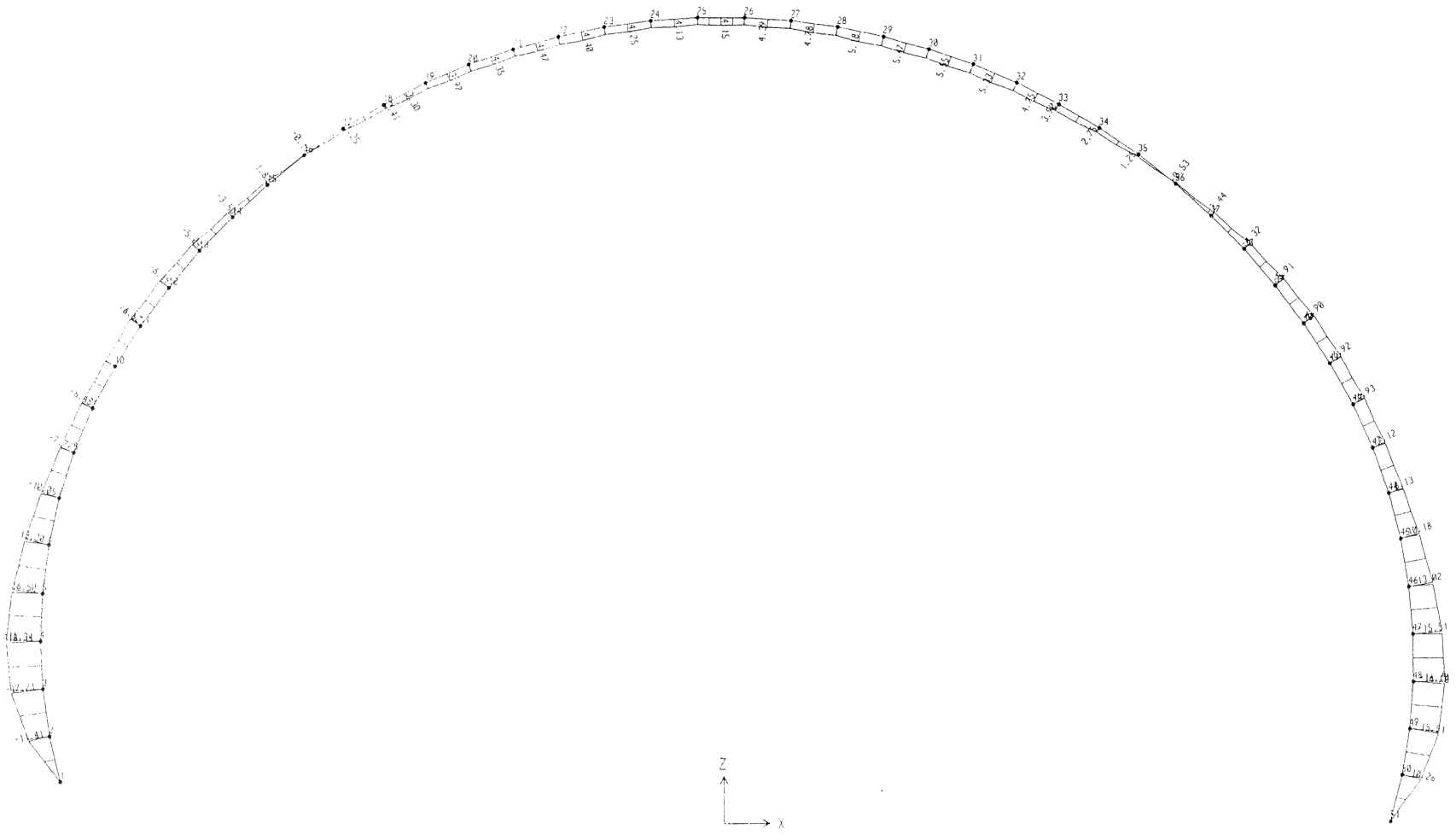
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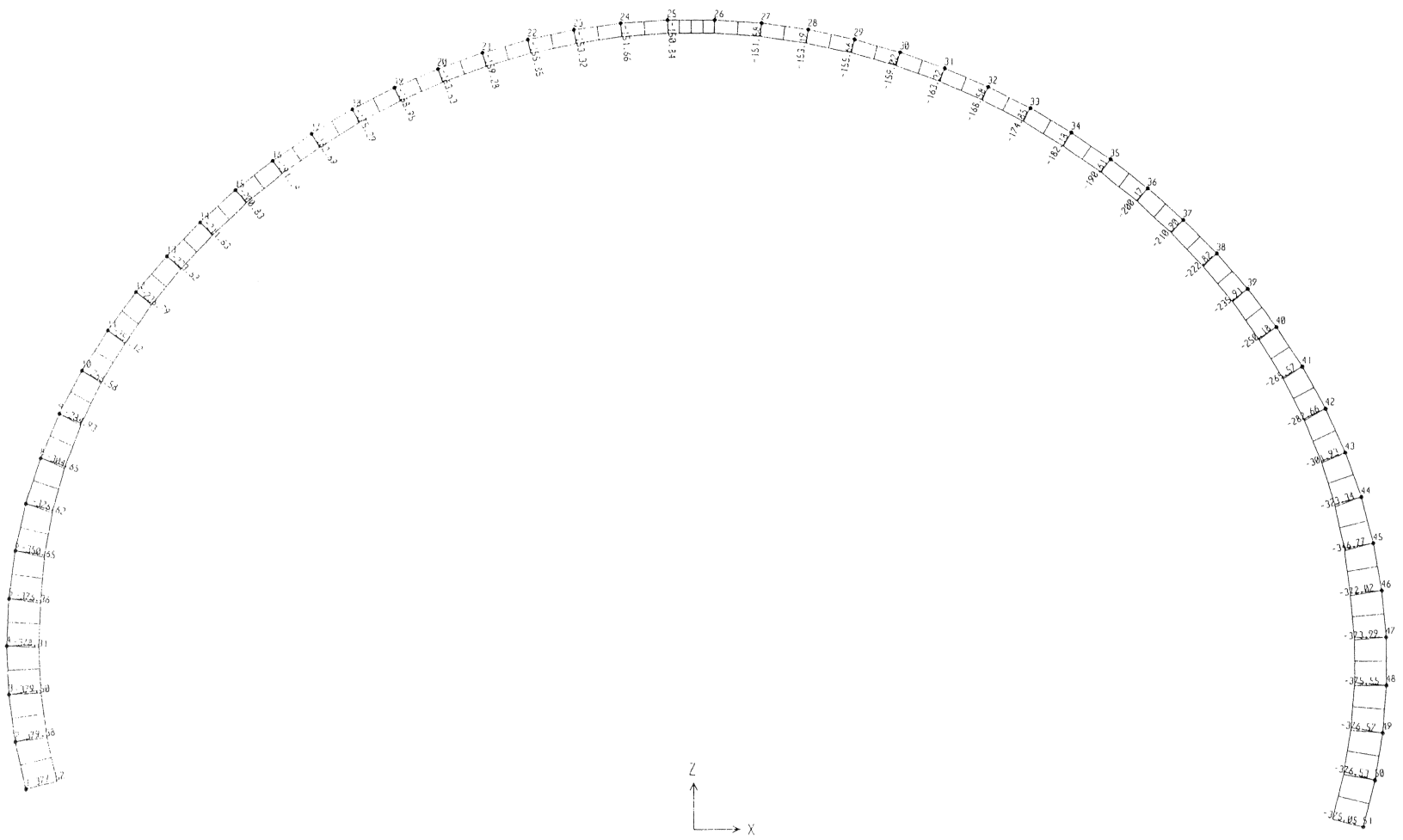
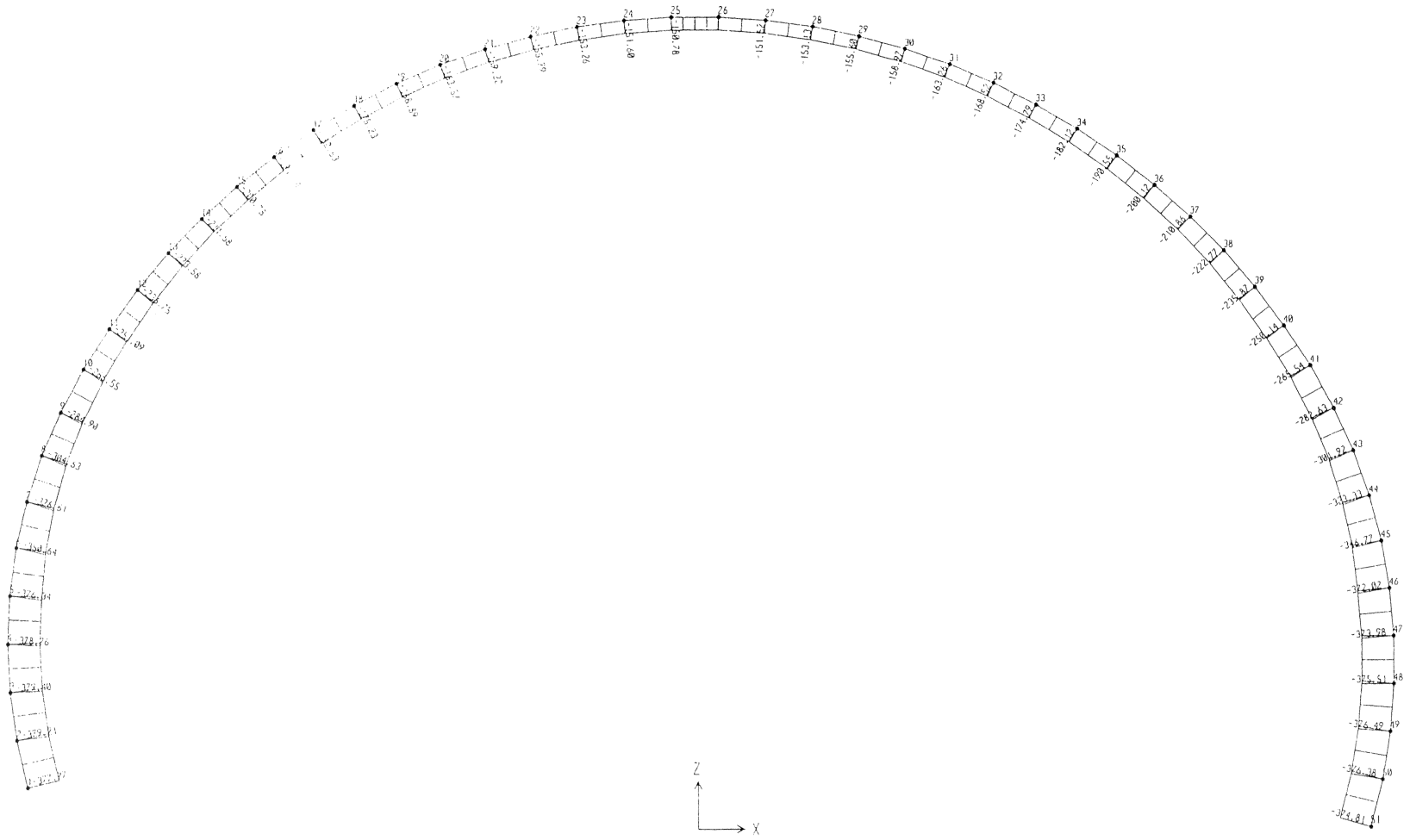
8-14-03 11:33:10



SAP2000 v7.40 - File:tl-4-1 - Axial Force Diagram (COMB1) - Ton-m Units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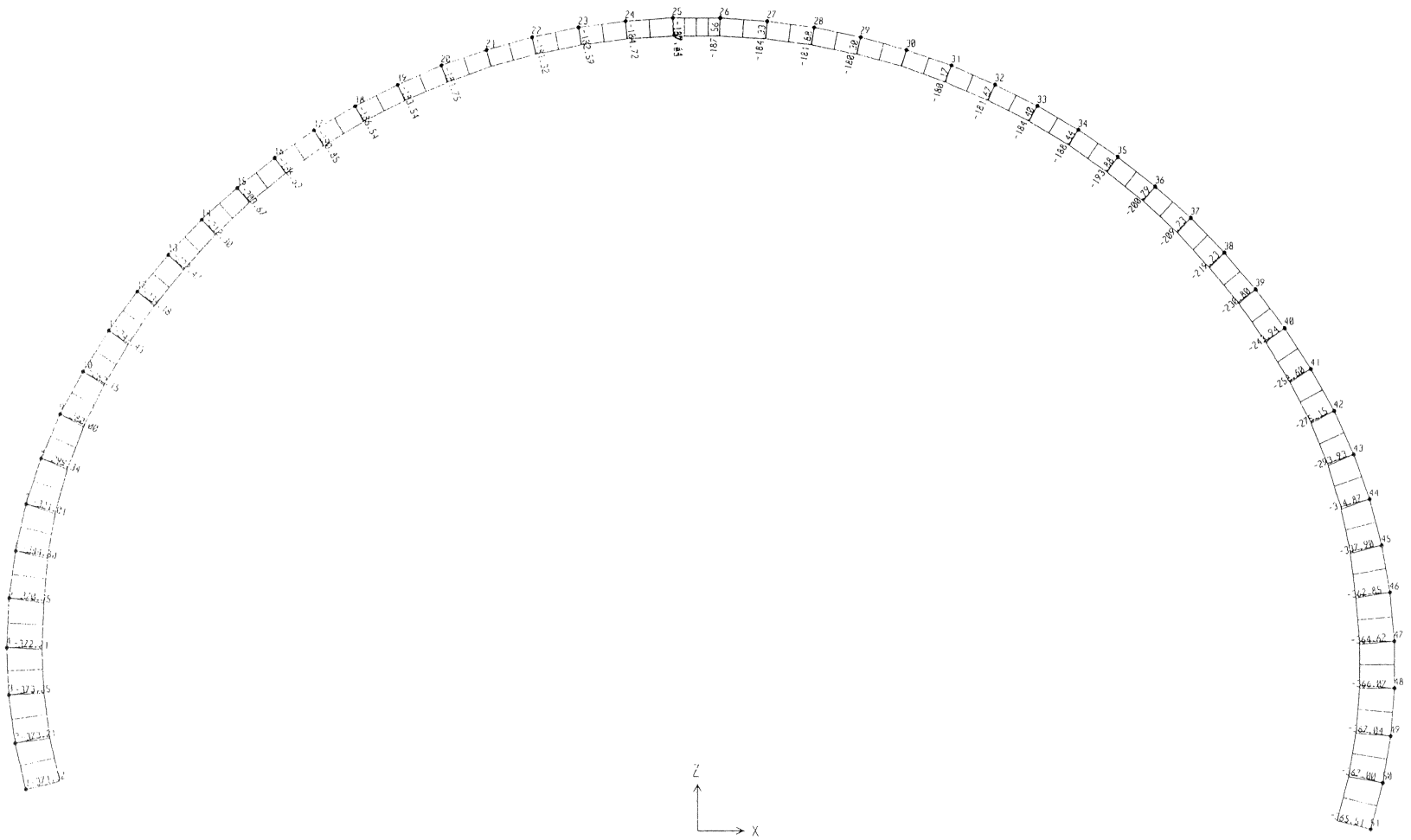

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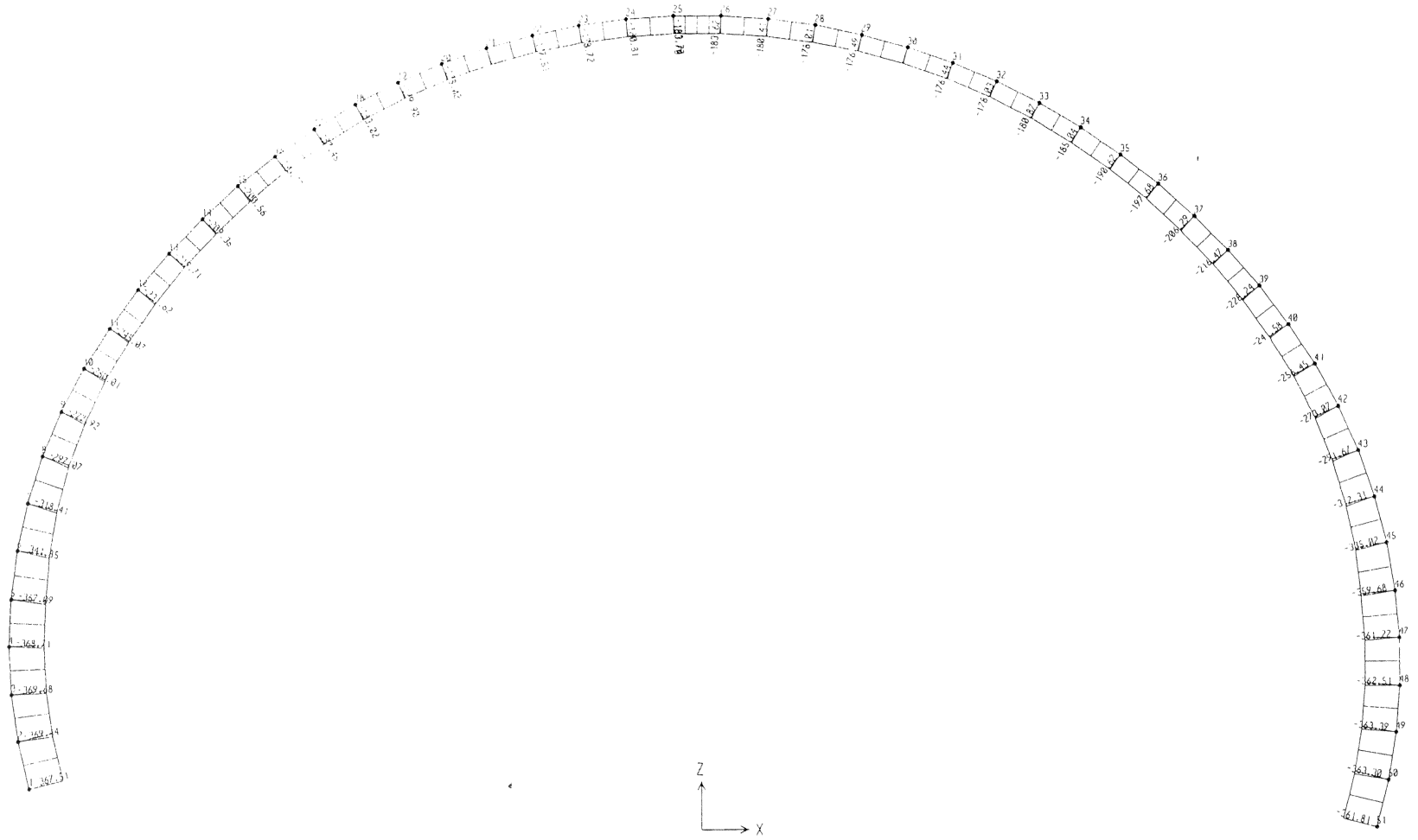
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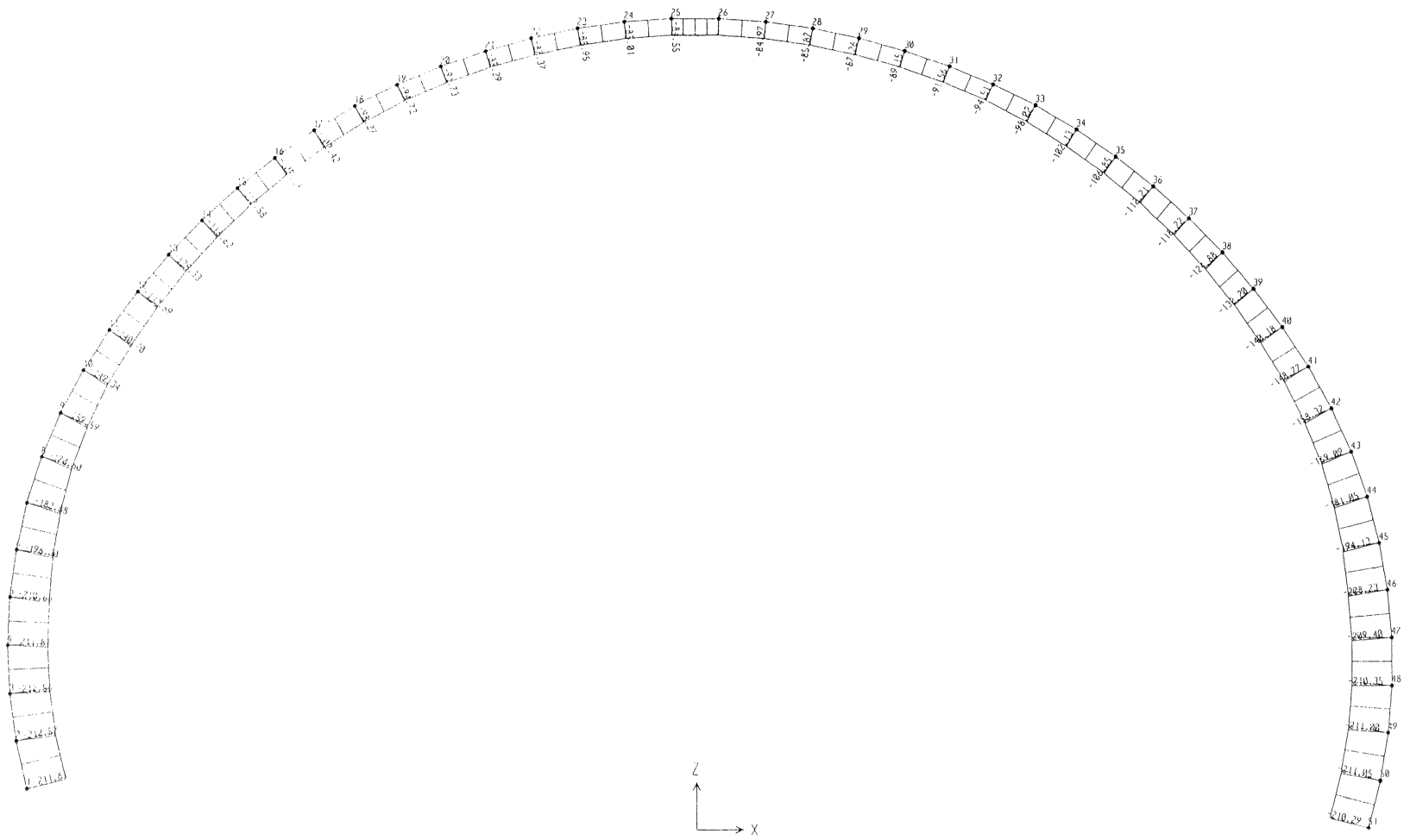
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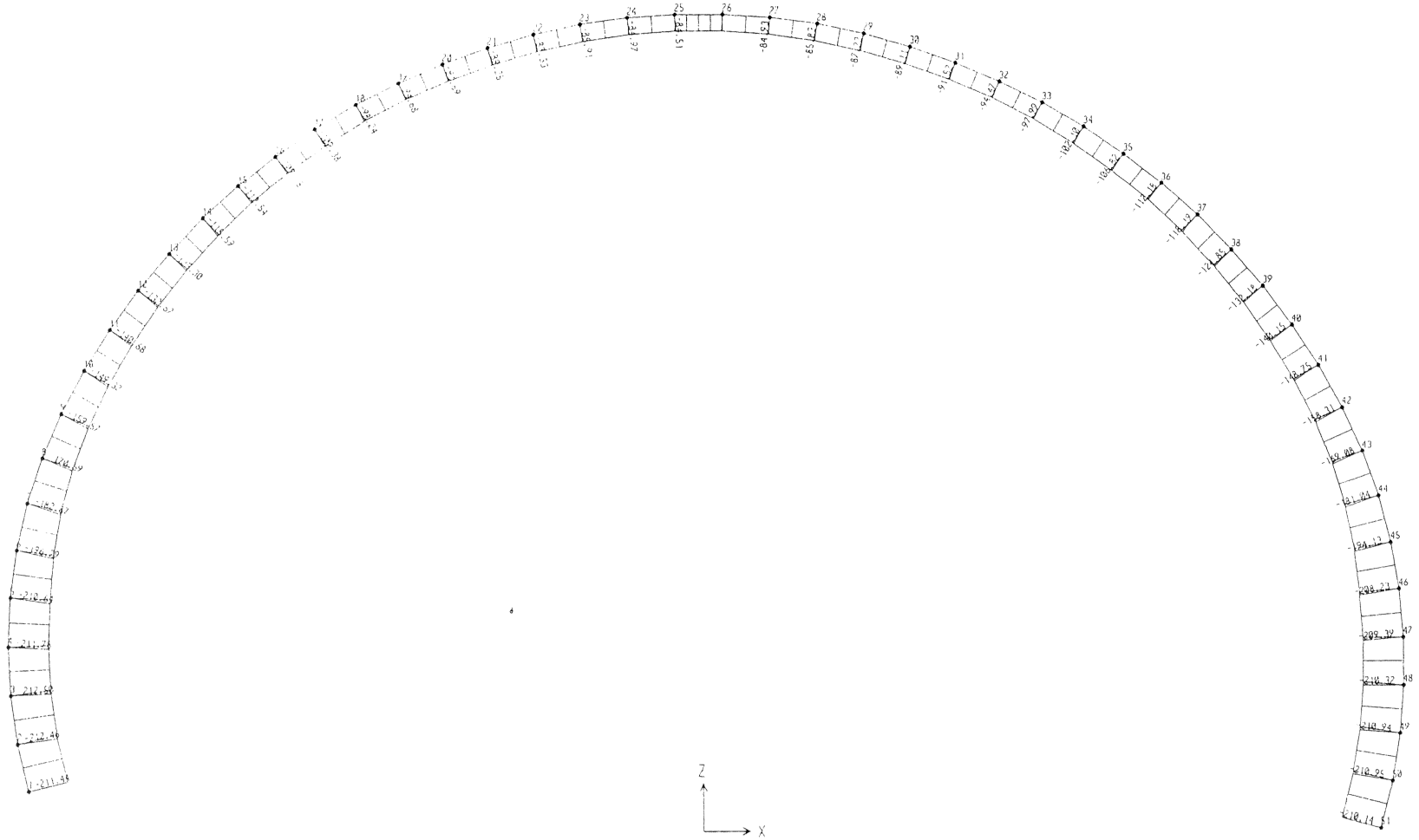
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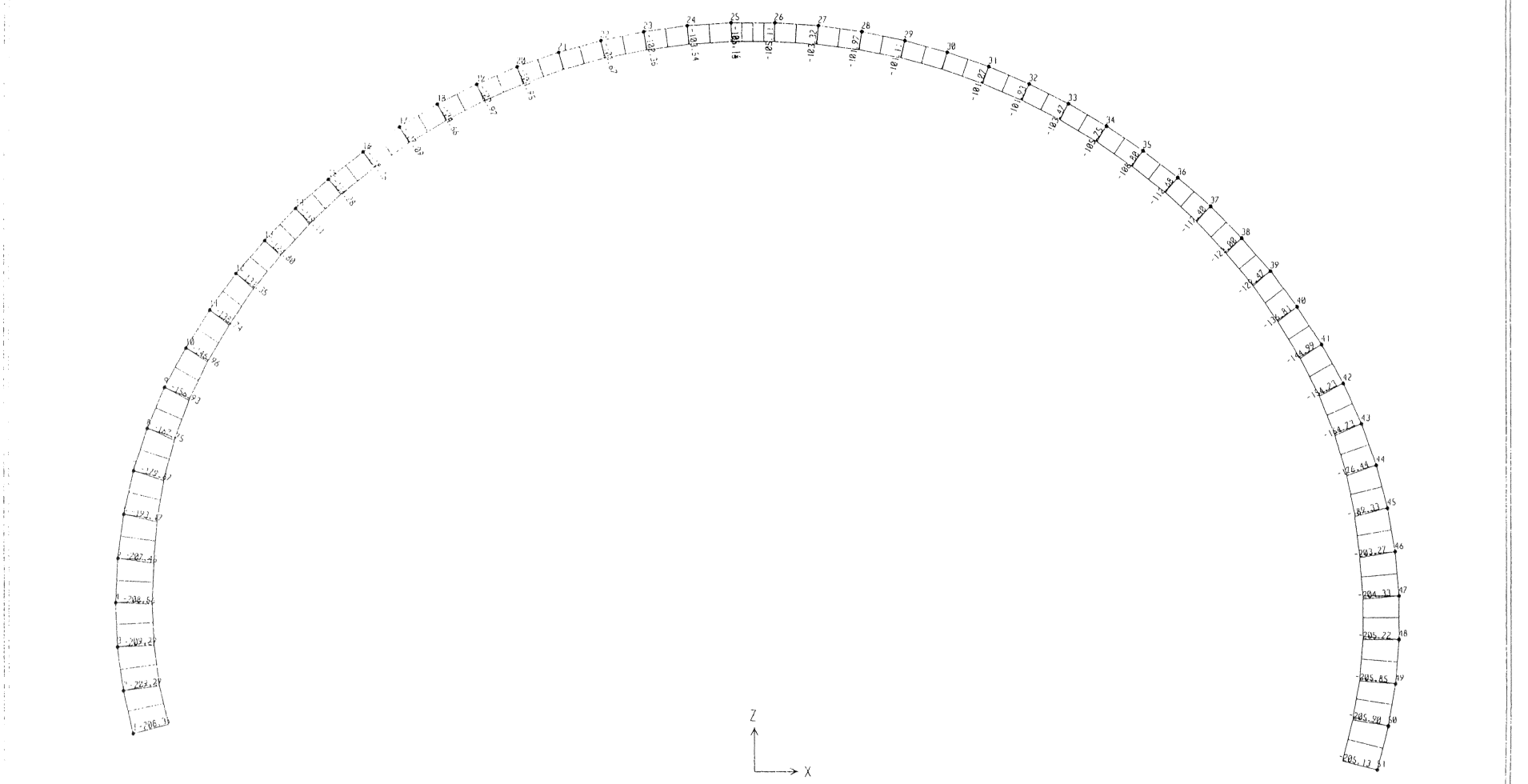
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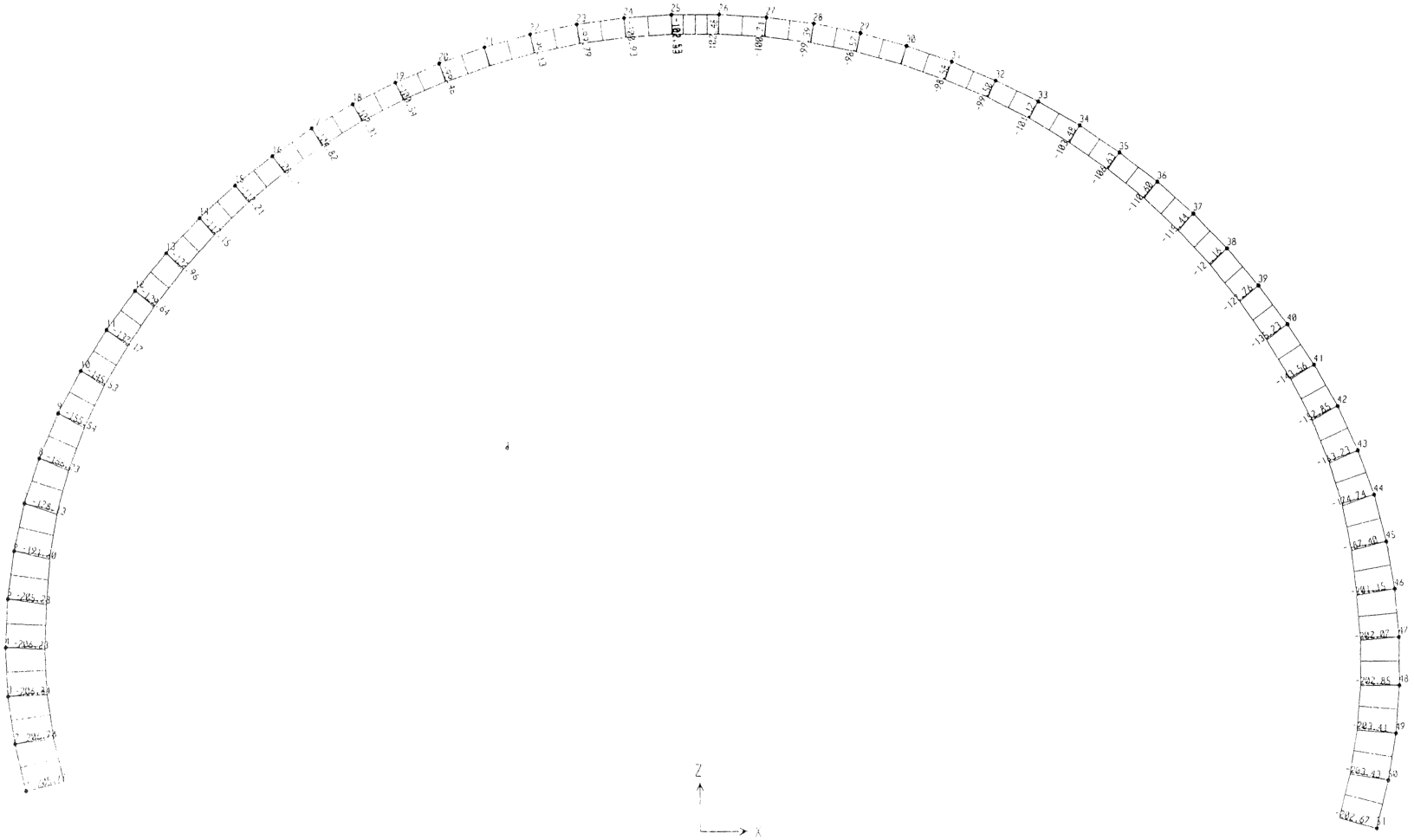
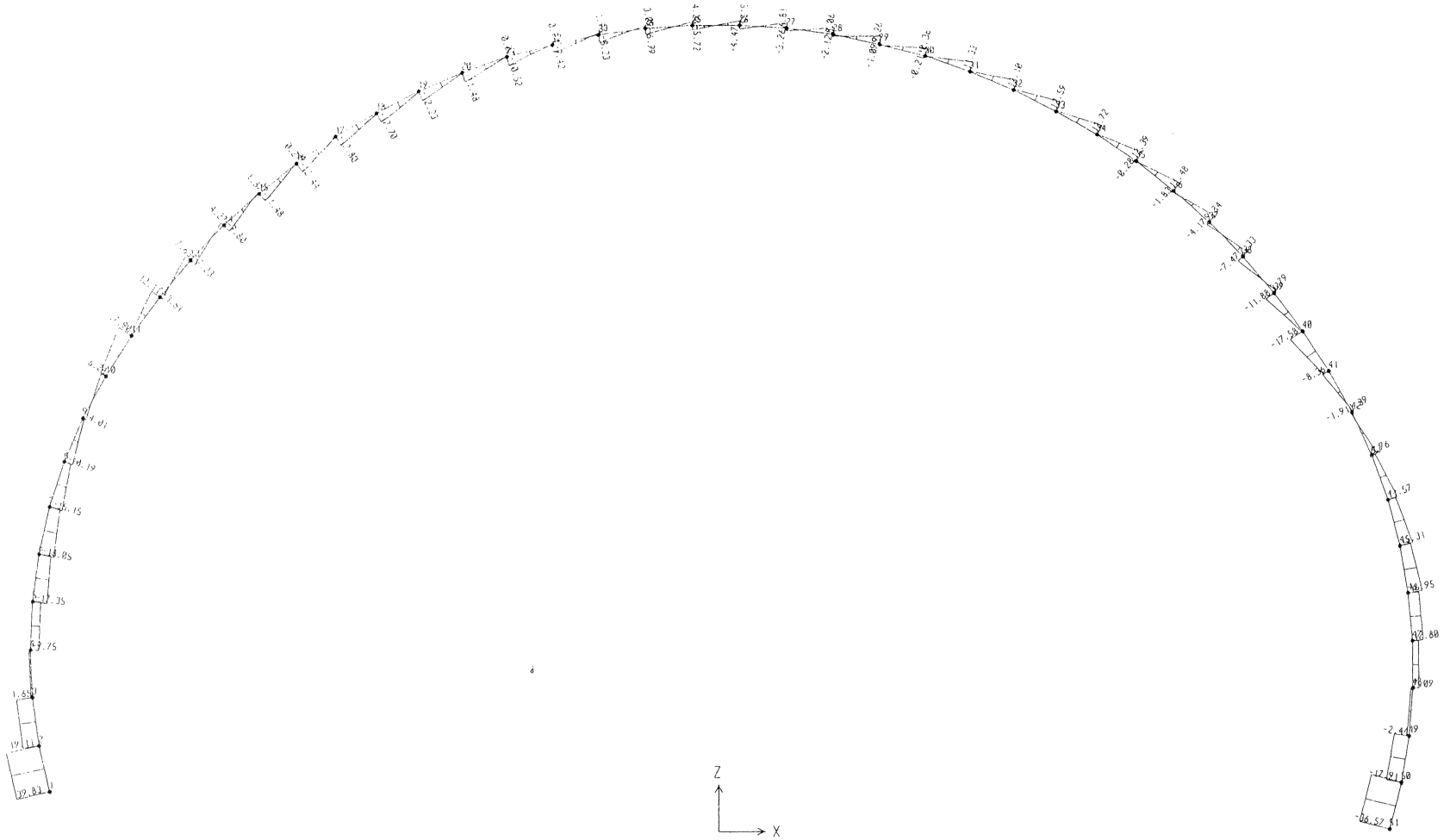


SAP2000 v7.40 - File:tl-4-1 - Axial Force Diagram (COMB8) - Ton-m Units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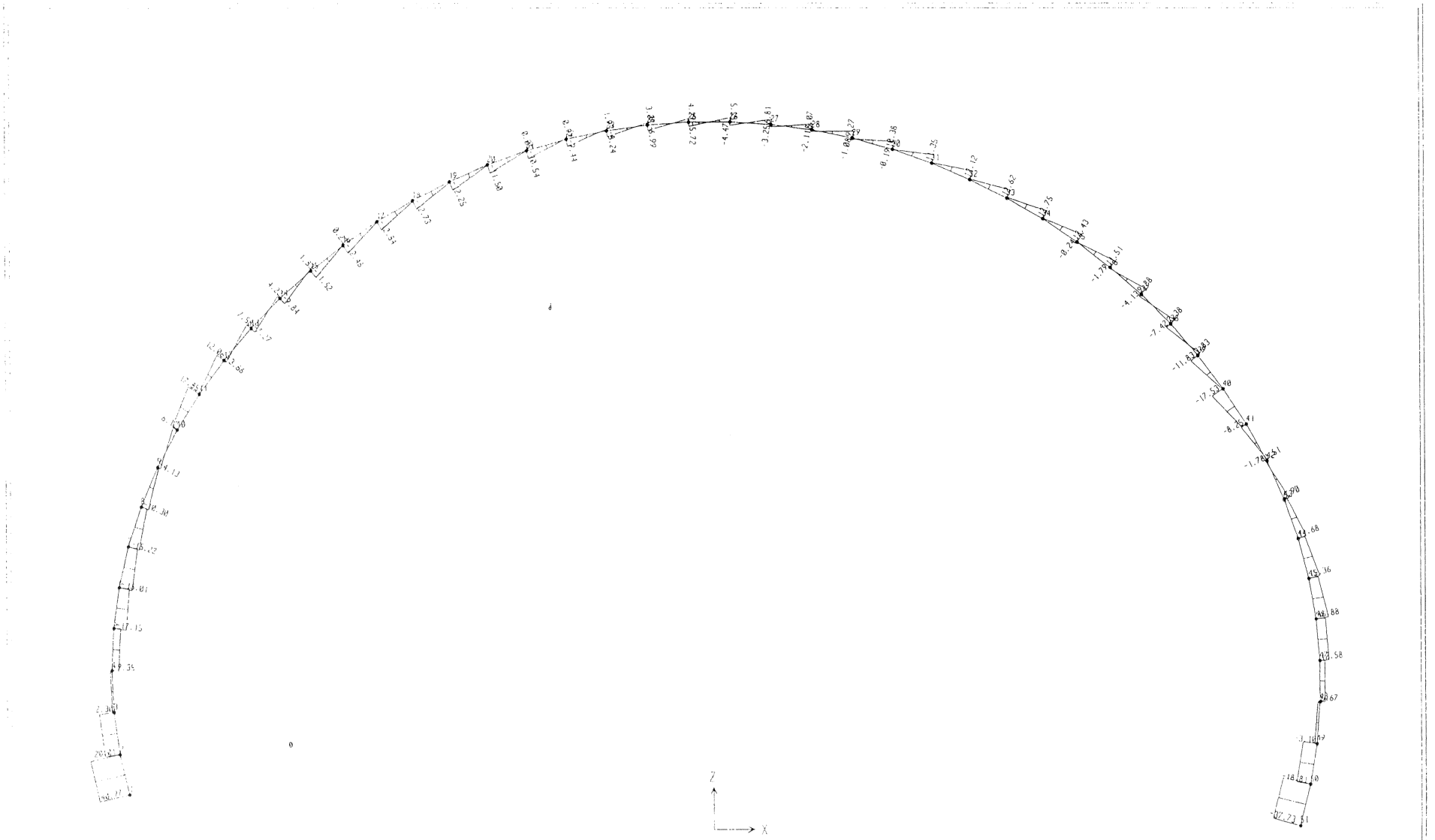

SAP2000 v7.40 - File:tl-4-1 - Shear Force 2-2 Diagram (COMB2) - Ton-m Units

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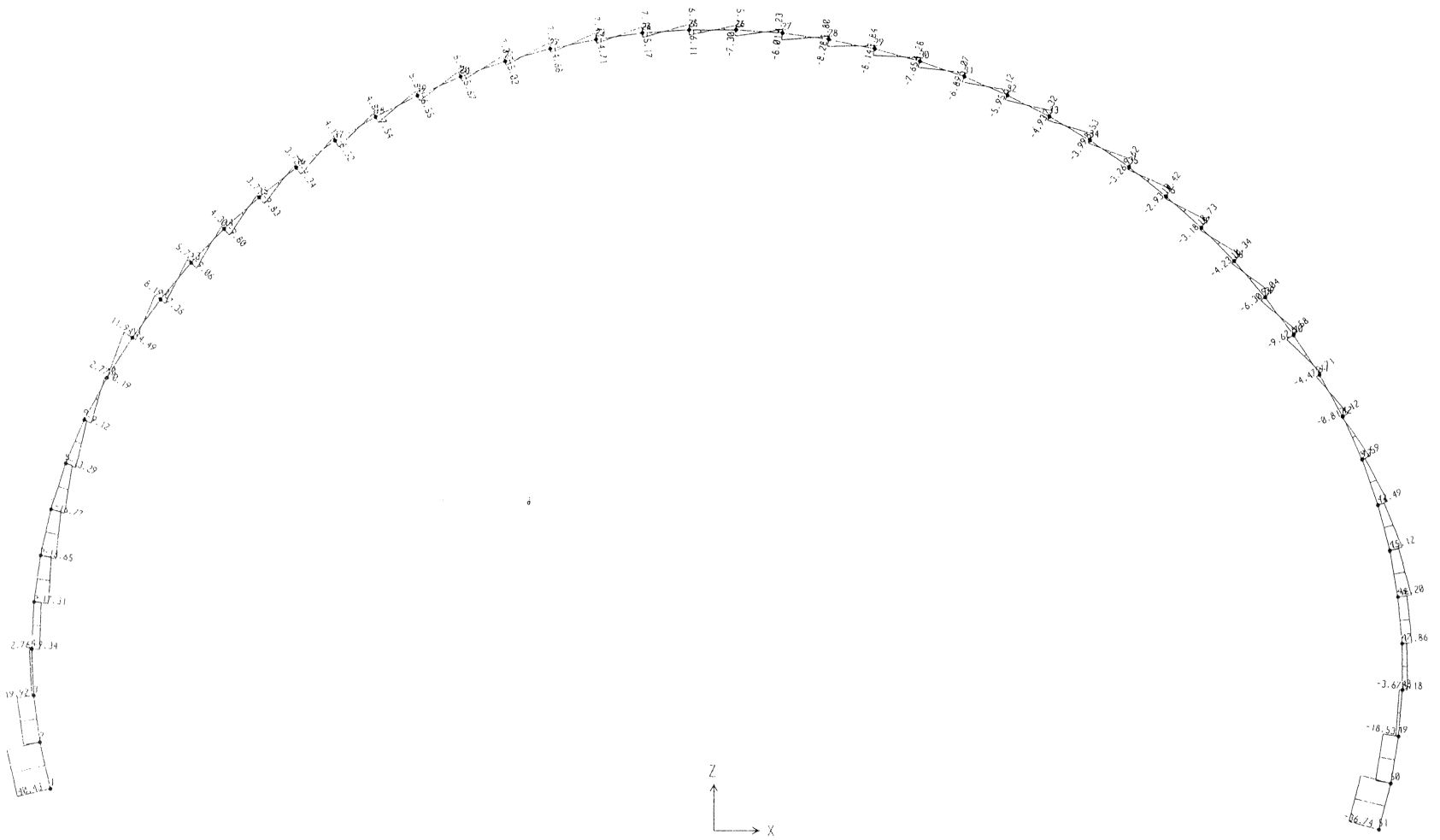

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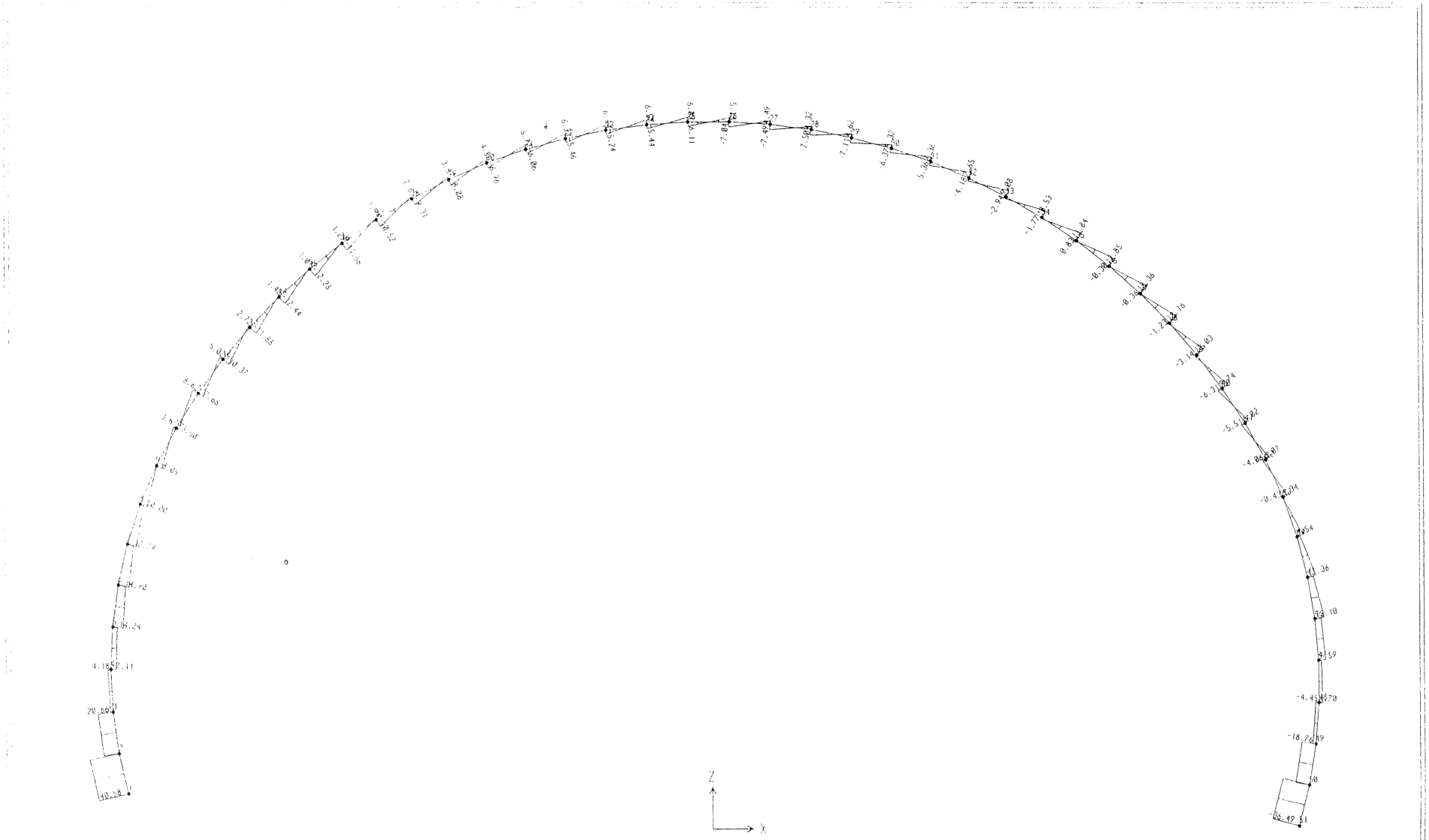

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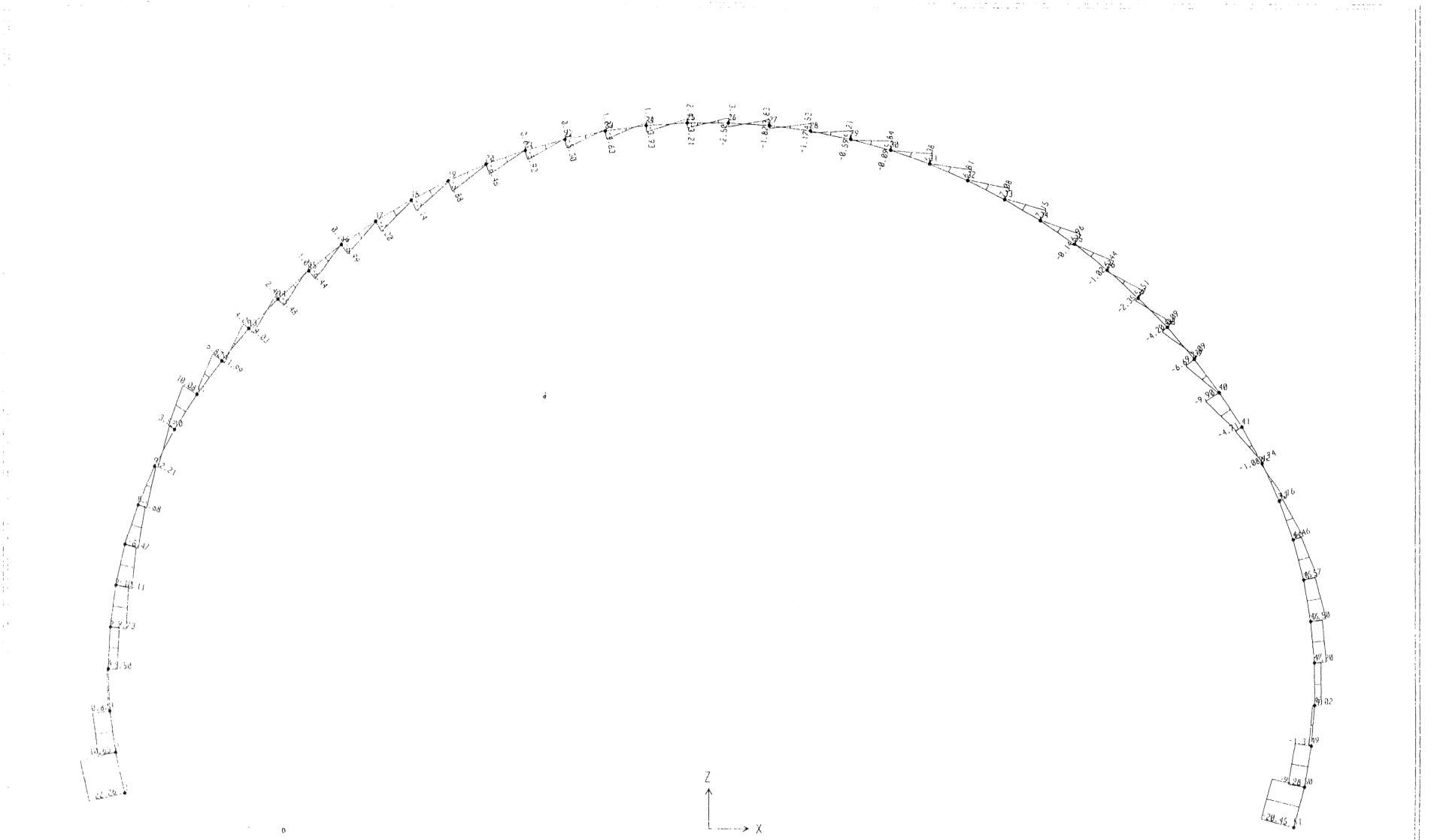
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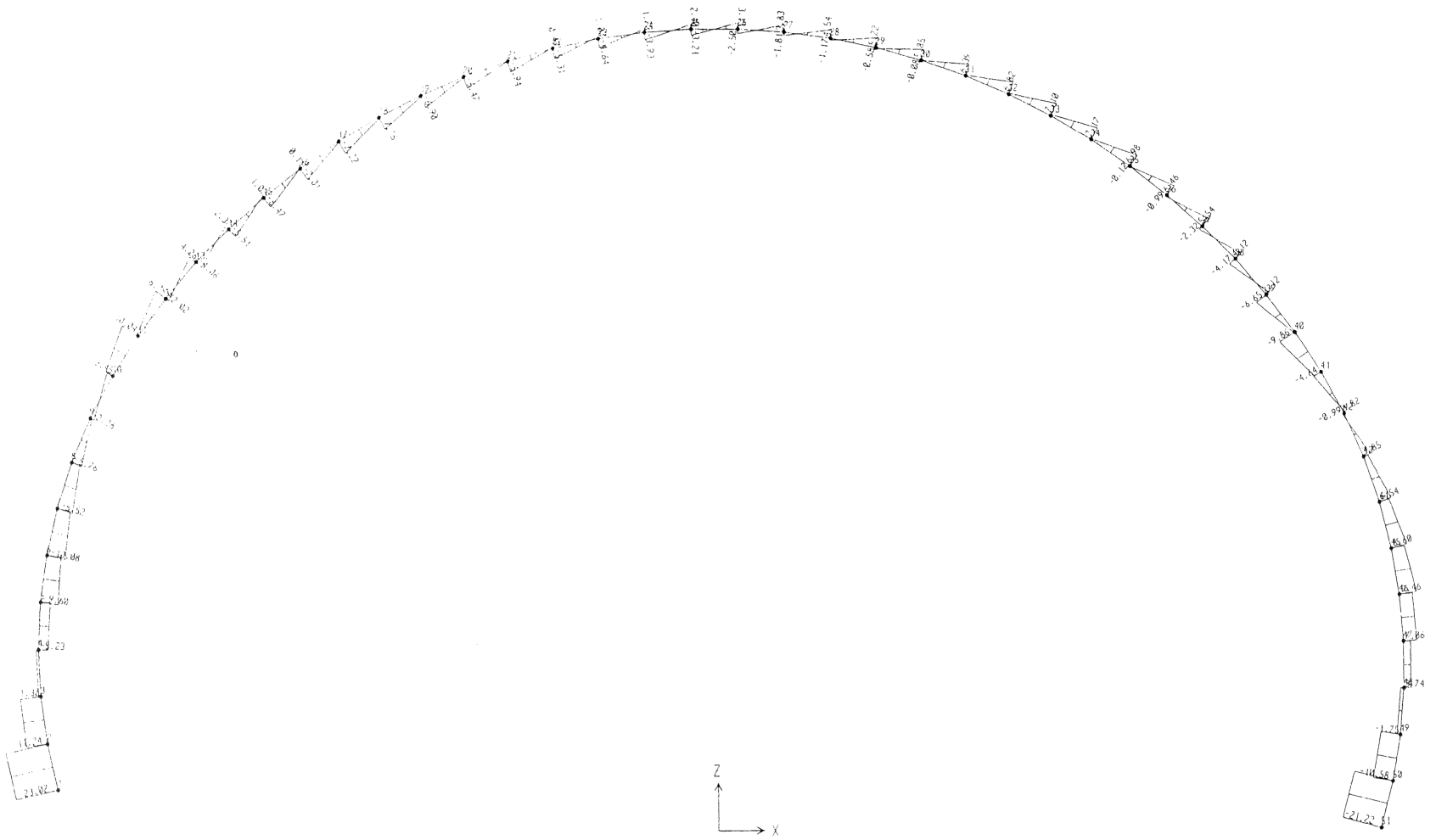
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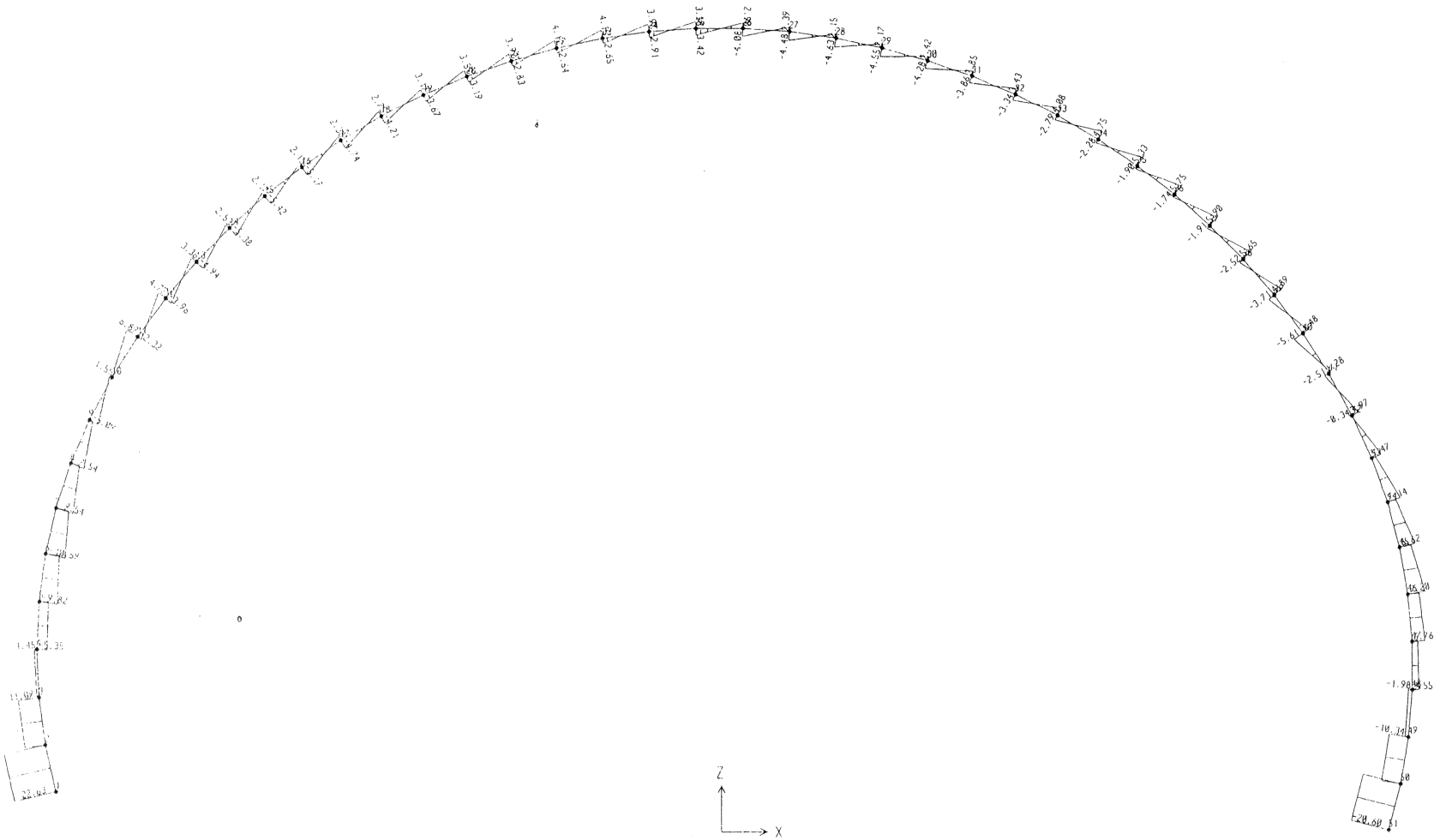
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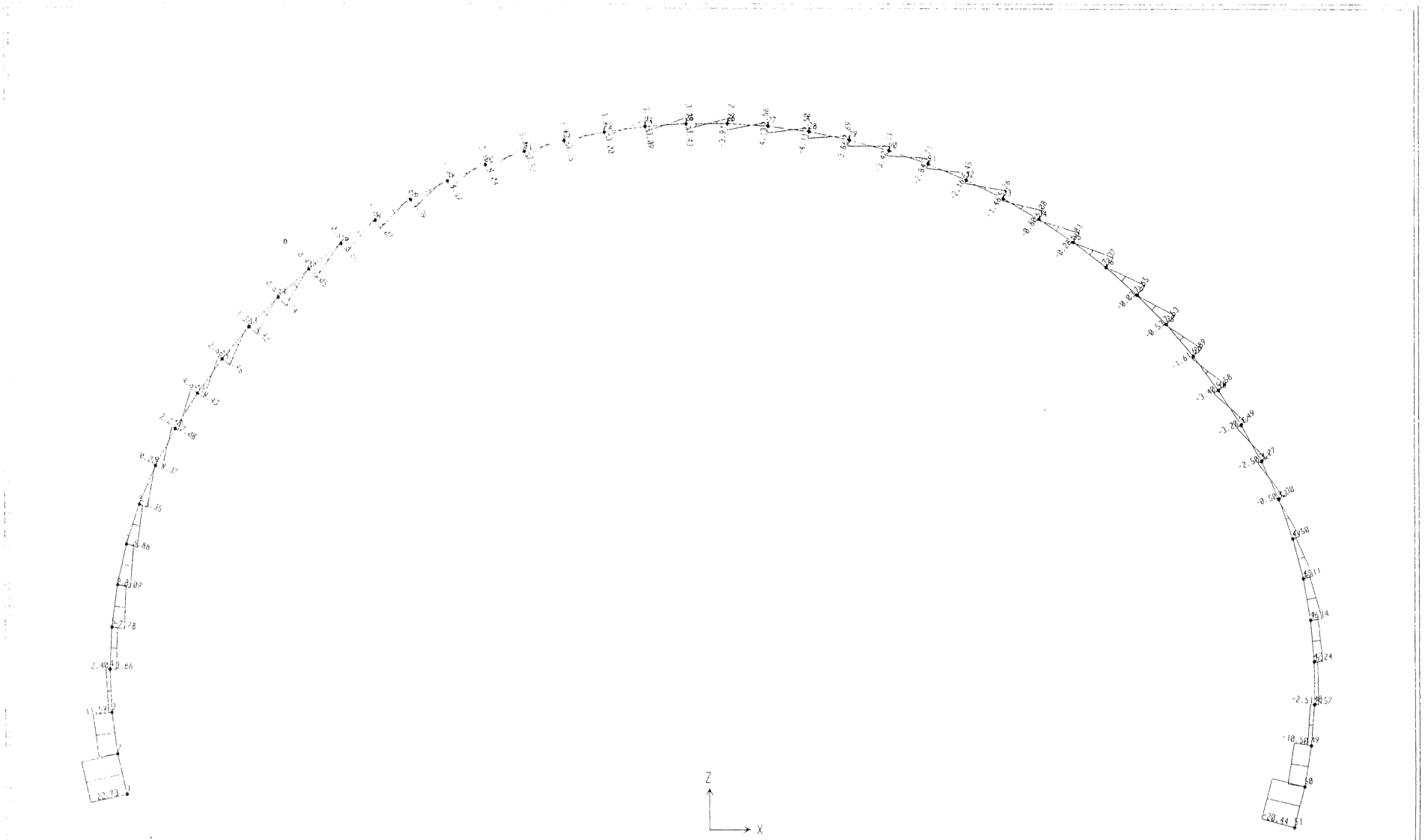

SAP2000 v7.40 - File:tl-4-1 - Shear Force 2-2 Diagram (COMB8) - Ton-m Units

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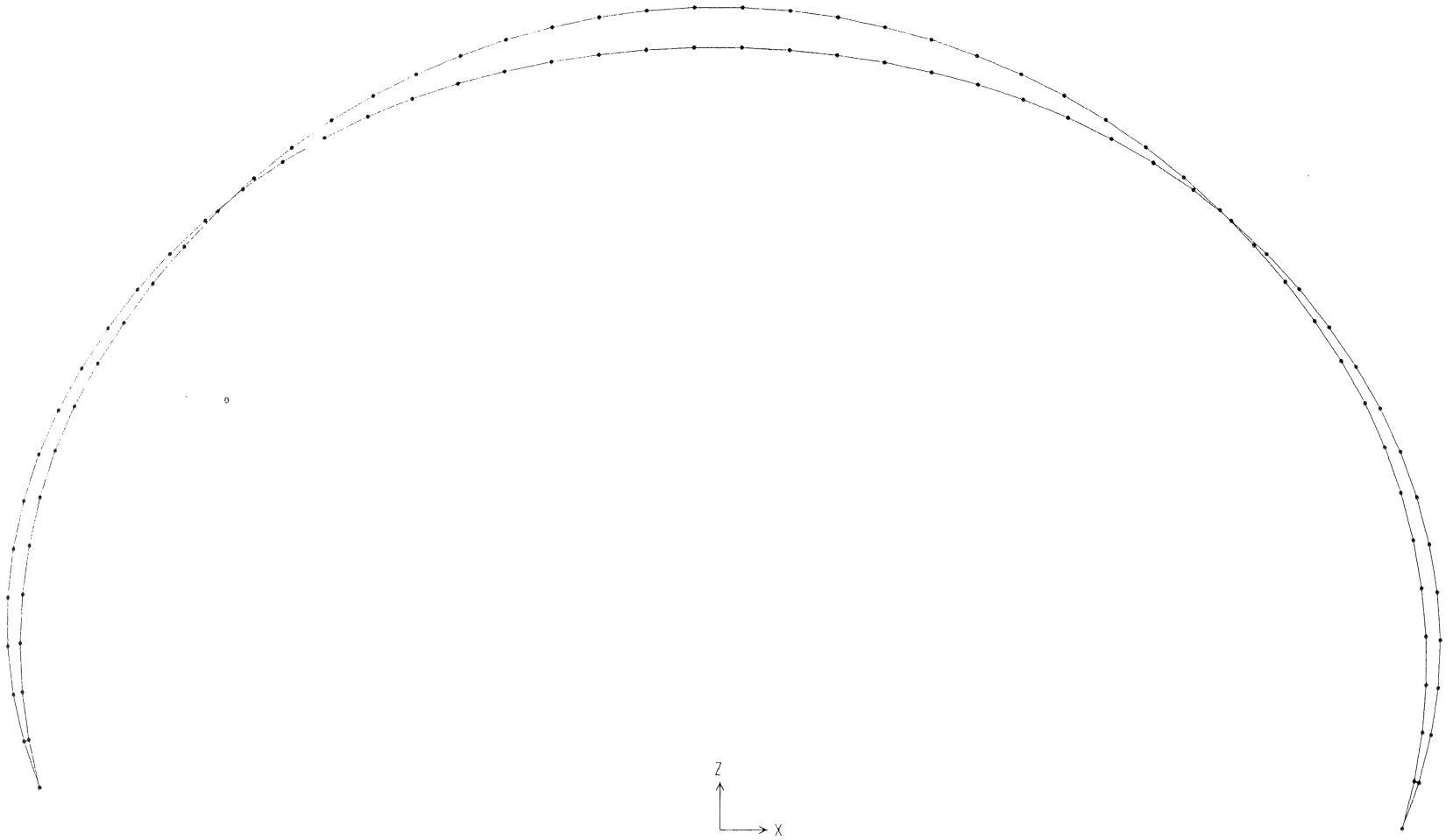
8-14-03 11:29:09



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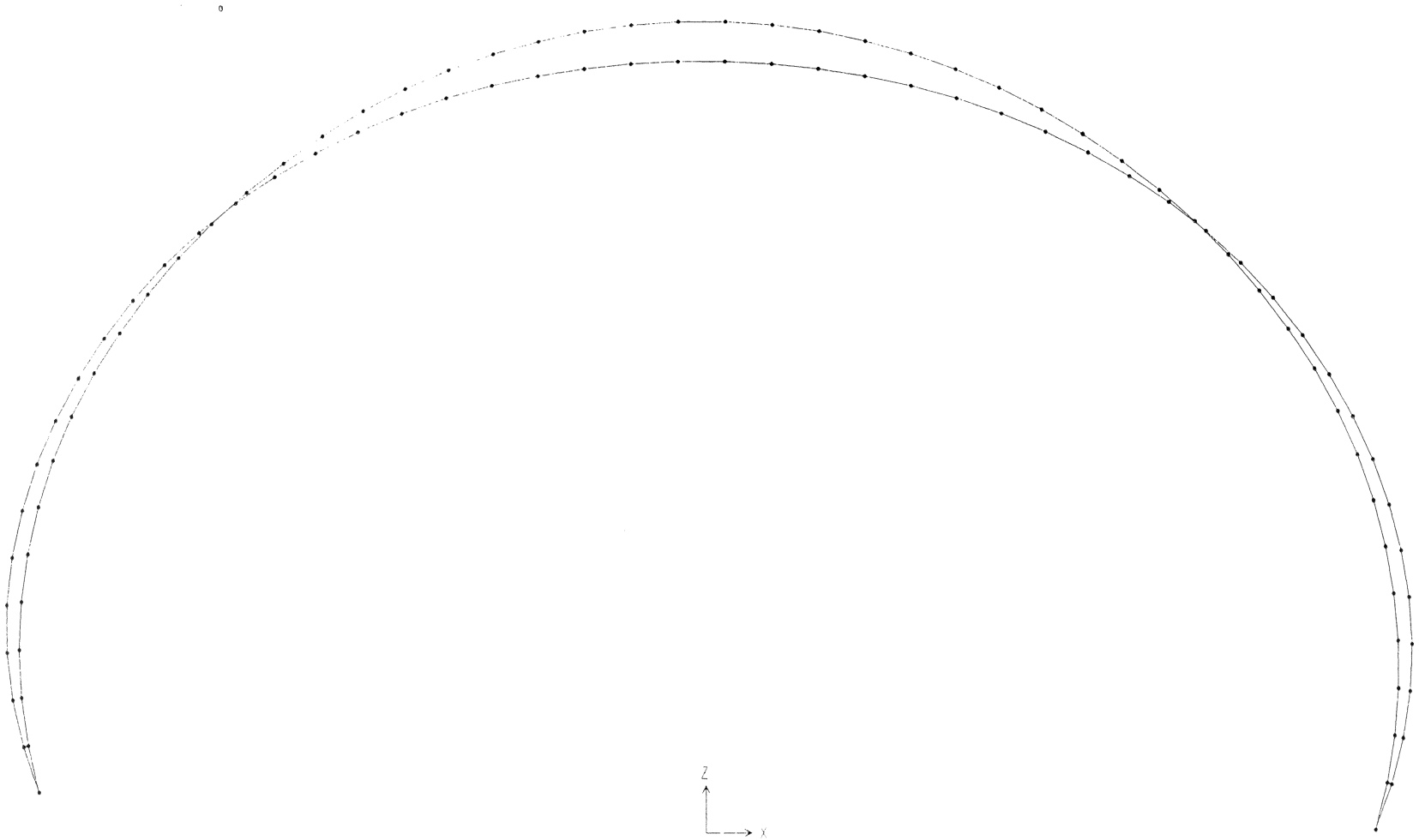
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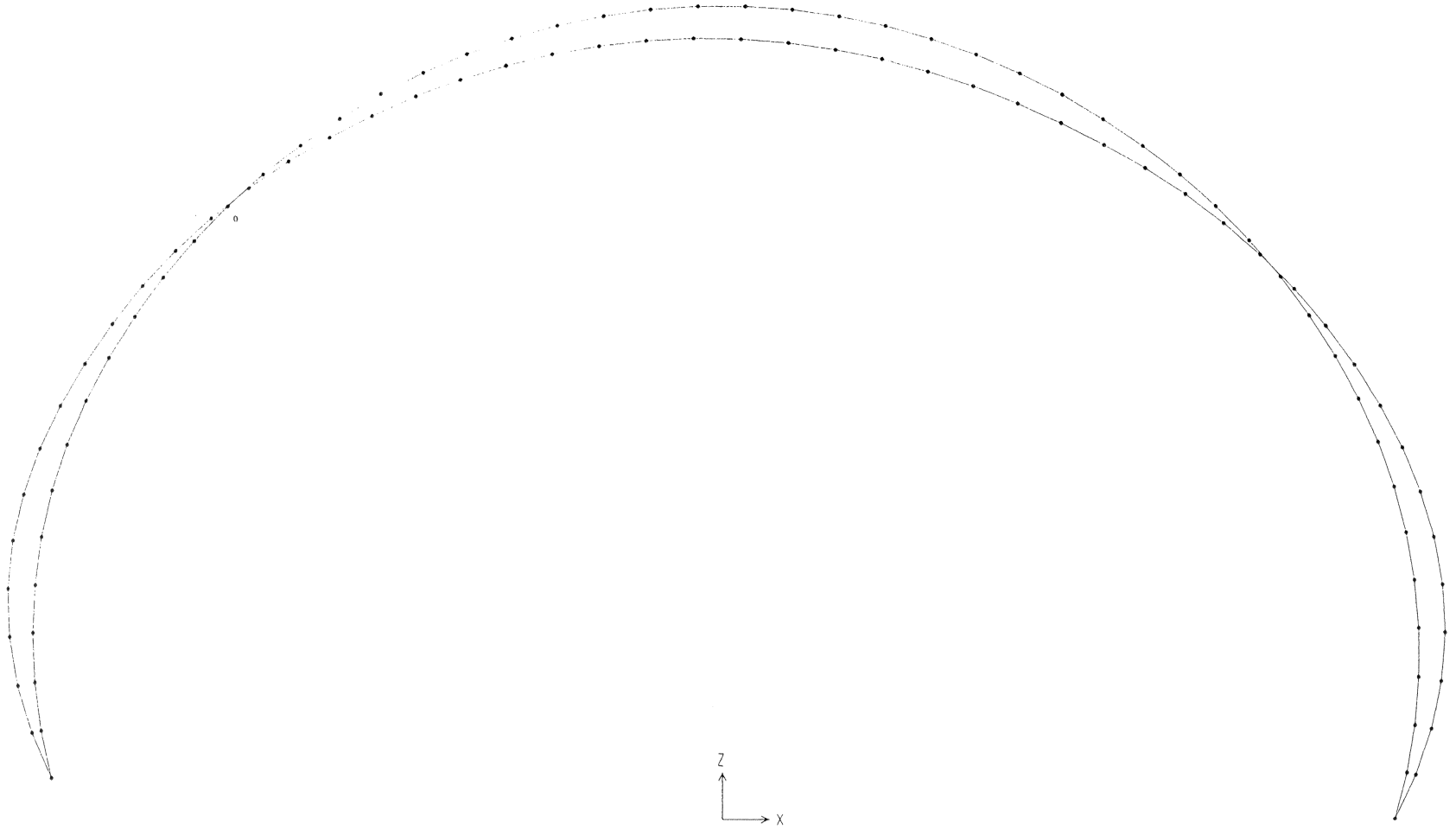

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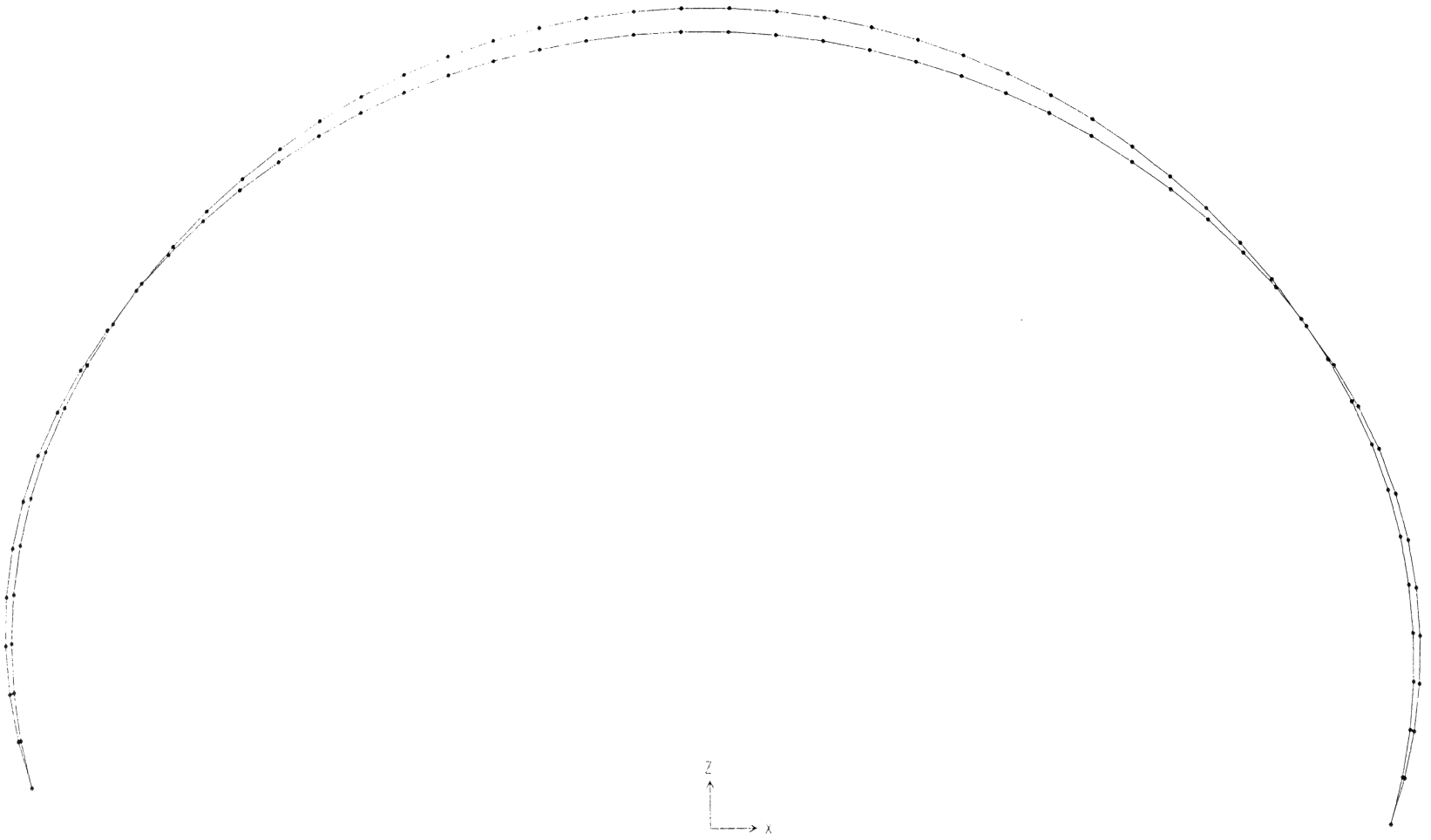
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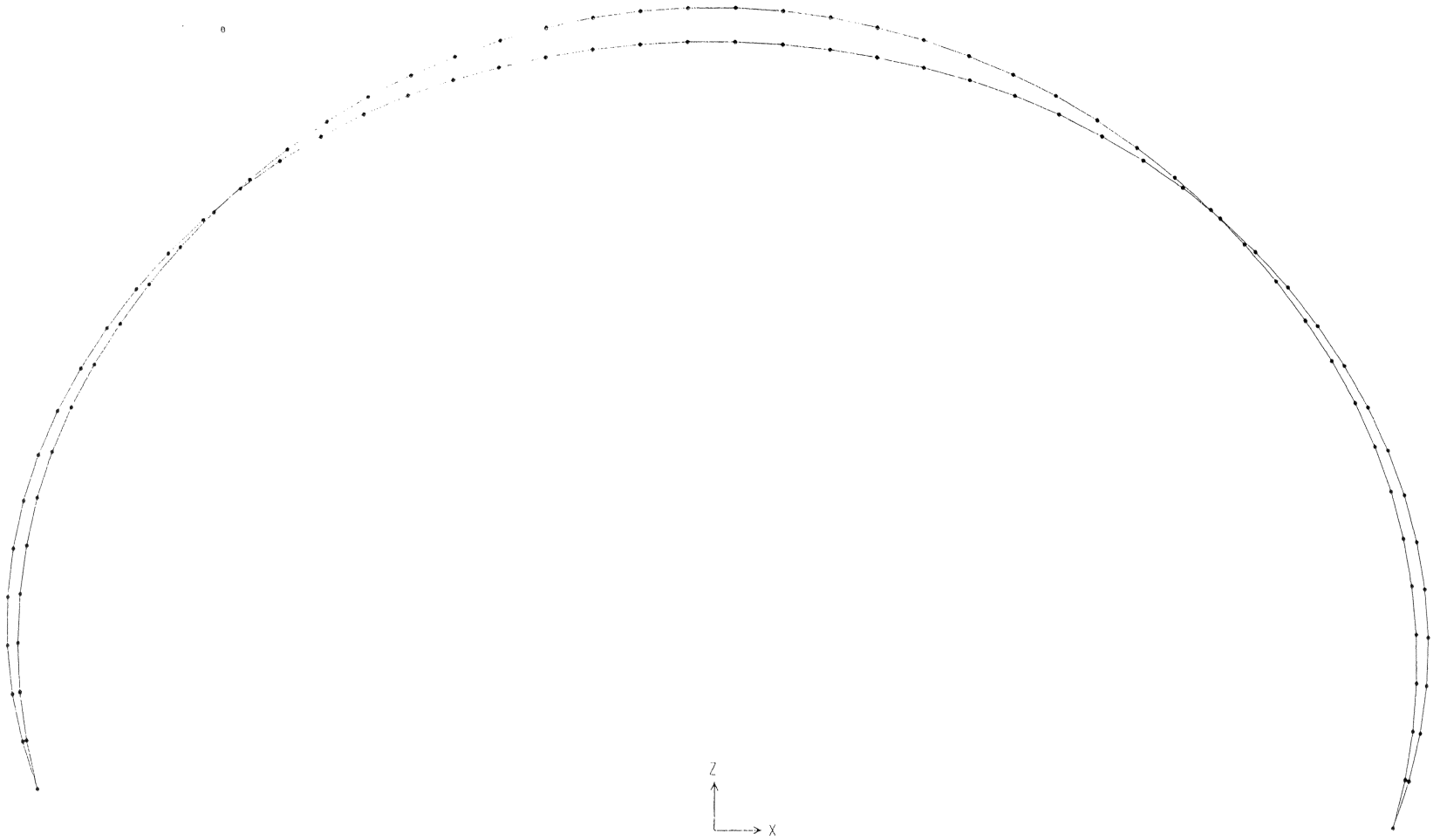
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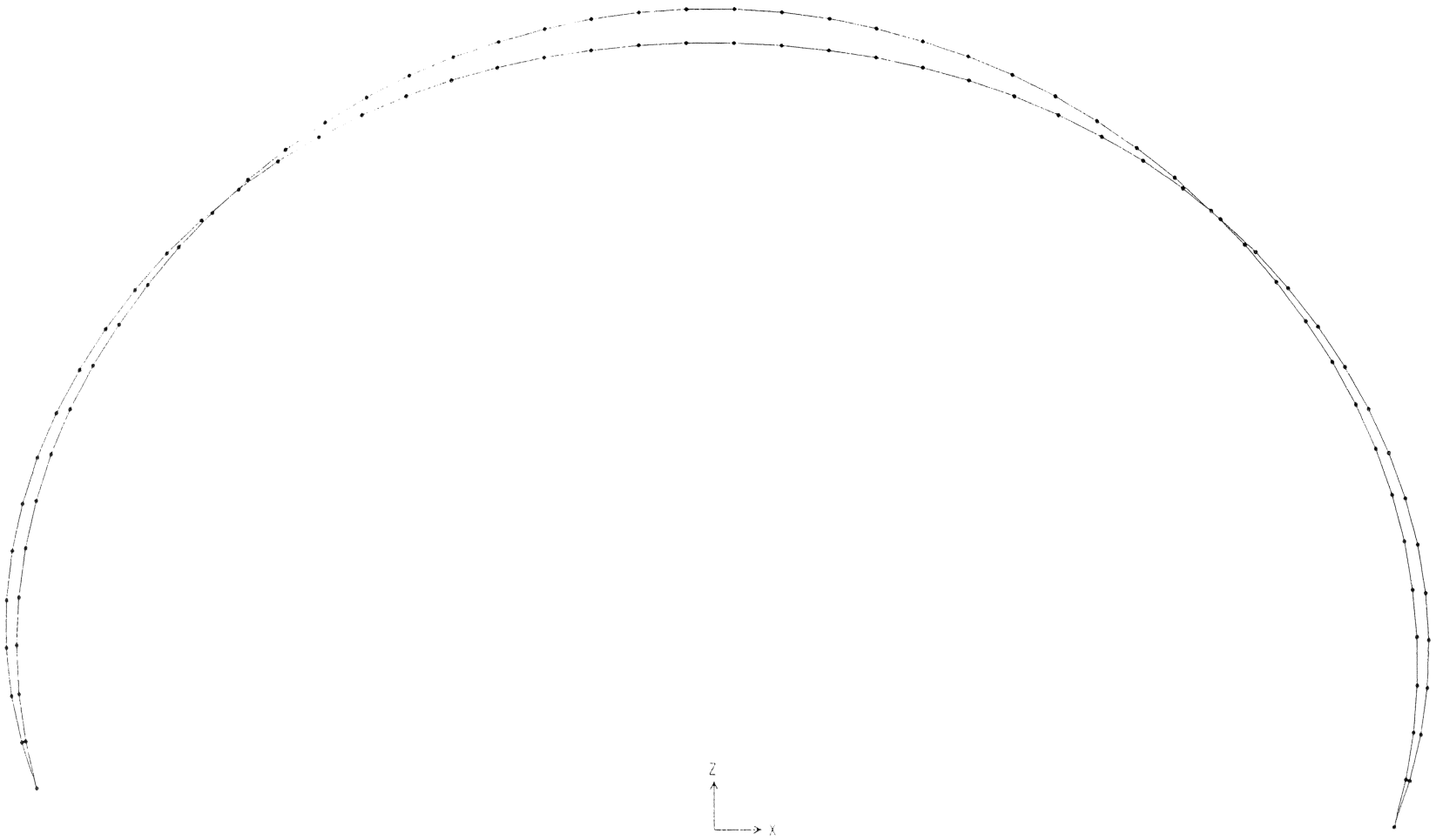
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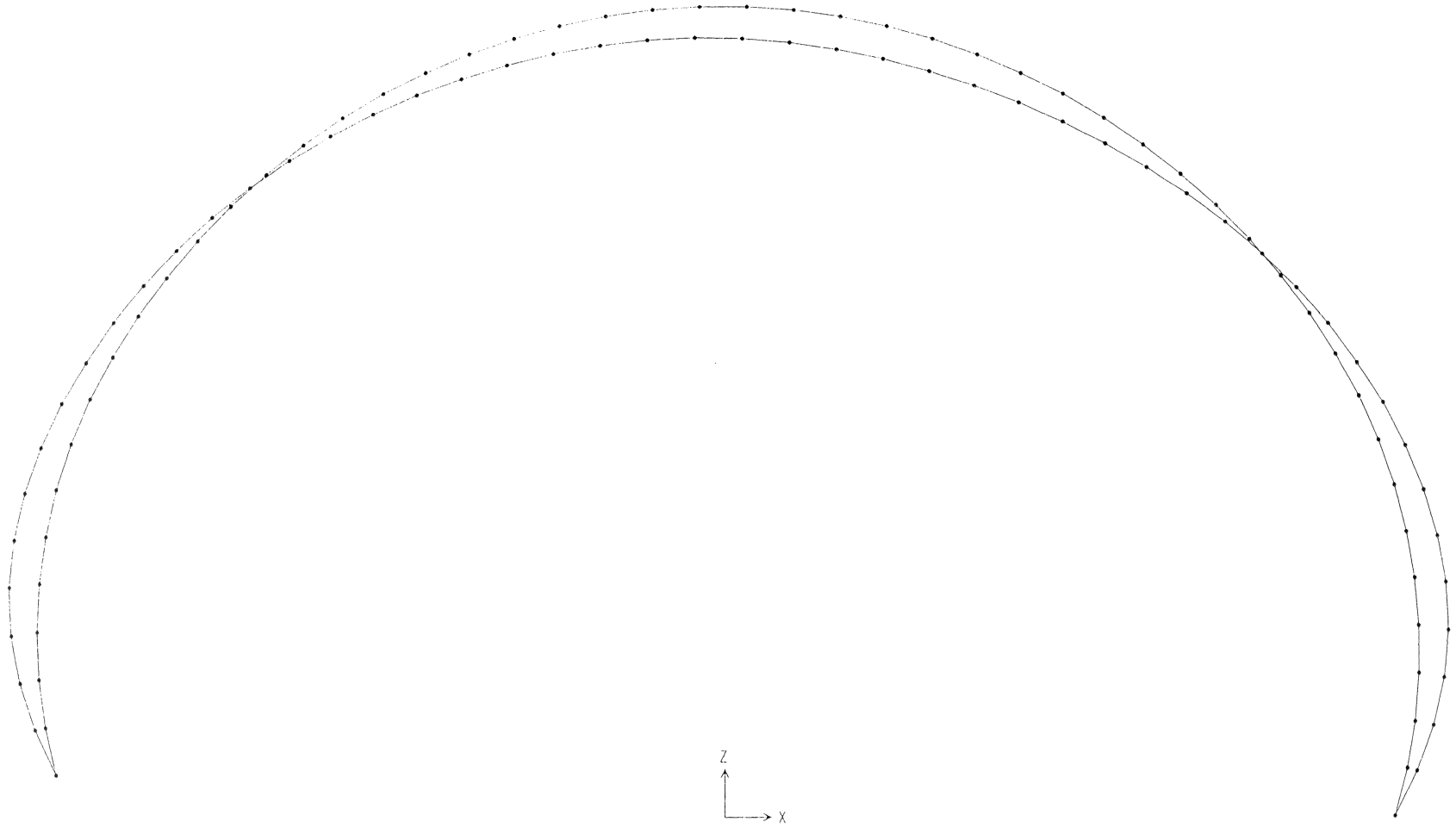
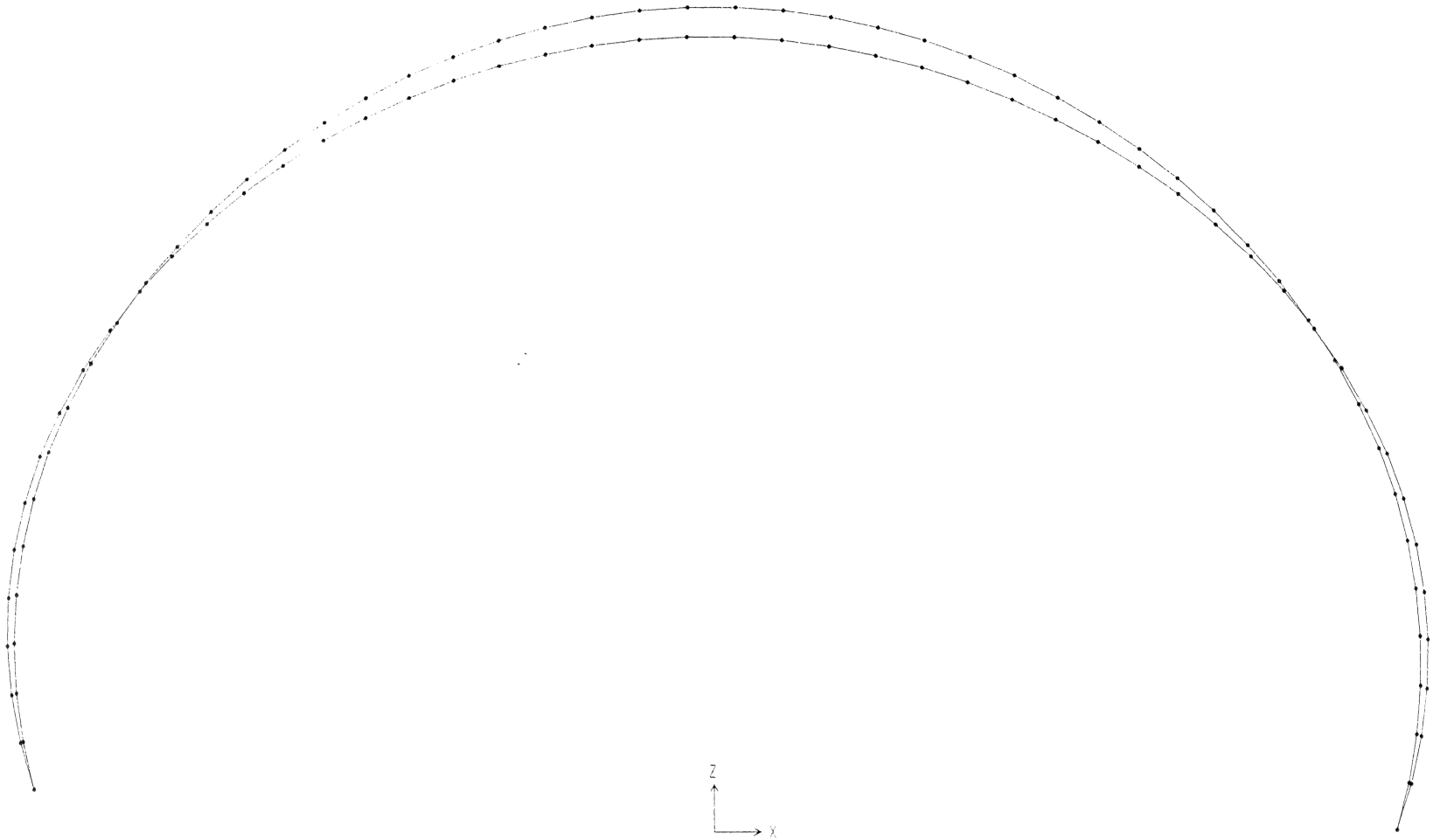


SAP2000 v7.40 - File:tl-4-1 - Deformed Shape (COMB7) - Ton-m Units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■ 전산 OUT PUT

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36 X=4.854839 Y=0 Z=6.745234
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43 X=6.936839 Y=0 Z=3.946371
44 X=7.103971 Y=0 Z=3.471875
45 X=7.230656 Y=0 Z=2.985017
46 X=7.315998 Y=0 Z=2.489239
47 X=7.359392 Y=0 Z=1.988044
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  ADD=30   ANG=0,17.0085,180
  ADD=31   ANG=0,20.8128,180
  ADD=32   ANG=0,24.617,180
  ADD=33   ANG=0,28.4212,180
  ADD=34   ANG=0,32.2255,180
  ADD=35   ANG=0,36.0297,180
  ADD=36   ANG=0,39.8339,180
  ADD=37   ANG=0,43.6382,180
  ADD=38   ANG=0,47.4424,180
  ADD=39   ANG=0,51.2466,180
  ADD=40   ANG=0,55.0509,180
  ADD=41   ANG=0,58.8551,180
  ADD=42   ANG=0,63.3683,180
  ADD=43   ANG=0,68.1868,180
  ADD=44   ANG=0,73.0053,180
  ADD=45   ANG=0,77.8238,180
  ADD=46   ANG=0,82.6423,180
  ADD=47   ANG=0,87.4608,180
  ADD=48   ANG=0,92.2793,180
  ADD=49   ANG=0,97.0978,180
  ADD=50   ANG=0,101.9163,180

RESTRAINT
  ADD=1   DOF=U1,U2,U3,R1,R3
  ADD=51   DOF=U1,U2,U3,R1,R3

PATTERN
  NAME=DEFAULT

SPRING
  ADD=2   U3=5256
  ADD=3   U3=3504
  ADD=4   U3=3504
  ADD=5   U3=3504
  ADD=6   U3=3504
  ADD=7   U3=3504
  ADD=8   U3=3504
```

```
ADD=9  U3=3504
ADD=10  U3=3504
ADD=41  U3=3504
ADD=42  U3=3504
ADD=43  U3=3504
ADD=44  U3=3504
ADD=45  U3=3504
ADD=46  U3=3504
ADD=47  U3=3504
ADD=48  U3=3504
ADD=49  U3=3504
ADD=50  U3=5256

.TERIAL
NAME=STEEL  IDES=S  M=.798142  W=7.833414
  T=0  E=2.038902E+07  U=.3  A=.0000117  FY=25310.51
NAME=CONC  IDES=C  M=.2448  W=2.5
  T=0  E=2531051  U=.2  A=.0000099
NAME=OTHER  IDES=N  M=.2448012  W=2.402616
  T=0  E=2531051  U=.2  A=.0000099

.AME SECTION
NAME=FSEC1 MAT=CONC SH=R T=.425,1 A=.425 J=1.875584E-02 I=6.397136E-03,3.541667E-02 AS=.3541667,.3541667
NAME=FSEC2 MAT=CONC SH=R T=.375,1 A=.375 J=1.343214E-02 I=4.394531E-03,.03125 AS=.3125,.3125
NAME=FSEC3 MAT=CONC SH=R T=.35,1 A=.35 J=.0111443 I=3.572917E-03,2.916667E-02 AS=.2916667,.2916667

.AME
1  J=1,2  SEC=FSEC1  NSEG=2  ANG=180
2  J=2,3  SEC=FSEC1  NSEG=2  ANG=180
3  J=3,4  SEC=FSEC1  NSEG=2  ANG=180
4  J=4,5  SEC=FSEC2  NSEG=2  ANG=0
5  J=5,6  SEC=FSEC2  NSEG=2  ANG=0
6  J=6,7  SEC=FSEC2  NSEG=2  ANG=0
7  J=7,8  SEC=FSEC2  NSEG=2  ANG=0
8  J=8,9  SEC=FSEC2  NSEG=2  ANG=0
9  J=9,10  SEC=FSEC2  NSEG=2  ANG=0
10  J=10,11  SEC=FSEC3  NSEG=2  ANG=0
11  J=11,12  SEC=FSEC3  NSEG=2  ANG=0
12  J=12,13  SEC=FSEC3  NSEG=2  ANG=0
13  J=13,14  SEC=FSEC3  NSEG=2  ANG=0
14  J=14,15  SEC=FSEC3  NSEG=2  ANG=0
15  J=15,16  SEC=FSEC3  NSEG=2  ANG=0
16  J=16,17  SEC=FSEC3  NSEG=2  ANG=0
17  J=17,18  SEC=FSEC3  NSEG=2  ANG=0
18  J=18,19  SEC=FSEC3  NSEG=2  ANG=0
19  J=19,20  SEC=FSEC3  NSEG=2  ANG=0
20  J=20,21  SEC=FSEC3  NSEG=2  ANG=0
21  J=21,22  SEC=FSEC3  NSEG=2  ANG=0
22  J=22,23  SEC=FSEC3  NSEG=2  ANG=0
23  J=23,24  SEC=FSEC3  NSEG=2  ANG=0
24  J=24,25  SEC=FSEC3  NSEG=2  ANG=0
25  J=25,26  SEC=FSEC3  NSEG=4  ANG=0
26  J=26,27  SEC=FSEC3  NSEG=2  ANG=0
27  J=27,28  SEC=FSEC3  NSEG=2  ANG=0
28  J=28,29  SEC=FSEC3  NSEG=2  ANG=0
29  J=29,30  SEC=FSEC3  NSEG=2  ANG=0
30  J=30,31  SEC=FSEC3  NSEG=2  ANG=0
31  J=31,32  SEC=FSEC3  NSEG=2  ANG=0
32  J=32,33  SEC=FSEC3  NSEG=2  ANG=0
33  J=33,34  SEC=FSEC3  NSEG=2  ANG=0
34  J=34,35  SEC=FSEC3  NSEG=2  ANG=0
35  J=35,36  SEC=FSEC3  NSEG=2  ANG=0
36  J=36,37  SEC=FSEC3  NSEG=2  ANG=0
```

```
  37  J=37,38  SEC=FSEC3  NSEG=2  ANG=0
  38  J=38,39  SEC=FSEC3  NSEG=2  ANG=0
  39  J=39,40  SEC=FSEC3  NSEG=2  ANG=0
  40  J=40,41  SEC=FSEC3  NSEG=2  ANG=0
  41  J=41,42  SEC=FSEC2  NSEG=2  ANG=0
  42  J=42,43  SEC=FSEC2  NSEG=2  ANG=0
  43  J=43,44  SEC=FSEC2  NSEG=2  ANG=0
  44  J=44,45  SEC=FSEC2  NSEG=2  ANG=0
  45  J=45,46  SEC=FSEC2  NSEG=2  ANG=0
  46  J=46,47  SEC=FSEC2  NSEG=2  ANG=0
  47  J=47,48  SEC=FSEC2  NSEG=2  ANG=0
  48  J=48,49  SEC=FSEC1  NSEG=2  ANG=180
  49  J=49,50  SEC=FSEC1  NSEG=2  ANG=180
  50  J=50,51  SEC=FSEC1  NSEG=2  ANG=180

LOAD
  NAME=LOAD1  SW=1  CSYS=0
  NAME=LOAD2  CSYS=0
    TYPE=DISTRIBUTED SPAN
      ADD=9  RD=0,1  UZ=-1.34,-1.34
      ADD=5  RD=0,.9999067  UZ=-26.878,-25.628
      ADD=6  RD=0,.9999067  UZ=-25.628,-24.398
      ADD=7  RD=0,.9999067  UZ=-24.398,-23.199
      ADD=8  RD=0,.9999067  UZ=-23.199,-22.041
      ADD=9  RD=0,1  UZ=-22.041,-20.933
      ADD=10  RD=0,.9999484  UZ=-20.933,-19.872
      ADD=11  RD=0,.9999484  UZ=-19.872,-18.858
      ADD=12  RD=0,.9999484  UZ=-18.858,-17.897
      ADD=13  RD=0,.9999484  UZ=-17.897,-16.992
      ADD=14  RD=0,.9999484  UZ=-16.992,-16.148
      ADD=15  RD=0,.9999484  UZ=-16.148,-15.368
      ADD=16  RD=0,.9999484  UZ=-15.368,-14.655
      ADD=17  RD=0,.9999484  UZ=-14.655,-14.014
      ADD=18  RD=0,.9999484  UZ=-14.014,-13.446
      ADD=19  RD=0,.9999484  UZ=-13.446,-12.953
      ADD=20  RD=0,.9999484  UZ=-12.953,-12.539
      ADD=21  RD=0,.9999484  UZ=-12.539,-12.206
      ADD=22  RD=0,.9999484  UZ=-12.206,-11.953
      ADD=23  RD=0,.9999484  UZ=-11.953,-11.784
      ADD=24  RD=0,.9999484  UZ=-11.784,-11.697
      ADD=25  RD=0,.9999484  UZ=-11.697,-11.697
      ADD=26  RD=0,.9999484  UZ=-11.697,-11.776
      ADD=27  RD=0,.9999484  UZ=-11.776,-11.941
      ADD=28  RD=0,.9999484  UZ=-11.941,-12.189
      ADD=29  RD=0,.9999484  UZ=-12.189,-12.518
      ADD=30  RD=0,.9999484  UZ=-12.518,-12.927
      ADD=31  RD=0,.9999484  UZ=-12.927,-13.415
      ADD=32  RD=0,.9999484  UZ=-13.415,-13.979
      ADD=33  RD=0,.9999484  UZ=-13.979,-14.616
      ADD=34  RD=0,.9999484  UZ=-14.616,-15.325
      ADD=35  RD=0,.9999484  UZ=-15.325,-16.101
      ADD=36  RD=0,.9999484  UZ=-16.101,-16.942
      ADD=37  RD=0,.9999484  UZ=-16.942,-17.843
      ADD=38  RD=0,.9999484  UZ=-17.843,-18.801
      ADD=39  RD=0,.9999484  UZ=-18.801,-19.812
      ADD=40  RD=0,.9999484  UZ=-19.812,-20.87
      ADD=41  RD=0,1  UZ=-20.87,-21.975
      ADD=42  RD=0,1  UZ=-21.975,-23.126
      ADD=43  RD=0,1  UZ=-23.126,-24.317
      ADD=44  RD=0,1  UZ=-24.317,-25.539
      ADD=45  RD=0,1  UZ=-25.539,-26.784
  NAME=LOAD3  CSYS=0
    TYPE=DISTRIBUTED SPAN
```

```
    ADD=26  RD=0..9999484  UX=-4.25,-4.234
    ADD=27  RD=0..9999484  UX=-4.234,-4.201
    ADD=28  RD=0..9999484  UX=-4.201,-4.152
    ADD=29  RD=0..9999484  UX=-4.152,-4.086
    ADD=30  RD=0..9999484  UX=-4.086,-4.005
    ADD=31  RD=0..9999484  UX=-4.005,-3.908
    ADD=32  RD=0..9999484  UX=-3.908,-3.795
    ADD=33  RD=0..9999484  UX=-3.795,-3.668
    ADD=34  RD=0..9999484  UX=-3.668,-3.527
    ADD=35  RD=0..9999484  UX=-3.527,-3.373
    ADD=36  RD=0..9999484  UX=-3.373,-3.205
    ADD=37  RD=0..9999484  UX=-3.205,-3.026
    ADD=38  RD=0..9999484  UX=-3.026,-2.835
    ADD=39  RD=0..9999484  UX=-2.835,-2.633
    ADD=40  RD=0..9999484  UX=-2.633,-2.423
    ADD=41  RD=0.1  UX=-2.423,-2.203
    ADD=42  RD=0.1  UX=-2.203,-1.973
    ADD=43  RD=0.1  UX=-1.973,-1.736
    ADD=44  RD=0.1  UX=-1.736,-1.493
    ADD=45  RD=0.1  UX=-1.493,-1.245
    ADD=46  RD=0.1  UX=-1.245,-.994
    ADD=47  RD=0.1  UX=-.994,-.743
    ADD=48  RD=0.1  UX=-.743,-.492
    ADD=49  RD=0.1  UX=-.492,-.244
    ADD=50  RD=0.1  UX=-.244,0
    ADD=1  RD=0..9999067  UX=0,.245
    ADD=2  RD=0..9999067  UX=.245,.495
    ADD=3  RD=0..9999067  UX=.495,.746
    ADD=5  RD=0..9999067  UX=.997,1.246
    ADD=4  RD=0..9999067  UX=.746,.997
    ADD=6  RD=0..9999067  UX=1.246,1.491
    ADD=7  RD=0..9999067  UX=1.491,1.73
    ADD=8  RD=0..9999067  UX=1.73,1.961
    ADD=9  RD=0.1  UX=1.961,2.181
    ADD=10  RD=0..9999484  UX=2.181,2.393
    ADD=11  RD=0..9999484  UX=2.393,2.595
    ADD=12  RD=0..9999484  UX=2.595,2.786
    ADD=13  RD=0..9999484  UX=2.786,2.966
    ADD=14  RD=0..9999484  UX=2.966,3.135
    ADD=15  RD=0..9999484  UX=3.135,3.29
    ADD=16  RD=0..9999484  UX=3.29,3.432
    ADD=17  RD=0..9999484  UX=3.432,3.56
    ADD=18  RD=0..9999484  UX=3.56,3.673
    ADD=19  RD=0..9999484  UX=3.673,3.771
    ADD=20  RD=0..9999484  UX=3.771,3.854
    ADD=21  RD=0..9999484  UX=3.854,3.92
    ADD=22  RD=0..9999484  UX=3.92,3.97
    ADD=23  RD=0..9999484  UX=3.97,4.004
    ADD=24  RD=0..9999484  UX=4.004,4.021
NAME=LOAD4  CSYS=0
  TYPE=TEMPERATURE  ELEM=FRAME
    ADD=1  T2=5
    ADD=2  T2=5
    ADD=3  T2=5
    ADD=4  T2=5
    ADD=5  T2=5
    ADD=6  T2=5
    ADD=7  T2=5
    ADD=8  T2=5
    ADD=9  T2=5
    ADD=10  T2=5
    ADD=11  T2=5
    ADD=12  T2=5
```

```
      ADD=13   T2=5
      ADD=14   T2=5
      ADD=15   T2=5
      ADD=16   T2=5
      ADD=17   T2=5
      ADD=18   T2=5
      ADD=19   T2=5
      ADD=20   T2=5
      ADD=21   T2=5
      ADD=22   T2=5
      ADD=23   T2=5
      ADD=24   T2=5
      ADD=25   T2=5
      ADD=26   T2=5
      ADD=27   T2=5
      ADD=28   T2=5
      ADD=29   T2=5
      ADD=30   T2=5
      ADD=31   T2=5
      ADD=32   T2=5
      ADD=33   T2=5
      ADD=34   T2=5
      ADD=35   T2=5
      ADD=36   T2=5
      ADD=37   T2=5
      ADD=38   T2=5
      ADD=39   T2=5
      ADD=40   T2=5
      ADD=41   T2=5
      ADD=42   T2=5
      ADD=43   T2=5
      ADD=44   T2=5
      ADD=45   T2=5
      ADD=46   T2=5
      ADD=47   T2=5
      ADD=48   T2=5
      ADD=49   T2=5
      ADD=50   T2=5
  NAME=LOAD5   CSYS=0
    TYPE=TEMPERATURE   ELEM=FRAME
      ADD=1   T2=-5
      ADD=2   T2=-5
      ADD=3   T2=-5
      ADD=4   T2=-5
      ADD=5   T2=-5
      ADD=6   T2=-5
      ADD=7   T2=-5
      ADD=8   T2=-5
      ADD=9   T2=-5
      ADD=10   T2=-5
      ADD=11   T2=-5
      ADD=12   T2=-5
      ADD=13   T2=-5
      ADD=14   T2=-5
      ADD=15   T2=-5
      ADD=16   T2=-5
      ADD=17   T2=-5
      ADD=18   T2=-5
      ADD=19   T2=-5
      ADD=20   T2=-5
      ADD=21   T2=-5
      ADD=22   T2=-5
      ADD=23   T2=-5
```

ADD=24 T2=-5
ADD=25 T2=-5
ADD=26 T2=-5
ADD=27 T2=-5
ADD=28 T2=-5
ADD=29 T2=-5
ADD=30 T2=-5
ADD=31 T2=-5
ADD=32 T2=-5
ADD=33 T2=-5
ADD=34 T2=-5
ADD=35 T2=-5
ADD=36 T2=-5
ADD=37 T2=-5
ADD=38 T2=-5
ADD=39 T2=-5
ADD=40 T2=-5
ADD=41 T2=-5
ADD=42 T2=-5
ADD=43 T2=-5
ADD=44 T2=-5
ADD=45 T2=-5
ADD=46 T2=-5
ADD=47 T2=-5
ADD=48 T2=-5
ADD=49 T2=-5
ADD=50 T2=-5
NAME=LOAD6 CSYS=0
TYPE=TEMPERATURE ELEM=FRAME
ADD=1 T=20
ADD=2 T=20
ADD=3 T=20
ADD=4 T=20
ADD=5 T=20
ADD=6 T=20
ADD=7 T=20
ADD=8 T=20
ADD=9 T=20
ADD=10 T=20
ADD=11 T=20
ADD=12 T=20
ADD=13 T=20
ADD=14 T=20
ADD=15 T=20
ADD=16 T=20
ADD=17 T=20
ADD=18 T=20
ADD=19 T=20
ADD=20 T=20
ADD=21 T=20
ADD=22 T=20
ADD=23 T=20
ADD=24 T=20
ADD=25 T=20
ADD=26 T=20
ADD=27 T=20
ADD=28 T=20
ADD=29 T=20
ADD=30 T=20
ADD=31 T=20
ADD=32 T=20
ADD=33 T=20
ADD=34 T=20

```
      ADD=35   T=20
      ADD=36   T=20
      ADD=37   T=20
      ADD=38   T=20
      ADD=39   T=20
      ADD=40   T=20
      ADD=41   T=20
      ADD=42   T=20
      ADD=43   T=20
      ADD=44   T=20
      ADD=45   T=20
      ADD=46   T=20
      ADD=47   T=20
      ADD=48   T=20
      ADD=49   T=20
      ADD=50   T=20
NAME=LOAD7   CSYS=0
  TYPE=TEMPERATURE   ELEM=FRAME
      ADD=1   T=-35
      ADD=2   T=-35
      ADD=3   T=-35
      ADD=4   T=-35
      ADD=5   T=-35
      ADD=6   T=-35
      ADD=7   T=-35
      ADD=8   T=-35
      ADD=9   T=-35
      ADD=10   T=-35
      ADD=11   T=-35
      ADD=12   T=-35
      ADD=13   T=-35
      ADD=14   T=-35
      ADD=15   T=-35
      ADD=16   T=-35
      ADD=17   T=-35
      ADD=18   T=-35
      ADD=19   T=-35
      ADD=20   T=-35
      ADD=21   T=-35
      ADD=22   T=-35
      ADD=23   T=-35
      ADD=24   T=-35
      ADD=25   T=-35
      ADD=26   T=-35
      ADD=27   T=-35
      ADD=28   T=-35
      ADD=29   T=-35
      ADD=30   T=-35
      ADD=31   T=-35
      ADD=32   T=-35
      ADD=33   T=-35
      ADD=34   T=-35
      ADD=35   T=-35
      ADD=36   T=-35
      ADD=37   T=-35
      ADD=38   T=-35
      ADD=39   T=-35
      ADD=40   T=-35
      ADD=41   T=-35
      ADD=42   T=-35
      ADD=43   T=-35
      ADD=44   T=-35
      ADD=45   T=-35
```

```
      ADD=46   T=-35
      ADD=47   T=-35
      ADD=48   T=-35
      ADD=49   T=-35
      ADD=50   T=-35

)MB0
 NAME=COMB1
    LOAD=LOAD1   SF=1.54
    LOAD=LOAD2   SF=1.8
    LOAD=LOAD4   SF=1.5
 NAME=COMB2
    LOAD=LOAD1   SF=1.54
    LOAD=LOAD2   SF=1.8
    LOAD=LOAD5   SF=1.5
 NAME=COMB3
    LOAD=LOAD1   SF=1.54
    LOAD=LOAD2   SF=1.8
    LOAD=LOAD4   SF=1.5
    LOAD=LOAD3   SF=1.8
    LOAD=LOAD6   SF=1.5
 NAME=COMB4
    LOAD=LOAD1   SF=1.54
    LOAD=LOAD2   SF=1.8
    LOAD=LOAD5   SF=1.5
    LOAD=LOAD3   SF=1.8
    LOAD=LOAD7   SF=1.5
 NAME=COMB5
    LOAD=LOAD1   SF=1
    LOAD=LOAD2   SF=1
    LOAD=LOAD4   SF=1
 NAME=COMB6
    LOAD=LOAD1   SF=1
    LOAD=LOAD2   SF=1
    LOAD=LOAD5   SF=1
 NAME=COMB7
    LOAD=LOAD1   SF=1
    LOAD=LOAD2   SF=1
    LOAD=LOAD4   SF=1
    LOAD=LOAD3   SF=1
    LOAD=LOAD6   SF=1
 NAME=COMB8
    LOAD=LOAD1   SF=1
    LOAD=LOAD2   SF=1
    LOAD=LOAD5   SF=1
    LOAD=LOAD3   SF=1
    LOAD=LOAD7   SF=1

JTPUT
 ELEM=FRAME   TYPE=FORCE   COMB=COMB1
 ELEM=FRAME   TYPE=FORCE   COMB=COMB2
 ELEM=FRAME   TYPE=FORCE   COMB=COMB3
 ELEM=FRAME   TYPE=FORCE   COMB=COMB4
 ELEM=FRAME   TYPE=FORCE   COMB=COMB5
 ELEM=FRAME   TYPE=FORCE   COMB=COMB6
 ELEM=FRAME   TYPE=FORCE   COMB=COMB7
 ELEM=FRAME   TYPE=FORCE   COMB=COMB8
 ELEM=JOINT   TYPE=REAC   COMB=COMB1
 ELEM=JOINT   TYPE=REAC   COMB=COMB2
 ELEM=JOINT   TYPE=REAC   COMB=COMB3
 ELEM=JOINT   TYPE=REAC   COMB=COMB4
 ELEM=JOINT   TYPE=REAC   COMB=COMB5
 ELEM=JOINT   TYPE=REAC   COMB=COMB6
```

```
  ELEM=JOINT  TYPE=REAC  COMB=COMB7
  ELEM=JOINT  TYPE=REAC  COMB=COMB8
  ELEM=JOINT  TYPE=DISP  COMB=COMB1
  ELEM=JOINT  TYPE=DISP  COMB=COMB2
  ELEM=JOINT  TYPE=DISP  COMB=COMB3
  ELEM=JOINT  TYPE=DISP  COMB=COMB4
  ELEM=JOINT  TYPE=DISP  COMB=COMB5
  ELEM=JOINT  TYPE=DISP  COMB=COMB6
  ELEM=JOINT  TYPE=DISP  COMB=COMB7
  ELEM=JOINT  TYPE=DISP  COMB=COMB8

END

; The following data is used for graphics, design and pushover analysis.
; If changes are made to the analysis data above, then the following data
; should be checked for consistency.
SAP2000 V7.40 SUPPLEMENTAL DATA
  GROUP "DXFIN"  FRAME 1
  GROUP "DXFIN"  FRAME 2
  GROUP "DXFIN"  FRAME 3
  GROUP "DXFIN"  FRAME 4
  GROUP "DXFIN"  FRAME 5
  GROUP "DXFIN"  FRAME 6
  GROUP "DXFIN"  FRAME 7
  GROUP "DXFIN"  FRAME 8
  GROUP "DXFIN"  FRAME 9
  GROUP "DXFIN"  FRAME 10
  GROUP "DXFIN"  FRAME 11
  GROUP "DXFIN"  FRAME 12
  GROUP "DXFIN"  FRAME 13
  GROUP "DXFIN"  FRAME 14
  GROUP "DXFIN"  FRAME 15
  GROUP "DXFIN"  FRAME 16
  GROUP "DXFIN"  FRAME 17
  GROUP "DXFIN"  FRAME 18
  GROUP "DXFIN"  FRAME 19
  GROUP "DXFIN"  FRAME 20
  GROUP "DXFIN"  FRAME 21
  GROUP "DXFIN"  FRAME 22
  GROUP "DXFIN"  FRAME 23
  GROUP "DXFIN"  FRAME 24
  GROUP "DXFIN"  FRAME 25
  GROUP "DXFIN"  FRAME 26
  GROUP "DXFIN"  FRAME 27
  GROUP "DXFIN"  FRAME 28
  GROUP "DXFIN"  FRAME 29
  GROUP "DXFIN"  FRAME 30
  GROUP "DXFIN"  FRAME 31
  GROUP "DXFIN"  FRAME 32
  GROUP "DXFIN"  FRAME 33
  GROUP "DXFIN"  FRAME 34
  GROUP "DXFIN"  FRAME 35
  GROUP "DXFIN"  FRAME 36
  GROUP "DXFIN"  FRAME 37
  GROUP "DXFIN"  FRAME 38
  GROUP "DXFIN"  FRAME 39
  GROUP "DXFIN"  FRAME 40
  GROUP "DXFIN"  FRAME 41
  GROUP "DXFIN"  FRAME 42
  GROUP "DXFIN"  FRAME 43
  GROUP "DXFIN"  FRAME 44
  GROUP "DXFIN"  FRAME 45
  GROUP "DXFIN"  FRAME 46
```

```
GROUP "DXFIN"  FRAME 47
GROUP "DXFIN"  FRAME 48
GROUP "DXFIN"  FRAME 49
GROUP "DXFIN"  FRAME 50
MATERIAL STEEL FY 25310.51
MATERIAL CONC FYREBAR 42184.18 FYSHEAR 28122.79 FC 2812.279 FCSHEAR 2812.279
CONCRETESECTION FSEC1 COLUMN  COVER .05 REBAR RR-3-3
CONCRETESECTION FSEC2 COLUMN  COVER .04572 REBAR RR-3-3
CONCRETESECTION FSEC3 COLUMN  COVER .04572 REBAR RR-3-3
STATICLOAD LOAD1 TYPE DEAD
STATICLOAD LOAD2 TYPE OTHER
STATICLOAD LOAD3 TYPE QUAKE
STATICLOAD LOAD4 TYPE WIND
STATICLOAD LOAD5 TYPE SNOW
STATICLOAD LOAD6 TYPE OTHER
STATICLOAD LOAD7 TYPE OTHER
COMBO COMB1 DESIGN CONCRETE
COMBO COMB2 DESIGN CONCRETE
COMBO COMB3 DESIGN CONCRETE
COMBO COMB4 DESIGN CONCRETE
COMBO COMB5 DESIGN CONCRETE
COMBO COMB6 DESIGN CONCRETE
COMBO COMB7 DESIGN CONCRETE
COMBO COMB8 DESIGN CONCRETE
JD SUPPLEMENTAL DATA
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S A P 2 0 0 0 (R)

Structural Analysis Programs

Nonlinear Version 7.40

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D I S P L A C E M E N T D E G R E E S O F F R E E D O M

(A) = Active DOF, equilibrium equation
(-) = Restrained DOF, reaction computed
(+) = Constrained DOF
(>) = External substructure DOF
( ) = Null DOF

JOINTS		U1	U2	U3	R1	R2	R3
1		-	-	-	-	A	-
2 TO	50	A	A	A	A	A	A
51		-	-	-	-	A	-

A S S E M B L E D J O I N T M A S S E S

IN LOCAL COORDINATES

JOINT	U1	U2	U3	R1	R2	R3
1	0.026169	0.026169	0.026169	.000000	.000000	.000000
2	0.052337	0.052337	0.052337	.000000	.000000	.000000
3	0.052337	0.052337	0.052337	.000000	.000000	.000000
4	0.049258	0.049258	0.049258	.000000	.000000	.000000
5	0.046180	0.046180	0.046180	.000000	.000000	.000000
6	0.046180	0.046180	0.046180	.000000	.000000	.000000
7	0.046180	0.046180	0.046180	.000000	.000000	.000000
8	0.046180	0.046180	0.046180	.000000	.000000	.000000
9	0.046180	0.046180	0.046180	.000000	.000000	.000000
10	0.044644	0.044644	0.044644	.000000	.000000	.000000
11	0.043108	0.043108	0.043108	.000000	.000000	.000000
12	0.043108	0.043108	0.043108	.000000	.000000	.000000
13	0.043108	0.043108	0.043108	.000000	.000000	.000000
14	0.043108	0.043108	0.043108	.000000	.000000	.000000
15	0.043108	0.043108	0.043108	.000000	.000000	.000000
16	0.043108	0.043108	0.043108	.000000	.000000	.000000
17	0.043108	0.043108	0.043108	.000000	.000000	.000000
18	0.043108	0.043108	0.043108	.000000	.000000	.000000
19	0.043108	0.043108	0.043108	.000000	.000000	.000000
20	0.043108	0.043108	0.043108	.000000	.000000	.000000
21	0.043108	0.043108	0.043108	.000000	.000000	.000000
22	0.043108	0.043108	0.043108	.000000	.000000	.000000
23	0.043108	0.043108	0.043108	.000000	.000000	.000000
24	0.043108	0.043108	0.043108	.000000	.000000	.000000
25	0.043108	0.043108	0.043108	.000000	.000000	.000000
26	0.043108	0.043108	0.043108	.000000	.000000	.000000
27	0.043108	0.043108	0.043108	.000000	.000000	.000000
28	0.043108	0.043108	0.043108	.000000	.000000	.000000
29	0.043108	0.043108	0.043108	.000000	.000000	.000000
30	0.043108	0.043108	0.043108	.000000	.000000	.000000
31	0.043108	0.043108	0.043108	.000000	.000000	.000000
32	0.043108	0.043108	0.043108	.000000	.000000	.000000
33	0.043108	0.043108	0.043108	.000000	.000000	.000000
34	0.043108	0.043108	0.043108	.000000	.000000	.000000
35	0.043108	0.043108	0.043108	.000000	.000000	.000000
36	0.043108	0.043108	0.043108	.000000	.000000	.000000
37	0.043108	0.043108	0.043108	.000000	.000000	.000000
38	0.043108	0.043108	0.043108	.000000	.000000	.000000
39	0.043108	0.043108	0.043108	.000000	.000000	.000000
40	0.043108	0.043108	0.043108	.000000	.000000	.000000
41	0.044645	0.044645	0.044645	.000000	.000000	.000000
42	0.046182	0.046182	0.046182	.000000	.000000	.000000
43	0.046182	0.046182	0.046182	.000000	.000000	.000000
44	0.046182	0.046182	0.046182	.000000	.000000	.000000
45	0.046182	0.046182	0.046182	.000000	.000000	.000000
46	0.046182	0.046182	0.046182	.000000	.000000	.000000
47	0.046182	0.046182	0.046182	.000000	.000000	.000000
48	0.049261	0.049261	0.049261	.000000	.000000	.000000
49	0.052339	0.052339	0.052339	.000000	.000000	.000000
50	0.052339	0.052339	0.052339	.000000	.000000	.000000

A S S E M B L E D J O I N T M A S S E S

IN LOCAL COORDINATES

JOINT	U1	U2	U3	R1	R2	R3
51	0.026170	0.026170	0.026170	.000000	.000000	.000000

T O T A L A S S E M B L E D J O I N T M A S S E S

IN GLOBAL COORDINATES

	UX	UY	UZ	RX	RY	RZ
TOTAL	2.250725	2.250725	2.250725	.000000	.000000	.000000

T O T A L A C C E L E R A T E D M A S S A N D L O C A T I O N

TOTAL MASS ACTIVATED BY ACCELERATION LOADS, IN GLOBAL COORDINATES

	UX	UY	UZ
MASS	2.198387	2.198387	2.198387
X-LOC	0.150003	0.150003	0.150003
Y-LOC	.000000	.000000	.000000
Z-LOC	5.432461	5.432461	5.432461

J O I N T D I S P L A C E M E N T S

TRANSLATIONS AND ROTATIONS, IN LOCAL COORDINATES

COMB COMB1 ---------- MAX

JOINT	U1	U2	U3	R1	R2	R3
1	0.000000	0.000000	0.000000	0.000000	-0.005204	0.000000
2	-0.000294	-1.16E-18	-0.002599	9.24E-19	0.004856	-2.69E-18
3	-0.000808	-2.88E-18	-0.004830	1.42E-18	0.004049	-3.74E-18
4	-0.001499	-5.05E-18	-0.006523	1.55E-18	0.003079	-4.72E-18
5	-0.002336	-7.52E-18	-0.007549	1.48E-18	0.001778	-5.02E-18
6	-0.003228	-1.01E-17	-0.007900	1.16E-18	0.000772	-5.23E-18
7	-0.004116	-1.27E-17	-0.007754	6.80E-19	0.000122	-5.37E-18
8	-0.004964	-1.53E-17	-0.007290	1.07E-19	-0.000218	-5.44E-18
9	-0.005751	-1.79E-17	-0.006647	-5.22E-19	-0.000355	-5.44E-18
10	-0.006436	-2.05E-17	-0.005935	-1.13E-18	-0.000435	-5.37E-18
11	-0.006948	-2.30E-17	-0.005237	-1.65E-18	-0.000718	-5.22E-18
12	-0.007403	-2.54E-17	-0.004278	-2.17E-18	-0.001273	-4.96E-18
13	-0.007774	-2.77E-17	-0.002968	-2.69E-18	-0.001950	-4.65E-18
14	-0.008039	-2.98E-17	-0.001280	-3.19E-18	-0.002635	-4.30E-18
15	-0.008174	-3.17E-17	0.000744	-3.67E-18	-0.003245	-3.93E-18
16	-0.008160	-3.34E-17	0.003056	-4.14E-18	-0.003722	-3.55E-18
17	-0.007980	-3.49E-17	0.005561	-4.58E-18	-0.004030	-3.18E-18
18	-0.007626	-3.62E-17	0.008158	-5.00E-18	-0.004151	-2.81E-18
19	-0.007096	-3.74E-17	0.010738	-5.38E-18	-0.004080	-2.46E-18
20	-0.006396	-3.84E-17	0.013194	-5.73E-18	-0.003825	-2.12E-18
21	-0.005538	-3.93E-17	0.015425	-6.04E-18	-0.003402	-1.80E-18
22	-0.004539	-4.00E-17	0.017343	-6.30E-18	-0.002833	-1.48E-18
23	-0.003424	-4.06E-17	0.018871	-6.52E-18	-0.002145	-1.17E-18
24	-0.002222	-4.10E-17	0.019950	-6.68E-18	-0.001370	-8.67E-19
25	-0.000963	-4.13E-17	0.020540	-6.80E-18	-0.000540	-5.64E-19
26	0.000318	-4.15E-17	0.020620	-6.86E-18	0.000309	-2.58E-19
27	0.001588	-4.16E-17	0.020188	-6.87E-18	0.001144	5.53E-20
28	0.002811	-4.15E-17	0.019261	-6.83E-18	0.001929	3.79E-19
29	0.003957	-4.13E-17	0.017879	-6.73E-18	0.002631	7.17E-19
30	0.004996	-4.10E-17	0.016096	-6.57E-18	0.003219	1.07E-18
31	0.005903	-4.05E-17	0.013986	-6.37E-18	0.003665	1.45E-18
32	0.006660	-3.98E-17	0.011635	-6.11E-18	0.003947	1.84E-18
33	0.007252	-3.89E-17	0.009143	-5.81E-18	0.004047	2.26E-18
34	0.007674	-3.78E-17	0.006613	-5.46E-18	0.003959	2.69E-18
35	0.007925	-3.65E-17	0.004153	-5.07E-18	0.003685	3.14E-18
36	0.008014	-3.50E-17	0.001864	-4.63E-18	0.003243	3.60E-18
37	0.007953	-3.33E-17	-0.000165	-4.17E-18	0.002667	4.05E-18
38	0.007763	-3.13E-17	-0.001869	-3.66E-18	0.002015	4.49E-18
39	0.007463	-2.91E-17	-0.003221	-3.13E-18	0.001366	4.90E-18
40	0.007077	-2.67E-17	-0.004239	-2.57E-18	0.000834	5.24E-18
41	0.006624	-2.41E-17	-0.005012	-1.98E-18	0.000565	5.49E-18
42	0.006053	-2.15E-17	-0.005776	-1.33E-18	0.000520	5.65E-18
43	0.005381	-1.87E-17	-0.006516	-6.42E-19	0.000486	5.73E-18
44	0.004639	-1.59E-17	-0.007163	3.87E-20	0.000332	5.73E-18
45	0.003840	-1.32E-17	-0.007620	6.66E-19	-5.39E-05	5.65E-18
46	0.003002	-1.04E-17	-0.007742	1.18E-18	-0.000753	5.49E-18
47	0.002169	-7.71E-18	-0.007355	1.52E-18	-0.001774	5.23E-18
48	0.001395	-5.14E-18	-0.006316	1.60E-18	-0.003021	4.84E-18
49	0.000757	-2.90E-18	-0.004652	1.46E-18	-0.003926	3.82E-18
50	0.000280	-1.18E-18	-0.002495	9.49E-19	-0.004673	2.71E-18
51	0.000000	0.000000	0.000000	0.000000	0.004996	0.000000

COMB COMB2 ---------- MAX

JOINT	U1	U2	U3	R1	R2	R3
1	.000000	.000000	.000000	.000000	-0.005066	.000000
2	-0.000292	-1.16E-18	-0.002548	9.24E-19	0.004783	-2.61E-18
3	-0.000800	-2.80E-18	-0.004757	1.43E-18	0.004026	-3.64E-18
4	-0.001484	-4.92E-18	-0.006451	1.56E-18	0.003094	-4.59E-18
5	-0.002315	-7.32E-18	-0.007488	1.50E-18	0.001802	-4.90E-18
6	-0.003203	-9.82E-18	-0.007855	1.20E-18	0.000797	-5.11E-18
7	-0.004087	-1.24E-17	-0.007724	7.31E-19	0.000146	-5.25E-18
8	-0.004934	-1.49E-17	-0.007275	1.64E-19	-0.000194	-5.33E-18
9	-0.005720	-1.75E-17	-0.006647	-4.50E-19	-0.000329	-5.33E-18
10	-0.006400	-2.00E-17	-0.005952	-1.04E-18	-0.000405	-5.27E-18
11	-0.006919	-2.25E-17	-0.005268	-1.56E-18	-0.000698	-5.11E-18
12	-0.007376	-2.48E-17	-0.004319	-2.08E-18	-0.001261	-4.87E-18
13	-0.007750	-2.71E-17	-0.003016	-2.58E-18	-0.001945	-4.56E-18
14	-0.008018	-2.91E-17	-0.001335	-3.08E-18	-0.002635	-4.21E-18
15	-0.008157	-3.09E-17	0.000695	-3.56E-18	-0.003250	-3.84E-18
16	-0.008145	-3.26E-17	0.003008	-4.02E-18	-0.003730	-3.47E-18
17	-0.007969	-3.41E-17	0.005518	-4.46E-18	-0.004040	-3.10E-18
18	-0.007617	-3.54E-17	0.008119	-4.87E-18	-0.004162	-2.75E-18
19	-0.007090	-3.65E-17	0.010705	-5.25E-18	-0.004092	-2.40E-18
20	-0.006392	-3.75E-17	0.013166	-5.60E-18	-0.003837	-2.07E-18
21	-0.005535	-3.83E-17	0.015403	-5.90E-18	-0.003413	-1.75E-18
22	-0.004538	-3.90E-17	0.017325	-6.16E-18	-0.002842	-1.44E-18
23	-0.003424	-3.96E-17	0.018857	-6.38E-18	-0.002152	-1.14E-18
24	-0.002222	-4.00E-17	0.019940	-6.54E-18	-0.001375	-8.50E-19
25	-0.000964	-4.04E-17	0.020532	-6.66E-18	-0.000543	-5.55E-19
26	0.000317	-4.06E-17	0.020612	-6.72E-18	0.000310	-2.58E-19
27	0.001585	-4.06E-17	0.020179	-6.73E-18	0.001147	4.64E-20
28	0.002808	-4.06E-17	0.019251	-6.68E-18	0.001934	3.61E-19
29	0.003953	-4.04E-17	0.017866	-6.58E-18	0.002638	6.91E-19
30	0.004991	-4.00E-17	0.016079	-6.43E-18	0.003228	1.04E-18
31	0.005897	-3.96E-17	0.013965	-6.23E-18	0.003675	1.40E-18
32	0.006652	-3.89E-17	0.011609	-5.98E-18	0.003958	1.79E-18
33	0.007243	-3.80E-17	0.009111	-5.68E-18	0.004058	2.20E-18
34	0.007662	-3.70E-17	0.006577	-5.33E-18	0.003969	2.62E-18
35	0.007911	-3.57E-17	0.004113	-4.94E-18	0.003693	3.07E-18
36	0.007997	-3.42E-17	0.001821	-4.52E-18	0.003249	3.52E-18
37	0.007934	-3.25E-17	-0.000209	-4.05E-18	0.002669	3.97E-18
38	0.007740	-3.06E-17	-0.001912	-3.56E-18	0.002012	4.40E-18

J O I N T D I S P L A C E M E N T S

TRANSLATIONS AND ROTATIONS, IN LOCAL COORDINATES

JOINT	U1	U2	U3	R1	R2	R3
49	0.000757	-2.90E-18	-0.004652	1.46E-18	-0.003926	3.82E-18
50	0.000280	-1.18E-18	-0.002495	9.49E-19	-0.004673	2.71E-18
51	.000000	.000000	.000000	.000000	0.004996	.000000

COMB COMB1 ---------- MIN

JOINT	U1	U2	U3	R1	R2	R3
1	.000000	.000000	.000000	.000000	-0.005204	.000000
2	-0.000294	-1.16E-18	-0.002599	9.24E-19	0.004856	-2.69E-18
3	-0.000808	-2.88E-18	-0.004830	1.42E-18	0.004049	-3.74E-18
4	-0.001499	-5.05E-18	-0.006523	1.55E-18	0.003079	-4.72E-18
5	-0.002336	-7.52E-18	-0.007549	1.48E-18	0.001778	-5.02E-18
6	-0.003228	-1.01E-17	-0.007900	1.16E-18	0.000772	-5.23E-18
7	-0.004116	-1.27E-17	-0.007754	6.80E-19	0.000122	-5.37E-18
8	-0.004964	-1.53E-17	-0.007290	1.07E-19	-0.000218	-5.44E-18
9	-0.005751	-1.79E-17	-0.006647	-5.22E-19	-0.000355	-5.44E-18
10	-0.006436	-2.05E-17	-0.005935	-1.13E-18	-0.000435	-5.37E-18
11	-0.006948	-2.30E-17	-0.005237	-1.65E-18	-0.000718	-5.22E-18
12	-0.007403	-2.54E-17	-0.004278	-2.17E-18	-0.001273	-4.96E-18
13	-0.007774	-2.77E-17	-0.002968	-2.69E-18	-0.001950	-4.65E-18
14	-0.008039	-2.98E-17	-0.001280	-3.19E-18	-0.002635	-4.30E-18
15	-0.008174	-3.17E-17	0.000744	-3.67E-18	-0.003245	-3.93E-18
16	-0.008160	-3.34E-17	0.003056	-4.14E-18	-0.003722	-3.55E-18
17	-0.007980	-3.49E-17	0.005561	-4.58E-18	-0.004030	-3.18E-18
18	-0.007626	-3.62E-17	0.008158	-5.00E-18	-0.004151	-2.81E-18
19	-0.007096	-3.74E-17	0.010738	-5.38E-18	-0.004080	-2.46E-18
20	-0.006396	-3.84E-17	0.013194	-5.73E-18	-0.003825	-2.12E-18
21	-0.005538	-3.93E-17	0.015425	-6.04E-18	-0.003402	-1.80E-18
22	-0.004539	-4.00E-17	0.017343	-6.30E-18	-0.002833	-1.48E-18
23	-0.003424	-4.06E-17	0.018871	-6.52E-18	-0.002145	-1.17E-18
24	-0.002222	-4.10E-17	0.019950	-6.68E-18	-0.001370	-8.67E-19
25	-0.000963	-4.13E-17	0.020540	-6.80E-18	-0.000540	-5.64E-19
26	0.000318	-4.15E-17	0.020620	-6.86E-18	0.000309	-2.58E-19
27	0.001588	-4.16E-17	0.020188	-6.87E-18	0.001144	5.53E-20
28	0.002811	-4.15E-17	0.019261	-6.83E-18	0.001929	3.79E-19
29	0.003957	-4.13E-17	0.017879	-6.73E-18	0.002631	7.17E-19
30	0.004996	-4.10E-17	0.016096	-6.57E-18	0.003219	1.07E-18
31	0.005903	-4.05E-17	0.013986	-6.37E-18	0.003665	1.45E-18
32	0.006660	-3.98E-17	0.011635	-6.11E-18	0.003947	1.84E-18
33	0.007252	-3.89E-17	0.009143	-5.81E-18	0.004047	2.26E-18
34	0.007674	-3.78E-17	0.006613	-5.46E-18	0.003959	2.69E-18
35	0.007925	-3.65E-17	0.004153	-5.07E-18	0.003685	3.14E-18
36	0.008014	-3.50E-17	0.001864	-4.63E-18	0.003243	3.60E-18
37	0.007953	-3.33E-17	-0.000165	-4.17E-18	0.002667	4.05E-18
38	0.007763	-3.13E-17	-0.001869	-3.66E-18	0.002015	4.49E-18
39	0.007463	-2.91E-17	-0.003221	-3.13E-18	0.001366	4.90E-18
40	0.007077	-2.67E-17	-0.004239	-2.57E-18	0.000834	5.24E-18
41	0.006624	-2.41E-17	-0.005012	-1.98E-18	0.000565	5.49E-18
42	0.006053	-2.15E-17	-0.005776	-1.33E-18	0.000520	5.65E-18
43	0.005381	-1.87E-17	-0.006516	-6.42E-19	0.000486	5.73E-18

J O I N T D I S P L A C E M E N T S

TRANSLATIONS AND ROTATIONS, IN LOCAL COORDINATES

JOINT	U1	U2	U3	R1	R2	R3
44	0.004639	-1.59E-17	-0.007163	3.87E-20	0.000332	5.73E-18
45	0.003840	-1.32E-17	-0.007620	6.66E-19	-5.39E-05	5.65E-18
46	0.003002	-1.04E-17	-0.007742	1.18E-18	-0.000753	5.49E-18
47	0.002169	-7.71E-18	-0.007355	1.52E-18	-0.001774	5.23E-18
48	0.001395	-5.14E-18	-0.006316	1.60E-18	-0.003021	4.84E-18
49	0.000757	-2.90E-18	-0.004652	1.46E-18	-0.003926	3.82E-18
50	0.000280	-1.18E-18	-0.002495	9.49E-19	-0.004673	2.71E-18
51	000000	000000	000000	000000	0.004996	.000000

COMB COMB2 ---------- MIN

JOINT	U1	U2	U3	R1	R2	R3
1	.000000	.000000	.000000	.000000	-0.005066	.000000
2	-0.000292	-1.16E-18	-0.002548	9.24E-19	0.004783	-2.61E-18
3	-0.000800	-2.80E-18	-0.004757	1.43E-18	0.004026	-3.64E-18
4	-0.001484	-4.92E-18	-0.006451	1.56E-18	0.003094	-4.59E-18
5	-0.002315	-7.32E-18	-0.007488	1.50E-18	0.001802	-4.90E-18
6	-0.003203	-9.82E-18	-0.007855	1.20E-18	0.000797	-5.11E-18
7	-0.004087	-1.24E-17	-0.007724	7.31E-19	0.000146	-5.25E-18
8	-0.004934	-1.49E-17	-0.007275	1.64E-19	-0.000194	-5.33E-18
9	-0.005720	-1.75E-17	-0.006647	-4.50E-19	-0.000329	-5.33E-18
10	-0.006400	-2.00E-17	-0.005952	-1.04E-18	-0.000405	-5.27E-18
11	-0.006919	-2.25E-17	-0.005268	-1.56E-18	-0.000698	-5.11E-18
12	-0.007376	-2.48E-17	-0.004319	-2.08E-18	-0.001261	-4.87E-18
13	-0.007750	-2.71E-17	-0.003016	-2.58E-18	-0.001945	-4.56E-18
14	-0.008018	-2.91E-17	-0.001335	-3.08E-18	-0.002635	-4.21E-18
15	-0.008157	-3.09E-17	0.000695	-3.56E-18	-0.003250	-3.84E-18
16	-0.008145	-3.26E-17	0.003008	-4.02E-18	-0.003730	-3.47E-18
17	-0.007969	-3.41E-17	0.005518	-4.46E-18	-0.004040	-3.10E-18
18	-0.007617	-3.54E-17	0.008119	-4.87E-18	-0.004162	-2.75E-18
19	-0.007090	-3.65E-17	0.010705	-5.25E-18	-0.004092	-2.40E-18
20	-0.006392	-3.75E-17	0.013166	-5.60E-18	-0.003837	-2.07E-18
21	-0.005535	-3.83E-17	0.015403	-5.90E-18	-0.003413	-1.75E-18
22	-0.004538	-3.90E-17	0.017325	-6.16E-18	-0.002842	-1.44E-18
23	-0.003424	-3.96E-17	0.018857	-6.38E-18	-0.002152	-1.14E-18
24	-0.002222	-4.00E-17	0.019940	-6.54E-18	-0.001375	-8.50E-19
25	-0.000964	-4.04E-17	0.020532	-6.66E-18	-0.000543	-5.55E-19
26	0.000317	-4.06E-17	0.020612	-6.72E-18	0.000310	-2.58E-19
27	0.001585	-4.06E-17	0.020179	-6.73E-18	0.001147	4.64E-20
28	0.002808	-4.06E-17	0.019251	-6.68E-18	0.001934	3.61E-19
29	0.003953	-4.04E-17	0.017866	-6.58E-18	0.002638	6.91E-19
30	0.004991	-4.00E-17	0.016079	-6.43E-18	0.003228	1.04E-18
31	0.005897	-3.96E-17	0.013965	-6.23E-18	0.003675	1.40E-18
32	0.006652	-3.89E-17	0.011609	-5.98E-18	0.003958	1.79E-18
33	0.007243	-3.80E-17	0.009111	-5.68E-18	0.004058	2.20E-18

J O I N T D I S P L A C E M E N T S

TRANSLATIONS AND ROTATIONS, IN LOCAL COORDINATES

JOINT	U1	U2	U3	R1	R2	R3
39	0.007438	-2.84E-17	-0.003259	-3.03E-18	0.001358	4.80E-18
40	0.007050	-2.61E-17	-0.004270	-2.47E-18	0.000818	5.14E-18
41	0.006595	-2.36E-17	-0.005030	-1.89E-18	0.000540	5.38E-18
42	0.006023	-2.10E-17	-0.005780	-1.26E-18	0.000500	5.54E-18
43	0.005351	-1.83E-17	-0.006509	-5.72E-19	0.000467	5.62E-18
44	0.004611	-1.56E-17	-0.007144	9.84E-20	0.000313	5.61E-18
45	0.003813	-1.28E-17	-0.007589	7.15E-19	-7.54E-05	5.53E-18
46	0.002979	-1.01E-17	-0.007697	1.22E-18	-0.000777	5.36E-18
47	0.002150	-7.51E-18	-0.007296	1.55E-18	-0.001797	5.10E-18
48	0.001381	-5.01E-18	-0.006245	1.61E-18	-0.003036	4.72E-18
49	0.000750	-2.83E-18	-0.004581	1.47E-18	-0.003904	3.72E-18
50	0.000278	-1.15E-18	-0.002445	9.50E-19	-0.004601	2.63E-18
51	.000000	.000000	.000000	.000000	0.004858	.000000

COMB COMB2 ---------- MIN

JOINT	U1	U2	U3	R1	R2	R3
1	.000000	.000000	.000000	.000000	-0.005066	.000000
2	-0.000292	-1.16E-18	-0.002548	9.24E-19	0.004783	-2.61E-18
3	-0.000800	-2.80E-18	-0.004757	1.43E-18	0.004026	-3.64E-18
4	-0.001484	-4.92E-18	-0.006451	1.56E-18	0.003094	-4.59E-18
5	-0.002315	-7.32E-18	-0.007488	1.50E-18	0.001802	-4.90E-18
6	-0.003203	-9.82E-18	-0.007855	1.20E-18	0.000797	-5.11E-18
7	-0.004087	-1.24E-17	-0.007724	7.31E-19	0.000146	-5.25E-18
8	-0.004934	-1.49E-17	-0.007275	1.64E-19	-0.000194	-5.33E-18
9	-0.005720	-1.75E-17	-0.006647	-4.50E-19	-0.000329	-5.33E-18
10	-0.006400	-2.00E-17	-0.005952	-1.04E-18	-0.000405	-5.27E-18
11	-0.006919	-2.25E-17	-0.005268	-1.56E-18	-0.000698	-5.11E-18
12	-0.007376	-2.48E-17	-0.004319	-2.08E-18	-0.001261	-4.87E-18
13	-0.007750	-2.71E-17	-0.003016	-2.58E-18	-0.001945	-4.56E-18
14	-0.008018	-2.91E-17	-0.001335	-3.08E-18	-0.002635	-4.21E-18
15	-0.008157	-3.09E-17	0.000695	-3.56E-18	-0.003250	-3.84E-18
16	-0.008145	-3.26E-17	0.003008	-4.02E-18	-0.003730	-3.47E-18
17	-0.007969	-3.41E-17	0.005518	-4.46E-18	-0.004040	-3.10E-18
18	-0.007617	-3.54E-17	0.008119	-4.87E-18	-0.004162	-2.75E-18
19	-0.007090	-3.65E-17	0.010705	-5.25E-18	-0.004092	-2.40E-18
20	-0.006392	-3.75E-17	0.013166	-5.60E-18	-0.003837	-2.07E-18
21	-0.005535	-3.83E-17	0.015403	-5.90E-18	-0.003413	-1.75E-18
22	-0.004538	-3.90E-17	0.017325	-6.16E-18	-0.002842	-1.44E-18
23	-0.003424	-3.96E-17	0.018857	-6.38E-18	-0.002152	-1.14E-18
24	-0.002222	-4.00E-17	0.019940	-6.54E-18	-0.001375	-8.50E-19
25	-0.000964	-4.04E-17	0.020532	-6.66E-18	-0.000543	-5.55E-19
26	0.000317	-4.06E-17	0.020612	-6.72E-18	0.000310	-2.58E-19
27	0.001585	-4.06E-17	0.020179	-6.73E-18	0.001147	4.64E-20
28	0.002808	-4.06E-17	0.019251	-6.68E-18	0.001934	3.61E-19
29	0.003953	-4.04E-17	0.017866	-6.58E-18	0.002638	6.91E-19
30	0.004991	-4.00E-17	0.016079	-6.43E-18	0.003228	1.04E-18
31	0.005897	-3.96E-17	0.013965	-6.23E-18	0.003675	1.40E-18
32	0.006652	-3.89E-17	0.011609	-5.98E-18	0.003958	1.79E-18
33	0.007243	-3.80E-17	0.009111	-5.68E-18	0.004058	2.20E-18

J O I N T D I S P L A C E M E N T S

TRANSLATIONS AND ROTATIONS, IN LOCAL COORDINATES

JOINT	U1	U2	U3	R1	R2	R3
34	0.007662	-3.70E-17	0.006577	-5.33E-18	0.003969	2.62E-18
35	0.007911	-3.57E-17	0.004113	-4.94E-18	0.003693	3.07E-18
36	0.007967	-3.42E-17	0.001821	-4.52E-18	0.003249	3.52E-18
37	0.007954	-3.25E-17	-0.000209	-4.05E-18	0.002685	3.97E-18
38	0.007740	-3.06E-17	-0.001912	-3.56E-18	0.002012	4.40E-18
39	0.007438	-2.84E-17	-0.003259	-3.03E-18	0.001356	4.80E-18
40	0.007050	-2.61E-17	-0.004270	-2.47E-18	0.000818	5.14E-18
41	0.006596	-2.36E-17	-0.005036	-1.89E-18	0.000540	5.38E-18
42	0.006089	-2.10E-17	-0.005780	-1.26E-18	0.000500	5.54E-18
43	0.005531	-1.83E-17	-0.006506	-5.72E-19	0.000467	5.62E-18
44	0.004611	-1.56E-17	-0.007144	9.84E-20	0.000313	5.61E-18
45	0.003813	-1.28E-17	-0.007589	7.15E-19	-7.54E-05	5.53E-18
46	0.002979	-1.01E-17	-0.007697	1.22E-18	-0.000777	5.36E-18
47	0.002150	-7.51E-18	-0.007296	1.55E-18	-0.001797	5.10E-18
48	0.001361	-5.01E-18	-0.006245	1.61E-18	-0.003036	4.72E-18
49	0.000750	-2.63E-18	-0.004581	1.47E-18	-0.003904	3.72E-18
50	0.000278	-1.15E-18	-0.002445	9.50E-19	-0.004601	2.63E-18
51	.000000	.000000	.000000	.000000	0.004858	.000000

COMB COMB3 ---------- MAX

JOINT	U1	U2	U3	R1	R2	R3
1	.000000	.000000	.000000	.000000	0.004930	.000000
2	-0.000136	1.11E-18	-0.002468	7.71E-19	0.004577	-2.48E-18
3	-0.000479	-2.66E-18	-0.004578	1.17E-18	0.003754	-3.42E-18
4	-0.000996	-4.65E-18	-0.006156	1.24E-18	0.002758	-4.30E-18
5	-0.001636	-6.89E-18	-0.007662	1.14E-18	0.001399	-4.49E-18
6	-0.002325	-9.17E-18	-0.007278	8.31E-19	0.000320	-4.60E-18
7	-0.002997	-1.15E-17	-0.006977	3.88E-19	-0.000408	-4.65E-18
8	-0.003615	-1.37E-17	-0.006339	-1.32E-19	-0.000814	-4.66E-18
9	-0.004155	-1.60E-17	-0.005515	-6.85E-19	-0.000980	-4.62E-18
10	-0.004580	-1.82E-17	-0.004636	-1.21E-18	-0.001012	-4.54E-18
11	-0.004856	-2.03E-17	-0.003813	-1.67E-18	-0.001081	-4.42E-18
12	-0.005066	-2.24E-17	-0.002900	-2.12E-18	-0.001258	-4.25E-18
13	-0.005205	-2.44E-17	-0.001875	-2.55E-18	-0.001449	-4.05E-18
14	-0.005267	-2.62E-17	-0.000755	-2.97E-18	-0.001596	-3.82E-18
15	-0.005246	-2.80E-17	0.000424	-3.37E-18	-0.001667	-3.58E-18
16	-0.005143	-2.96E-17	0.001614	-3.75E-18	-0.001655	-3.33E-18
17	-0.004958	-3.11E-17	0.002766	-4.10E-18	-0.001564	-3.08E-18
18	-0.004696	-3.25E-17	0.003841	-4.42E-18	-0.001413	-2.81E-18
19	-0.004365	-3.38E-17	0.004809	-4.72E-18	-0.001225	-2.52E-18
20	-0.003971	-3.49E-17	0.005652	-4.98E-18	-0.001024	-2.22E-18
21	-0.003526	-3.58E-17	0.006366	-5.21E-18	-0.000832	-1.90E-18
22	-0.003037	-3.66E-17	0.006958	-5.41E-18	-0.000668	-1.56E-18
23	-0.002512	-3.73E-17	0.007443	-5.56E-18	-0.000541	-1.20E-18
24	-0.001960	-3.77E-17	0.007837	-5.68E-18	-0.000450	-8.20E-19
25	-0.001385	-3.80E-17	0.008157	-5.76E-18	-0.000386	-4.27E-19
26	-0.000792	-3.81E-17	0.008409	-5.80E-18	-0.000324	-2.89E-20
27	-0.000184	-3.80E-17	0.008586	-5.80E-18	-0.000233	3.65E-19
28	0.000435	-3.77E-17	0.008665	-5.76E-18	-9.05E-05	7.48E-19

J O I N T D I S P L A C E M E N T S

TRANSLATIONS AND ROTATIONS, IN LOCAL COORDINATES

JOINT	U1	U2	U3	R1	R2	R3
29	0.001055	-3.73E-17	0.008616	-5.68E-18	0.000114	1.11E-18
30	0.001668	-3.66E-17	0.008408	-5.56E-18	0.000377	1.46E-18
31	0.002260	-3.59E-17	0.008013	-5.39E-18	0.000687	1.79E-18
32	0.002819	-3.49E-17	0.007415	-5.19E-18	0.001022	2.10E-18
33	0.003331	-3.39E-17	0.006611	-4.94E-18	0.001354	2.39E-18
34	0.003780	-3.27E-17	0.005613	-4.66E-18	0.001653	2.67E-18
35	0.004155	-3.14E-17	0.004450	-4.34E-18	0.001889	2.95E-18
36	0.004446	-2.99E-17	0.003166	-3.99E-18	0.002036	3.23E-18
37	0.004644	-2.83E-17	0.001817	-3.60E-18	0.002080	3.50E-18
38	0.004748	-2.66E-17	0.000463	-3.19E-18	0.002020	3.76E-18
39	0.004757	-2.47E-17	-0.000840	-2.74E-18	0.001877	4.02E-18
40	0.004675	-2.27E-17	-0.002053	-2.28E-18	0.001698	4.25E-18
41	0.004509	-2.07E-17	-0.003169	-1.79E-18	0.001565	4.43E-18
42	0.004222	-1.85E-17	-0.004281	-1.25E-18	0.001473	4.59E-18
43	0.003816	-1.62E-17	-0.005332	-6.72E-19	0.001315	4.70E-18
44	0.003317	-1.39E-17	-0.006238	-1.02E-19	0.001013	4.75E-18
45	0.002740	-1.16E-17	-0.006899	4.28E-19	0.000487	4.75E-18
46	0.002112	-9.25E-18	-0.007177	8.72E-19	-0.000327	4.69E-18
47	0.001475	-6.92E-18	-0.006913	1.18E-18	-0.001433	4.56E-18
48	0.000888	-4.65E-18	-0.005978	1.27E-18	-0.002734	4.32E-18
49	0.000429	-2.65E-18	-0.004417	1.18E-18	-0.003658	3.42E-18
50	0.000121	-1.09E-18	-0.002372	7.74E-19	-0.004412	2.46E-18
51	.000000	.000000	.000000	.000000	0.004736	.000000

COMB COMB4 ---------- MAX

JOINT	U1	U2	U3	R1	R2	R3
1	.000000	.000000	.000000	.000000	-0.005026	.000000
2	-0.000547	-1.09E-18	-0.002517	7.02E-19	0.004746	-2.42E-18
3	-0.001307	-2.58E-18	-0.004674	1.06E-18	0.003990	-3.28E-18
4	-0.002238	-4.45E-18	-0.006292	1.12E-18	0.003044	-4.08E-18
5	-0.003306	-6.52E-18	-0.007215	1.02E-18	0.001681	-4.22E-18
6	-0.004417	-8.59E-18	-0.007394	7.31E-19	0.000539	-4.27E-18
7	-0.005504	-1.06E-17	-0.006969	3.28E-19	-0.000329	-4.26E-18
8	-0.006520	-1.26E-17	-0.006078	-1.42E-19	-0.000964	-4.20E-18
9	-0.007427	-1.45E-17	-0.004829	-6.40E-19	-0.001441	-4.09E-18
10	-0.008179	-1.63E-17	-0.003340	-1.12E-18	-0.001835	-3.93E-18
11	-0.008753	-1.81E-17	-0.001735	-1.53E-18	-0.002334	-3.73E-18
12	-0.009202	-1.97E-17	0.000169	-1.93E-18	-0.002850	-3.49E-18
13	-0.009508	-2.12E-17	0.002348	-2.32E-18	-0.003294	-3.25E-18
14	-0.009657	-2.25E-17	0.004737	-2.71E-18	-0.003613	-3.00E-18
15	-0.009637	-2.38E-17	0.007255	-3.07E-18	-0.003780	-2.76E-18
16	-0.009443	-2.49E-17	0.009809	-3.42E-18	-0.003791	-2.53E-18
17	-0.009079	-2.59E-17	0.012313	-3.75E-18	-0.003660	-2.31E-18
18	-0.008549	-2.69E-17	0.014689	-4.05E-18	-0.003409	-2.09E-18

J O I N T D I S P L A C E M E N T S

TRANSLATIONS AND ROTATIONS, IN LOCAL COORDINATES

JOINT	U1	U2	U3	R1	R2	R3
24	-0.001960	-3.77E-17	0.007837	-5.68E-18	-0.000450	-8.20E-19
25	-0.001385	-3.80E-17	0.008157	-5.76E-18	-0.000386	-4.27E-19
26	-0.000792	-3.81E-17	0.008409	-5.80E-18	-0.000324	-2.89E-20
27	-0.000184	-3.80E-17	0.008586	-5.80E-18	-0.000233	3.65E-19
28	0.000435	-3.77E-17	0.008665	-5.76E-18	-9.05E-05	7.48E-19
29	0.001055	-3.73E-17	0.008616	-5.68E-18	0.000114	1.11E-18
30	0.001668	-3.66E-17	0.008408	-5.56E-18	0.000377	1.46E-18
31	0.002260	-3.59E-17	0.008013	-5.39E-18	0.000687	1.79E-18
32	0.002819	-3.49E-17	0.007415	-5.19E-18	0.001022	2.10E-18
33	0.003331	-3.39E-17	0.006611	-4.94E-18	0.001354	2.39E-18
34	0.003780	-3.27E-17	0.005613	-4.66E-18	0.001653	2.67E-18
35	0.004155	-3.14E-17	0.004450	-4.34E-18	0.001889	2.95E-18
36	0.004446	-2.99E-17	0.003166	-3.99E-18	0.002036	3.23E-18
37	0.004644	-2.83E-17	0.001817	-3.60E-18	0.002080	3.50E-18
38	0.004748	-2.66E-17	0.000463	-3.19E-18	0.002020	3.76E-18
39	0.004757	-2.47E-17	-0.000840	-2.74E-18	0.001877	4.02E-18
40	0.004675	-2.27E-17	-0.002053	-2.28E-18	0.001698	4.25E-18
41	0.004509	-2.07E-17	-0.003169	-1.79E-18	0.001565	4.43E-18
42	0.004222	-1.85E-17	-0.004281	-1.25E-18	0.001473	4.59E-18
43	0.003816	-1.62E-17	-0.005332	-6.72E-19	0.001315	4.70E-18
44	0.003317	-1.39E-17	-0.006238	-1.02E-19	0.001013	4.75E-18
45	0.002740	-1.16E-17	-0.006899	4.28E-19	0.000487	4.75E-18
46	0.002112	-9.25E-18	-0.007177	8.72E-19	-0.000327	4.69E-18
47	0.001475	-6.92E-18	-0.006913	1.18E-18	-0.001433	4.56E-18
48	0.000888	-4.65E-18	-0.005978	1.27E-18	-0.002734	4.32E-18
49	0.000429	-2.65E-18	-0.004417	1.18E-18	-0.003658	3.42E-18
50	0.000121	-1.09E-18	-0.002372	7.74E-19	-0.004412	2.46E-18
51	.000000	.000000	.000000	.000000	0.004736	.000000

COMB COMB4 ---------- MIN

JOINT	U1	U2	U3	R1	R2	R3
1	.000000	.000000	.000000	.000000	-0.005026	.000000
2	-0.000547	-1.09E-18	-0.002517	7.02E-19	0.004746	-2.42E-18
3	-0.001307	-2.58E-18	-0.004674	1.06E-18	0.003990	-3.28E-18
4	-0.002238	-4.45E-18	-0.006292	1.12E-18	0.003044	-4.08E-18
5	-0.003306	-6.52E-18	-0.007215	1.02E-18	0.001681	-4.22E-18
6	-0.004417	-8.59E-18	-0.007394	7.31E-19	0.000539	-4.27E-18
7	-0.005504	-1.06E-17	-0.006969	3.28E-19	-0.000329	-4.26E-18
8	-0.006520	-1.26E-17	-0.006078	-1.42E-19	-0.000964	-4.20E-18
9	-0.007427	-1.45E-17	-0.004829	-6.40E-19	-0.001441	-4.09E-18
10	-0.008179	-1.63E-17	-0.003340	-1.12E-18	-0.001835	-3.93E-18
11	-0.008753	-1.81E-17	-0.001735	-1.53E-18	-0.002334	-3.73E-18
12	-0.009202	-1.97E-17	0.000169	-1.93E-18	-0.002850	-3.49E-18
13	-0.009508	-2.12E-17	0.002348	-2.32E-18	-0.003294	-3.25E-18

J O I N T D I S P L A C E M E N T S

TRANSLATIONS AND ROTATIONS, IN LOCAL COORDINATES

JOINT	U1	U2	U3	R1	R2	R3
19	-0.007866	-2.77E-17	0.016271	-4.32E-18	0.003067	-1.86E-18
20	-0.007044	-2.84E-17	0.018614	-4.57E-18	-0.002567	-1.64E-18
21	-0.006161	-2.90E-17	0.020487	-4.78E-18	-0.002237	-1.40E-18
22	-0.005257	-2.95E-17	0.021873	-4.95E-18	-0.001801	-1.15E-18
23	-0.003930	-3.00E-17	0.022970	-5.10E-18	-0.001377	-8.86E-19
24	-0.002742	-3.03E-17	0.023781	-5.21E-18	-0.000972	-6.09E-19
25	-0.001510	-3.04E-17	0.024312	-5.28E-18	-0.000581	-3.22E-19
26	-0.000252	-3.05E-17	0.024566	-5.31E-18	-0.000189	-3.07E-20
27	0.001013	-3.05E-17	0.024534	-5.31E-18	0.000228	2.56E-19
28	0.002268	-3.03E-17	0.024200	-5.26E-18	0.000686	5.33E-19
29	0.003491	-3.00E-17	0.023541	-5.18E-18	0.001188	7.97E-19
30	0.004660	-2.97E-17	0.022540	-5.06E-18	0.001723	1.05E-18
31	0.005750	-2.92E-17	0.021188	-4.91E-18	0.002273	1.29E-18
32	0.006739	-2.86E-17	0.019492	-4.71E-18	0.002808	1.52E-18
33	0.007603	-2.79E-17	0.017473	-4.48E-18	0.003294	1.74E-18
34	0.008321	-2.72E-17	0.015174	-4.22E-18	0.003695	1.97E-18
35	0.008877	-2.63E-17	0.012659	-3.92E-18	0.003973	2.20E-18
36	0.009258	-2.53E-17	0.010008	-3.59E-18	0.004098	2.45E-18
37	0.009457	-2.42E-17	0.007318	-3.24E-18	0.004048	2.71E-18
38	0.009474	-2.30E-17	0.004692	-2.86E-18	0.003818	2.99E-18
39	0.009316	-2.16E-17	0.002230	-2.45E-18	0.003424	3.27E-18
40	0.008996	-2.01E-17	1.88E-05	-2.04E-18	0.002907	3.55E-18
41	0.008530	-1.85E-17	-0.001885	-1.60E-18	0.002347	3.81E-18
42	0.007910	-1.67E-17	-0.003601	-1.12E-18	0.001895	4.03E-18
43	0.007133	-1.48E-17	-0.005073	-6.06E-19	0.001426	4.21E-18
44	0.006236	-1.28E-17	-0.006230	-9.84E-20	0.000896	4.32E-18
45	0.005245	-1.08E-17	-0.007015	3.77E-19	0.000228	4.38E-18
46	0.004195	-8.65E-18	-0.007332	7.80E-19	-0.000549	4.36E-18
47	0.003137	-6.52E-18	-0.007057	1.06E-18	-0.001757	4.27E-18
48	0.002130	-4.43E-18	-0.006088	1.15E-18	-0.003017	4.08E-18
49	0.001254	-2.55E-18	-0.004487	1.07E-18	-0.003873	3.27E-18
50	0.000532	-1.07E-18	-0.002404	7.08E-19	-0.004550	2.39E-18
51	.000000	.000000	.000000	.000000	0.004798	.000000

COMB COMB4 ---------- MIN

JOINT	U1	U2	U3	R1	R2	R3
1	.000000	.000000	.000000	.000000	-0.005026	.000000
2	-0.000547	-1.09E-18	-0.002517	7.02E-19	0.004746	-2.42E-18
3	-0.001307	-2.58E-18	-0.004674	1.06E-18	0.003990	-3.28E-18
4	-0.002238	-4.45E-18	-0.006292	1.12E-18	0.003044	-4.08E-18
5	-0.003306	-6.52E-18	-0.007215	1.02E-18	0.001681	-4.22E-18
6	-0.004417	-8.59E-18	-0.007394	7.31E-19	0.000539	-4.27E-18
7	-0.005504	-1.06E-17	-0.006969	3.28E-19	-0.000329	-4.26E-18
8	-0.006520	-1.26E-17	-0.006078	-1.42E-19	-0.000964	-4.20E-18
9	-0.007427	-1.45E-17	-0.004829	-6.40E-19	-0.001441	-4.09E-18
10	-0.008179	-1.63E-17	-0.003340	-1.12E-18	-0.001835	-3.93E-18
11	-0.008753	-1.81E-17	-0.001735	-1.53E-18	-0.002334	-3.73E-18
12	-0.009202	-1.97E-17	0.000169	-1.93E-18	-0.002850	-3.49E-18
13	-0.009508	-2.12E-17	0.002348	-2.32E-18	-0.003294	-3.25E-18

J O I N T D I S P L A C E M E N T S

TRANSLATIONS AND ROTATIONS, IN LOCAL COORDINATES

JOINT	U1	U2	U3	R1	R2	R3
12	-0.006657	-2.25E-17	0.004737	-2.71E-18	-0.003613	-3.09E-18
13	-0.006637	-2.38E-17	0.007255	-3.07E-18	-0.002759	-2.74E-18
14	-0.006443	-2.49E-17	0.009684	-3.42E-18	-0.001791	-2.53E-18
15	-0.006079	-2.59E-17	0.012313	-3.75E-18	-0.000866	-2.31E-18
16	-0.005519	-2.69E-17	0.014689	-4.05E-18	-0.000409	-2.05E-18
17	-0.004796	-2.77E-17	0.016671	-4.32E-18	0.000467	-1.86E-18
18	-0.003944	-2.84E-17	0.018614	-4.57E-18	-0.000667	-1.64E-18
19	-0.002901	-2.90E-17	0.020487	-4.78E-18	-0.000427	-1.40E-18
20	-0.001697	-2.95E-17	0.021873	-4.95E-18	-0.001601	-1.19E-18
21	-0.000390	-3.00E-17	0.022970	-5.10E-18	0.001377	-9.86E-19
22	0.000742	-3.03E-17	0.022781	-5.21E-18	0.000972	-8.09E-19
23	0.001510	-3.04E-17	0.024312	-5.28E-18	0.000521	-3.22E-19
24	0.000252	-3.05E-17	0.024566	-5.31E-18	-0.000189	-3.07E-20
25	0.001013	-3.05E-17	0.024534	-5.31E-18	0.000228	2.56E-19
26	0.002698	-3.03E-17	0.024200	-5.26E-18	0.000686	5.33E-19
27	0.003491	-3.00E-17	0.023541	-5.18E-18	0.001188	7.97E-19
28	0.004660	-2.97E-17	0.022540	-5.06E-18	0.001723	1.05E-18
29	0.005750	-2.92E-17	0.021188	-4.91E-18	0.002273	1.29E-18
30	0.006729	-2.86E-17	0.019492	-4.71E-18	0.002806	1.52E-18
31	0.007593	-2.79E-17	0.017473	-4.48E-18	0.003294	1.74E-18
32	0.008321	-2.72E-17	0.015174	-4.22E-18	0.003695	1.97E-18
33	0.008877	-2.63E-17	0.012659	-3.92E-18	0.003973	2.25E-18
34	0.009258	-2.53E-17	0.010008	-3.59E-18	0.004086	2.45E-18
35	0.009457	-2.42E-17	0.007316	-3.24E-18	0.004045	2.71E-18
36	0.009476	-2.30E-17	0.004691	-2.88E-18	0.003916	2.95E-18
37	0.009216	-2.16E-17	0.002230	-2.45E-18	0.003424	3.27E-18
38	0.008995	-2.01E-17	1.88E-05	-2.04E-18	0.002907	3.55E-18
39	0.008530	-1.85E-17	-0.001885	-1.60E-18	0.002347	3.81E-18
40	0.007910	-1.67E-17	-0.003601	-1.12E-18	0.001895	4.03E-18
41	0.007133	-1.48E-17	-0.005073	-6.06E-19	0.001476	4.21E-18
42	0.006236	-1.28E-17	-0.006230	-9.84E-20	0.000896	4.32E-18
43	0.005245	-1.08E-17	-0.007015	3.77E-19	0.000228	4.35E-18
44	0.004195	-8.65E-18	-0.007332	7.80E-19	-0.000649	4.36E-18
45	0.003137	-6.52E-18	-0.007057	1.06E-18	-0.001757	4.27E-18
46	0.002130	-4.43E-18	-0.006088	1.15E-18	-0.003017	4.08E-18
47	0.001254	-2.55E-18	-0.004487	1.07E-18	-0.003873	3.27E-18
48	0.000532	-1.07E-18	-0.002404	7.08E-19	-0.004550	2.39E-18
49	.000000	.000000	.000000	.000000	0.004798	.000000

COMB COMB5 ---------- MAX

JOINT	U1	U2	U3	R1	R2	R3
1	.000000	.000000	.000000	.000000	-0.002922	.000000
2	-0.000165	-6.68E-19	-0.001458	5.18E-19	0.002723	-1.51E-18
3	-0.000453	-1.62E-18	-0.002709	7.96E-19	0.002269	-2.10E-18
4	-0.000840	-2.84E-18	-0.003657	8.66E-19	0.001724	-2.65E-18
5	-0.001309	-4.23E-18	-0.004231	8.27E-19	0.000996	-2.82E-18
6	-0.001809	-5.66E-18	-0.004428	6.50E-19	0.000433	-2.94E-18
7	-0.002307	-7.13E-18	-0.004347	3.80E-19	7.07E-05	-3.02E-18
8	-0.002783	-8.60E-18	-0.004089	5.54E-20	-0.000118	-3.06E-18

J O I N T D I S P L A C E M E N T S

TRANSLATIONS AND ROTATIONS, IN LOCAL COORDINATES

JOINT	U1	U2	U3	R1	R2	R3
9	-0.003224	-1.01E-17	-0.003731	-2.95E-19	-0.000194	-3.06E-18
10	-0.003605	-1.15E-17	-0.003335	-6.34E-19	-0.000238	-3.02E-18
11	-0.003896	-1.29E-17	-0.002946	-9.30E-19	-0.000397	-2.93E-18
12	-0.004151	-1.43E-17	-0.002411	-1.22E-18	-0.000709	-2.79E-18
13	-0.004361	-1.56E-17	-0.001679	-1.51E-18	-0.001090	-2.61E-18
14	-0.004510	-1.67E-17	-0.000736	-1.79E-18	-0.001477	-2.42E-18
15	-0.004587	-1.78E-17	0.000402	-2.07E-18	-0.001821	-2.21E-18
16	-0.004580	-1.88E-17	0.001700	-2.33E-18	-0.002091	-1.99E-18
17	-0.004480	-1.96E-17	0.003108	-2.58E-18	-0.002266	-1.78E-18
18	-0.004282	-2.04E-17	0.004568	-2.81E-18	-0.002336	-1.58E-18
19	-0.003985	-2.10E-17	0.006020	-3.03E-18	-0.002297	-1.38E-18
20	-0.003592	-2.16E-17	0.007402	-3.22E-18	-0.002154	-1.19E-18
21	-0.003110	-2.21E-17	0.008658	-3.39E-18	-0.001917	-1.01E-18
22	-0.002550	-2.25E-17	0.009738	-3.54E-18	-0.001596	-8.30E-19
23	-0.001924	-2.28E-17	0.010599	-3.66E-18	-0.001209	-6.57E-19
24	-0.001248	-2.30E-17	0.011207	-3.76E-18	-0.000772	-4.87E-19
25	-0.000541	-2.32E-17	0.011539	-3.82E-18	-0.000304	-3.17E-19
26	0.000179	-2.33E-17	0.011584	-3.86E-18	0.000175	-1.45E-19
27	0.000892	-2.34E-17	0.011340	-3.86E-18	0.000645	3.05E-20
28	0.001580	-2.33E-17	0.010818	-3.84E-18	0.001088	2.12E-19
29	0.002223	-2.32E-17	0.010039	-3.78E-18	0.001483	4.02E-19
30	0.002806	-2.30E-17	0.009035	-3.69E-18	0.001814	6.01E-19
31	0.003316	-2.28E-17	0.007847	-3.58E-18	0.002065	8.11E-19
32	0.003740	-2.24E-17	0.006523	-3.44E-18	0.002222	1.03E-18
33	0.004072	-2.19E-17	0.005121	-3.26E-18	0.002278	1.27E-18
34	0.004308	-2.13E-17	0.003698	-3.07E-18	0.002226	1.51E-18
35	0.004448	-2.05E-17	0.002315	-2.85E-18	0.002071	1.76E-18
36	0.004497	-1.97E-17	0.001030	-2.61E-18	0.001820	2.02E-18
37	0.004462	-1.87E-17	-0.000108	-2.34E-18	0.001495	2.28E-18
38	0.004354	-1.76E-17	-0.001063	-2.06E-18	0.001127	2.53E-18
39	0.004185	-1.63E-17	-0.001819	-1.76E-18	0.000761	2.75E-18
40	0.003968	-1.50E-17	-0.002387	-1.45E-18	0.000462	2.95E-18
41	0.003713	-1.36E-17	-0.002817	-1.12E-18	0.000311	3.08E-18
42	0.003393	-1.21E-17	-0.003242	-7.52E-19	0.000286	3.18E-18
43	0.003016	-1.05E-17	-0.003655	-3.63E-19	0.000268	3.22E-18
44	0.002600	-8.96E-18	-0.004016	1.93E-20	0.000183	3.22E-18
45	0.002152	-7.39E-18	-0.004271	3.72E-19	-3.16E-05	3.18E-18
46	0.001683	-5.84E-18	-0.004339	6.63E-19	-0.000422	3.08E-18
47	0.001216	-4.33E-18	-0.004123	8.53E-19	-0.000993	2.94E-18
48	0.000782	-2.89E-18	-0.003541	8.95E-19	-0.001691	2.72E-18
49	0.000425	-1.63E-18	-0.002610	8.19E-19	-0.002200	2.15E-18
50	0.000157	-6.64E-19	-0.001401	5.32E-19	-0.002621	1.52E-18
51	.000000	.000000	.000000	.000000	0.002806	.000000

COMB COMB5 ---------- MIN

JOINT	U1	U2	U3	R1	R2	R3
1	.000000	.000000	.000000	.000000	-0.002922	.000000
2	-0.000165	-6.68E-19	-0.001458	5.18E-19	0.002723	-1.51E-18
3	-0.000453	-1.62E-18	-0.002709	7.96E-19	0.002269	-2.10E-18

J O I N T D I S P L A C E M E N T S

TRANSLATIONS AND ROTATIONS, IN LOCAL COORDINATES

JOINT	U1	U2	U3	R1	R2	R3
4	-0.000840	-2.84E-18	-0.003657	8.66E-19	0.001724	-2.65E-18
5	-0.001309	-4.23E-18	-0.004231	8.27E-19	0.000996	-2.82E-18
6	-0.001809	-5.66E-18	-0.004428	6.50E-19	0.000433	-2.94E-18
7	-0.002307	-7.13E-18	-0.004347	3.80E-19	7.07E-05	-3.02E-18
8	-0.002783	-8.60E-18	-0.004089	5.54E-20	-0.000118	-3.06E-18
9	-0.003224	-1.01E-17	-0.003731	-2.95E-19	-0.000194	-3.06E-18
10	-0.003605	-1.15E-17	-0.003335	-6.34E-19	-0.000238	-3.02E-18
11	-0.003896	-1.29E-17	-0.002946	-9.30E-19	-0.000397	-2.93E-18
12	-0.004151	-1.43E-17	-0.002411	-1.22E-18	-0.000709	-2.79E-18
13	-0.004361	-1.56E-17	-0.001679	-1.51E-18	-0.001090	-2.61E-18
14	-0.004510	-1.67E-17	-0.000736	-1.79E-18	-0.001477	-2.42E-18
15	-0.004587	-1.78E-17	0.000402	-2.07E-18	-0.001821	-2.21E-18
16	-0.004580	-1.88E-17	0.001700	-2.33E-18	-0.002091	-1.99E-18
17	-0.004480	-1.96E-17	0.003108	-2.58E-18	-0.002266	-1.78E-18
18	-0.004282	-2.04E-17	0.004568	-2.81E-18	-0.002336	-1.58E-18
19	-0.003985	-2.10E-17	0.006020	-3.03E-18	-0.002297	-1.38E-18
20	-0.003592	-2.16E-17	0.007402	-3.22E-18	-0.002154	-1.19E-18
21	-0.003110	-2.21E-17	0.008658	-3.39E-18	-0.001917	-1.01E-18
22	-0.002550	-2.25E-17	0.009738	-3.54E-18	-0.001596	-8.30E-19
23	-0.001924	-2.28E-17	0.010599	-3.66E-18	-0.001209	-6.57E-19
24	-0.001248	-2.30E-17	0.011207	-3.76E-18	-0.000772	-4.87E-19
25	-0.000541	-2.32E-17	0.011539	-3.82E-18	-0.000304	-3.17E-19
26	0.000179	-2.33E-17	0.011584	-3.86E-18	0.000175	-1.45E-19
27	0.000892	-2.34E-17	0.011340	-3.86E-18	0.000645	3.05E-20
28	0.001580	-2.33E-17	0.010818	-3.84E-18	0.001088	2.12E-19
29	0.002223	-2.32E-17	0.010039	-3.78E-18	0.001483	4.02E-19
30	0.002806	-2.30E-17	0.009035	-3.69E-18	0.001814	6.01E-19
31	0.003316	-2.28E-17	0.007847	-3.58E-18	0.002065	8.11E-19
32	0.003740	-2.24E-17	0.006523	-3.44E-18	0.002222	1.03E-18
33	0.004072	-2.19E-17	0.005121	-3.26E-18	0.002278	1.27E-18
34	0.004308	-2.13E-17	0.003698	-3.07E-18	0.002226	1.51E-18
35	0.004448	-2.05E-17	0.002315	-2.85E-18	0.002071	1.76E-18
36	0.004497	-1.97E-17	0.001030	-2.61E-18	0.001820	2.02E-18
37	0.004462	-1.87E-17	-0.000108	-2.34E-18	0.001495	2.28E-18
38	0.004354	-1.76E-17	-0.001063	-2.06E-18	0.001127	2.53E-18
39	0.004185	-1.63E-17	-0.001819	-1.76E-18	0.000761	2.75E-18
40	0.003968	-1.50E-17	-0.002387	-1.45E-18	0.000462	2.95E-18
41	0.003713	-1.36E-17	-0.002817	-1.12E-18	0.000311	3.08E-18
42	0.003393	-1.21E-17	-0.003242	-7.52E-19	0.000286	3.18E-18
43	0.003016	-1.05E-17	-0.003655	-3.63E-19	0.000268	3.22E-18
44	0.002600	-8.96E-18	-0.004016	1.93E-20	0.000183	3.22E-18
45	0.002152	-7.39E-18	-0.004271	3.72E-19	-3.16E-05	3.18E-18
46	0.001683	-5.84E-18	-0.004339	6.63E-19	-0.000422	3.08E-18
47	0.001216	-4.33E-18	-0.004123	8.53E-19	-0.000993	2.94E-18
48	0.000782	-2.89E-18	-0.003541	8.95E-19	-0.001691	2.72E-18
49	0.000425	-1.63E-18	-0.002610	8.19E-19	-0.002200	2.15E-18
50	0.000157	-6.64E-19	-0.001401	5.32E-19	-0.002621	1.52E-18
51	.000000	.000000	.000000	.000000	0.002806	.000000

J O I N T D I S P L A C E M E N T S

TRANSLATIONS AND ROTATIONS, IN LOCAL COORDINATES

COMB COMB6 ---------- MAX

JOINT	U1	U2	U3	R1	R2	R3
1	.000000	.000000	.000000	.000000	-0.002830	.000000
2	-0.000163	-6.47E-19	-0.001425	5.18E-19	0.002675	-1.46E-18
3	-0.000447	-1.57E-18	-0.002660	8.00E-19	0.002253	-2.03E-18
4	-0.000830	-2.75E-18	-0.003609	8.77E-19	0.001734	-2.57E-18
5	-0.001296	-4.09E-18	-0.004191	8.45E-19	0.001012	-2.74E-18
6	-0.001792	-5.49E-18	-0.004398	6.76E-19	0.000450	-2.86E-18
7	-0.002288	-6.91E-18	-0.004328	4.14E-19	8.73E-05	-2.94E-18
8	-0.002762	-8.35E-18	-0.004079	9.65E-20	-0.000102	-2.98E-18
9	-0.003203	-9.78E-18	-0.003731	-2.47E-19	-0.000177	-2.99E-18
10	-0.003584	-1.12E-17	-0.003346	-5.80E-19	-0.000218	-2.95E-18
11	-0.003876	-1.26E-17	-0.002967	-8.71E-19	-0.000383	-2.86E-18
12	-0.004134	-1.39E-17	-0.002439	-1.16E-18	-0.000701	-2.72E-18
13	-0.004345	-1.51E-17	-0.001711	-1.44E-18	-0.001087	-2.55E-18
14	-0.004496	-1.63E-17	-0.000769	-1.72E-18	-0.001477	-2.36E-18
15	-0.004575	-1.73E-17	0.000369	-1.99E-18	-0.001824	-2.15E-18
16	-0.004570	-1.82E-17	0.001669	-2.25E-18	-0.002097	-1.94E-18
17	-0.004472	-1.91E-17	0.003079	-2.49E-18	-0.002273	-1.74E-18
18	-0.004276	-1.98E-17	0.004542	-2.73E-18	-0.002343	-1.54E-18
19	-0.003981	-2.04E-17	0.005997	-2.94E-18	-0.002305	-1.34E-18
20	-0.003589	-2.10E-17	0.007383	-3.13E-18	-0.002162	-1.16E-18
21	-0.003109	-2.14E-17	0.008643	-3.30E-18	-0.001924	-9.79E-19
22	-0.002549	-2.18E-17	0.009726	-3.45E-18	-0.001602	-8.07E-19
23	-0.001923	-2.22E-17	0.010590	-3.57E-18	-0.001214	-6.40E-19
24	-0.001248	-2.24E-17	0.011200	-3.66E-18	-0.000775	-4.75E-19
25	-0.000541	-2.26E-17	0.011533	-3.73E-18	-0.000306	-3.11E-19
26	0.000178	-2.27E-17	0.011579	-3.76E-18	0.000175	-1.45E-19
27	0.000891	-2.27E-17	0.011334	-3.77E-18	0.000647	2.46E-20
28	0.001578	-2.27E-17	0.010811	-3.74E-18	0.001091	2.00E-19
29	0.002221	-2.26E-17	0.010030	-3.69E-18	0.001488	3.84E-19
30	0.002803	-2.24E-17	0.009024	-3.60E-18	0.001820	5.78E-19
31	0.003312	-2.21E-17	0.007832	-3.49E-18	0.002071	7.82E-19
32	0.003735	-2.18E-17	0.006506	-3.35E-18	0.002229	9.99E-19
33	0.004066	-2.13E-17	0.005100	-3.18E-18	0.002285	1.23E-18
34	0.004300	-2.07E-17	0.003674	-2.98E-18	0.002233	1.47E-18
35	0.004439	-2.00E-17	0.002289	-2.77E-18	0.002076	1.72E-18
36	0.004486	-1.92E-17	0.001002	-2.53E-18	0.001824	1.97E-18
37	0.004449	-1.82E-17	-0.000137	-2.27E-18	0.001496	2.22E-18
38	0.004339	-1.71E-17	-0.001091	-1.99E-18	0.001125	2.47E-18
39	0.004169	-1.59E-17	-0.001844	-1.69E-18	0.000755	2.69E-18
40	0.003950	-1.46E-17	-0.002407	-1.38E-18	0.000451	2.88E-18
41	0.003694	-1.32E-17	-0.002829	-1.06E-18	0.000295	3.02E-18
42	0.003373	-1.17E-17	-0.003246	-6.99E-19	0.000273	3.10E-18
43	0.002996	-1.02E-17	-0.003650	-3.17E-19	0.000256	3.15E-18
44	0.002581	-8.71E-18	-0.004003	5.91E-20	0.000171	3.14E-18
45	0.002134	-7.18E-18	-0.004250	4.05E-19	-4.59E-05	3.10E-18
46	0.001667	-5.67E-18	-0.004309	6.88E-19	-0.000438	3.00E-18
47	0.001203	-4.20E-18	-0.004083	8.71E-19	-0.001008	2.85E-18
48	0.000773	-2.80E-18	-0.003494	9.06E-19	-0.001701	2.64E-18

J O I N T D I S P L A C E M E N T S

TRANSLATIONS AND ROTATIONS, IN LOCAL COORDINATES

JOINT	U1	U2	U3	R1	R2	R3
49	0.000432	-1.58E-18	-0.002562	8.24E-19	-0.002185	2.08E-18
50	0.002156	-6.43E-19	-0.001367	5.33E-19	-0.002574	1.47E-18
51	.000000	.000000	.000000	.000000	0.002714	.000000

COMB COMB6 ---------- MIN

JOINT	U1	U2	U3	R1	R2	R3
1	.000000	.000000	.000000	.000000	-0.002830	.000000
2	-0.001164	-6.47E-19	-0.001425	5.18E-19	0.002675	-1.46E-18
3	-0.000447	-1.57E-18	-0.002660	8.09E-19	0.002253	-2.03E-18
4	-0.000530	-2.75E-18	-0.003609	8.77E-19	0.001734	-2.57E-18
5	-0.001296	-4.09E-18	-0.004191	8.45E-19	0.001012	-2.74E-18
6	-0.001792	-5.49E-18	-0.004398	6.76E-19	0.000450	-2.86E-18
7	-0.002268	-6.91E-18	-0.004328	4.14E-19	8.73E-05	-2.94E-18
8	-0.002762	-8.35E-18	-0.004079	9.65E-20	-0.000102	-2.98E-18
9	-0.003203	-9.76E-18	-0.003731	-2.47E-19	-0.000177	-2.99E-18
10	-0.003584	-1.12E-17	-0.003346	-5.80E-19	-0.000218	-2.95E-18
11	-0.003876	-1.26E-17	-0.002967	-8.71E-19	-0.000383	-2.86E-18
12	-0.004134	-1.39E-17	-0.002439	-1.16E-18	-0.000701	-2.72E-18
13	-0.004345	-1.51E-17	-0.001711	-1.44E-18	-0.001087	-2.55E-18
14	-0.004496	-1.63E-17	-0.000769	-1.72E-18	-0.001477	-2.36E-18
15	-0.004575	-1.73E-17	0.000369	-1.99E-18	-0.001824	-2.15E-18
16	-0.004570	-1.82E-17	0.001669	-2.25E-18	-0.002097	-1.94E-18
17	-0.004477	-1.91E-17	0.003079	-2.49E-18	-0.002273	-1.74E-18
18	-0.004276	-1.98E-17	0.004542	-2.73E-18	-0.002343	1.54E-18
19	-0.003961	-2.04E-17	0.005997	-2.94E-18	-0.002305	-1.34E-18
20	-0.003589	-2.10E-17	0.007383	-3.13E-18	-0.002162	-1.16E-18
21	-0.003109	-2.14E-17	0.008643	-3.30E-18	-0.001924	-9.79E-19
22	-0.002549	-2.18E-17	0.009726	-3.45E-18	-0.001602	-8.07E-19
23	-0.001922	-2.22E-17	0.010590	-3.57E-18	-0.001214	-6.40E-19
24	-0.001248	-2.24E-17	0.011200	-3.66E-18	-0.000775	-4.75E-19
25	-0.000541	-2.26E-17	0.011533	-3.73E-18	-0.000306	-3.11E-19
26	0.000178	-2.27E-17	0.011579	-3.76E-18	0.000175	-1.45E-19
27	0.000891	-2.27E-17	0.011334	-3.77E-18	0.000647	2.46E-20
28	0.001578	-2.27E-17	0.010811	-3.74E-18	0.001091	2.00E-19
29	0.002221	-2.26E-17	0.010030	-3.69E-18	0.001488	3.84E-19
30	0.002803	-2.24E-17	0.009024	-3.60E-18	0.001820	5.78E-19
31	0.003312	-2.21E-17	0.007832	-3.49E-18	0.002071	7.82E-19
32	0.003735	-2.18E-17	0.006506	-3.35E-18	0.002229	9.99E-19
33	0.004066	-2.13E-17	0.005100	-3.18E-18	0.002285	1.23E-18
34	0.004300	-2.07E-17	0.003674	-2.98E-18	0.002233	1.47E-18
35	0.004439	-2.00E-17	0.002289	-2.77E-18	0.002076	1.72E-18
36	0.004486	-1.92E-17	0.001032	-2.53E-18	0.001824	1.97E-18
37	0.004449	-1.82E-17	-0.000137	-2.27E-18	0.001496	2.22E-18
38	0.004339	-1.71E-17	-0.001051	-1.99E-18	0.001125	2.47E-18
39	0.004169	-1.59E-17	-0.001844	-1.69E-18	0.000755	2.69E-18
40	0.003950	-1.46E-17	-0.002407	-1.38E-18	0.000451	2.88E-18
41	0.003694	-1.32E-17	-0.002829	-1.06E-18	0.000295	3.02E-18
42	0.003373	-1.17E-17	-0.003246	-6.99E-19	0.000273	3.10E-18
43	0.002996	-1.02E-17	-0.003650	-3.17E-19	0.000256	3.15E-18

J O I N T D I S P L A C E M E N T S

TRANSLATIONS AND ROTATIONS, IN LOCAL COORDINATES

JOINT	U1	U2	U3	R1	R2	R3
44	0.002581	-8.71E-18	-0.004005	5.51E-20	0.000171	3.14E-18
45	0.002134	-7.18E-18	-0.004250	4.05E-19	-4.59E-05	3.10E-18
46	0.001667	-5.67E-18	-0.004309	6.83E-19	-0.000438	3.00E-18
47	0.001202	-4.20E-18	-0.004087	8.71E-19	-0.000908	2.85E-18
48	0.000775	-2.80E-18	-0.003494	9.95E-19	-0.001701	2.64E-18
49	0.000426	-1.58E-18	-0.002562	8.24E-19	-0.002185	2.08E-18
50	0.000156	-6.43E-19	-0.001367	5.33E-19	-0.002574	1.47E-18
51	.000000	.000000	.000000	.000000	0.002714	.000000

COMB COMB7 ---------- MAX

JOINT	U1	U2	U3	R1	R2	R3
1	.000000	.000000	.000000	.000000	-0.002760	.000000
2	-5.02E-05	-6.22E-19	-0.001382	4.36E-19	0.002559	-1.39E-18
3	-0.000237	-1.50E-18	-0.002562	6.61E-19	0.002095	-1.93E-18
4	-0.000507	-2.62E-18	-0.003445	7.03E-19	0.001535	-2.42E-18
5	-0.000852	-3.88E-18	-0.003952	6.46E-19	0.000775	-2.53E-18
6	-0.001222	-5.17E-18	-0.004076	4.72E-19	0.000175	-2.60E-18
7	-0.001583	-6.46E-18	-0.003914	2.22E-19	-0.000225	-2.63E-18
8	-0.001914	-7.75E-18	-0.003570	-7.17E-20	-0.000442	-2.64E-18
9	-0.002204	-9.03E-18	-0.003130	-3.85E-19	-0.000521	-2.62E-18
10	-0.002431	-1.03E-17	-0.002666	-6.84E-19	-0.000524	-2.58E-18
11	-0.002575	-1.15E-17	-0.002240	-9.42E-19	-0.000547	-2.52E-18
12	-0.002685	-1.27E-17	-0.001771	-1.19E-18	-0.000635	-2.42E-18
13	-0.002759	-1.38E-17	-0.001244	-1.44E-18	-0.000737	-2.31E-18
14	-0.002792	-1.49E-17	-0.000665	-1.68E-18	-0.000818	-2.18E-18
15	-0.002782	-1.59E-17	-5.36E-05	-1.90E-18	-0.000860	-2.04E-18
16	-0.002729	-1.68E-17	0.000566	-2.12E-18	-0.000857	-1.90E-18
17	-0.002634	-1.77E-17	0.001168	-2.32E-18	-0.000812	-1.76E-18
18	-0.002498	-1.85E-17	0.001730	-2.50E-18	-0.000735	-1.60E-18
19	-0.002326	-1.92E-17	0.002237	-2.67E-18	-0.000637	-1.44E-18
20	-0.002121	-1.98E-17	0.002679	-2.82E-18	-0.000532	-1.27E-18
21	-0.001889	-2.04E-17	0.003054	-2.95E-18	-0.000433	-1.09E-18
22	-0.001633	-2.09E-17	0.003366	-3.06E-18	-0.000348	-8.92E-19
23	-0.001360	-2.12E-17	0.003622	-3.14E-18	-0.000284	-6.85E-19
24	-0.001071	-2.15E-17	0.003833	-3.21E-18	-0.000240	-4.69E-19
25	-0.000770	-2.16E-17	0.004007	-3.26E-18	-0.000211	-2.45E-19
26	-0.000460	-2.17E-17	0.004147	-3.28E-18	-0.000183	-1.79E-20
27	-0.000140	-2.16E-17	0.004250	-3.28E-18	-0.000138	2.07E-19
28	0.000185	-2.15E-17	0.004303	-3.26E-18	-6.55E-05	4.25E-19
29	0.000512	-2.12E-17	0.004290	-3.21E-18	4.15E-05	6.34E-19
30	0.000836	-2.09E-17	0.004192	-3.14E-18	0.000181	8.32E-19
31	0.001151	-2.04E-17	0.003995	-3.05E-18	0.000347	1.02E-18
32	0.001448	-1.99E-17	0.003690	-2.94E-18	0.000526	1.20E-18
33	0.001720	-1.93E-17	0.003274	-2.80E-18	0.000704	1.37E-18

J O I N T D I S P L A C E M E N T S

TRANSLATIONS AND ROTATIONS, IN LOCAL COORDINATES

JOINT	U1	U2	U3	R1	R2	R3
39	0.002496	-1.40E-17	-0.000622	-1.55E-18	0.000982	2.29E-18
40	0.002458	-1.29E-17	-0.001257	-1.29E-18	0.000892	2.42E-18
41	0.002375	-1.17E-17	-0.001846	-1.01E-18	0.000834	2.52E-18
42	0.002225	-1.05E-17	-0.002440	-7.07E-19	0.000798	2.61E-18
43	0.002011	-9.19E-18	-0.003008	-3.80E-19	0.000723	2.66E-18
44	0.001746	-7.88E-18	-0.003502	-5.67E-20	0.000566	2.69E-18
45	0.001439	-6.55E-18	-0.003864	2.43E-19	0.000278	2.69E-18
46	0.001103	-5.22E-18	-0.004017	4.95E-19	-0.000173	2.65E-18
47	0.000763	-3.90E-18	-0.003869	6.66E-19	-0.000791	2.57E-18
48	0.000450	-2.62E-18	-0.003346	7.17E-19	-0.001521	2.43E-18
49	0.000209	-1.49E-18	-0.002473	6.67E-19	-0.002042	1.93E-18
50	5.21E-05	-6.12E-19	-0.001328	4.38E-19	-0.002468	1.38E-18
51	.000000	.000000	.000000	.000000	0.002654	.000000

COMB COMB7 ---------- MIN

JOINT	U1	U2	U3	R1	R2	R3
1	.000000	.000000	.000000	.000000	-0.002760	.000000
2	-6.02E-05	-6.22E-19	-0.001382	4.36E-19	0.002559	-1.39E-18
3	-0.000237	-1.50E-18	-0.002562	6.61E-19	0.002095	-1.93E-18
4	-0.000507	-2.62E-18	-0.003445	7.03E-19	0.001535	-2.42E-18
5	-0.000852	-3.88E-18	-0.003952	6.46E-19	0.000775	-2.53E-18
6	-0.001222	-5.17E-18	-0.004076	4.72E-19	0.000175	-2.60E-18
7	-0.001583	-6.46E-18	-0.003914	2.22E-19	-0.000225	-2.63E-18
8	-0.001914	-7.75E-18	-0.003570	-7.17E-20	-0.000442	-2.64E-18
9	-0.002204	-9.03E-18	-0.003130	-3.85E-19	-0.000521	-2.62E-18
10	-0.002431	-1.03E-17	-0.002666	-6.84E-19	-0.000524	-2.58E-18
11	-0.002575	-1.15E-17	-0.002240	-9.42E-19	-0.000547	-2.52E-18
12	-0.002685	-1.27E-17	-0.001771	-1.19E-18	-0.000635	-2.42E-18
13	-0.002759	-1.38E-17	-0.001244	-1.44E-18	-0.000737	-2.31E-18
14	-0.002792	-1.49E-17	-0.000665	-1.68E-18	-0.000818	-2.18E-18
15	-0.002782	-1.59E-17	-5.36E-05	-1.90E-18	-0.000860	-2.04E-18
16	-0.002729	-1.68E-17	0.000566	-2.12E-18	-0.000857	-1.90E-18
17	-0.002634	-1.77E-17	0.001168	-2.32E-18	-0.000812	-1.76E-18
18	-0.002498	-1.85E-17	0.001730	-2.50E-18	-0.000735	-1.60E-18
19	-0.002326	-1.92E-17	0.002237	-2.67E-18	-0.000637	-1.44E-18
20	-0.002121	-1.98E-17	0.002679	-2.82E-18	-0.000532	-1.27E-18
21	-0.001889	-2.04E-17	0.003054	-2.95E-18	-0.000433	-1.09E-18
22	-0.001633	-2.09E-17	0.003366	-3.06E-18	-0.000348	-8.92E-19
23	-0.001360	-2.12E-17	0.003622	-3.14E-18	-0.000284	-6.85E-19
24	-0.001071	-2.15E-17	0.003833	-3.21E-18	-0.000240	-4.69E-19
25	-0.000770	-2.16E-17	0.004007	-3.26E-18	-0.000211	-2.45E-19
26	-0.000460	-2.17E-17	0.004147	-3.28E-18	-0.000183	-1.79E-20
27	-0.000140	-2.16E-17	0.004250	-3.28E-18	-0.000138	2.07E-19
28	0.000185	-2.15E-17	0.004303	-3.26E-18	-6.55E-05	4.25E-19
29	0.000512	-2.12E-17	0.004290	-3.21E-18	4.15E-05	6.34E-19
30	0.000836	-2.09E-17	0.004192	-3.14E-18	0.000181	8.32E-19
31	0.001151	-2.04E-17	0.003995	-3.05E-18	0.000347	1.02E-18
32	0.001448	-1.99E-17	0.003690	-2.94E-18	0.000526	1.20E-18
33	0.001720	-1.93E-17	0.003274	-2.80E-18	0.000704	1.37E-18

J O I N T D I S P L A C E M E N T S

TRANSLATIONS AND ROTATIONS, IN LOCAL COORDINATES

JOINT	U1	U2	U3	R1	R2	R3
34	0.001961	-1.86E-17	0.002755	-2.64E-18	0.000864	1.53E-18
35	0.002162	-1.78E-17	0.002147	-2.46E-18	0.000989	1.69E-18
36	0.002319	-1.70E-17	0.001475	-2.26E-18	0.001067	1.84E-18
37	0.002428	-1.61E-17	0.000769	-2.04E-18	0.001089	2.00E-18
38	0.002487	-1.51E-17	6.04E-05	-1.80E-18	0.001057	2.15E-18
39	0.002496	-1.40E-17	-0.000622	-1.55E-18	0.000982	2.29E-18
40	0.002458	-1.29E-17	-0.001257	-1.29E-18	0.000892	2.42E-18
41	0.002375	-1.17E-17	-0.001846	-1.01E-18	0.000834	2.52E-18
42	0.002225	-1.05E-17	-0.002440	-7.07E-19	0.000798	2.61E-18
43	0.002011	-9.19E-18	-0.003008	-3.80E-19	0.000723	2.66E-18
44	0.001746	-7.88E-18	-0.003502	-5.67E-20	0.000566	2.69E-18
45	0.001439	-6.55E-18	-0.003864	2.43E-19	0.000278	2.69E-18
46	0.001103	-5.22E-18	-0.004017	4.95E-19	-0.000173	2.65E-18
47	0.000763	-3.90E-18	-0.003869	6.66E-19	-0.000791	2.57E-18
48	0.000450	-2.62E-18	-0.003346	7.17E-19	-0.001521	2.43E-18
49	0.000209	-1.49E-18	-0.002473	6.67E-19	-0.002042	1.93E-18
50	5.21E-05	-6.12E-19	-0.001328	4.38E-19	-0.002468	1.38E-18
51	.000000	.000000	.000000	.000000	0.002654	.000000

COMB COMB8 ---------- MAX

JOINT	U1	U2	U3	R1	R2	R3
1	.000000	.000000	.000000	.000000	-0.002824	.000000
2	-0.000335	-6.13E-19	-0.001414	3.90E-19	0.002672	-1.36E-18
3	-0.000789	-1.44E-18	-0.002626	5.89E-19	0.002252	-1.83E-18
4	-0.001339	-2.48E-18	-0.003536	6.22E-19	0.001725	-2.28E-18
5	-0.001966	-3.64E-18	-0.004054	5.64E-19	0.000963	-2.35E-18
6	-0.002617	-4.78E-18	-0.004154	4.06E-19	0.000321	-2.38E-18
7	-0.003254	-5.91E-18	-0.003910	1.82E-19	-0.000173	-2.37E-18
8	-0.003851	-7.01E-18	-0.003397	-7.85E-20	-0.000542	-2.33E-18
9	-0.004385	-8.05E-18	-0.002673	-3.55E-19	-0.000829	-2.26E-18
10	-0.004830	-9.04E-18	-0.001802	-6.19E-19	-0.001073	-2.17E-18
11	-0.005173	-1.00E-17	-0.000855	-8.46E-19	-0.001382	-2.05E-18
12	-0.005442	-1.09E-17	0.000275	-1.07E-18	-0.001697	-1.92E-18
13	-0.005627	-1.17E-17	0.001571	-1.29E-18	-0.001967	-1.78E-18
14	-0.005718	-1.24E-17	0.002996	-1.50E-18	-0.002163	-1.63E-18
15	-0.005709	-1.31E-17	0.004500	-1.71E-18	-0.002268	-1.50E-18
16	-0.005596	-1.37E-17	0.006030	-1.90E-18	-0.002281	-1.37E-18
17	-0.005381	-1.42E-17	0.007533	-2.08E-18	-0.002209	-1.24E-18
18	-0.005066	-1.47E-17	0.008962	-2.25E-18	-0.002065	-1.12E-18
19	-0.004660	-1.51E-17	0.010279	-2.40E-18	-0.001865	-1.00E-18
20	-0.004169	-1.55E-17	0.011454	-2.54E-18	-0.001628	-8.78E-19
21	-0.003605	-1.59E-17	0.012468	-2.66E-18	-0.001369	-7.51E-19
22	-0.002980	-1.61E-17	0.013309	-2.76E-18	-0.001104	-6.17E-19
23	-0.002305	-1.63E-17	0.013973	-2.84E-18	-0.000842	-4.75E-19
24	-0.001592	-1.65E-17	0.014462	-2.90E-18	-0.000588	-3.27E-19
25	-0.000853	-1.66E-17	0.014776	-2.94E-18	-0.000341	-1.74E-19
26	-0.000100	-1.66E-17	0.014918	-2.95E-18	-9.27E-05	-1.91E-20
27	0.000658	-1.66E-17	0.014882	-2.95E-18	0.000169	1.34E-19
28	0.001407	-1.65E-17	0.014659	-2.93E-18	0.000452	2.82E-19

J O I N T D I S P L A C E M E N T S

TRANSLATIONS AND ROTATIONS, IN LOCAL COORDINATES

JOINT	U1	U2	U3	R1	R2	R3
29	0.002136	-1.64E-17	0.014239	-2.68E-18	0.000757	4.23E-19
30	0.002831	-1.62E-17	0.013613	-2.82E-18	0.001079	5.57E-19
31	0.003477	-1.60E-17	0.012779	-2.73E-18	0.001404	6.85E-19
32	0.004061	-1.57E-17	0.011741	-2.62E-18	0.001716	8.09E-19
33	0.004568	-1.53E-17	0.010515	-2.49E-18	0.001997	9.32E-19
34	0.004988	-1.49E-17	0.009129	-2.34E-18	0.002225	1.06E-18
35	0.005319	-1.45E-17	0.007620	-2.18E-18	0.002378	1.19E-18
36	0.005548	-1.40E-17	0.006037	-1.99E-18	0.002441	1.33E-18
37	0.005663	-1.34E-17	0.004436	-1.80E-18	0.002401	1.47E-18
38	0.005638	-1.27E-17	0.002879	-1.58E-18	0.002256	1.63E-18
39	0.005536	-1.20E-17	0.001425	-1.36E-18	0.002013	1.79E-18
40	0.005338	-1.11E-17	0.000124	-1.13E-18	0.001699	1.95E-18
41	0.005056	-1.02E-17	-0.000990	-8.87E-19	0.001355	2.11E-18
42	0.004684	-9.26E-18	-0.001986	-6.21E-19	0.001079	2.23E-18
43	0.004223	-8.23E-18	-0.002835	-3.36E-19	0.000798	2.34E-18
44	0.003693	-7.13E-18	-0.003496	-5.42E-20	0.000487	2.40E-18
45	0.003109	-5.99E-18	-0.003942	2.09E-19	0.000106	2.44E-18
46	0.002492	-4.82E-18	-0.004120	4.33E-19	-0.000388	2.43E-18
47	0.001870	-3.64E-18	-0.003965	5.88E-19	-0.001007	2.38E-18
48	0.001278	-2.47E-18	-0.003419	6.39E-19	-0.001710	2.28E-18
49	0.000758	-1.43E-18	-0.002520	5.97E-19	-0.002185	1.83E-18
50	0.000326	-5.99E-19	-0.001350	3.94E-19	-0.002560	1.34E-18
51	.000000	.000000	.000000	.000000	0.002695	.000000

COMB COMB2 ---------- MIN

JOINT	U1	U2	U3	R1	R2	R3
1	.000000	.000000	.000000	.000000	-0.002824	.000000
2	-0.000335	-6.13E-19	-0.001414	3.90E-19	0.002672	-1.36E-18
3	-0.000789	-1.44E-18	-0.002626	5.89E-19	0.002252	-1.83E-18
4	-0.001339	-2.48E-18	-0.003536	6.22E-19	0.001725	-2.28E-18
5	-0.001966	-3.64E-18	-0.004054	5.64E-19	0.000963	-2.35E-18
6	-0.002617	-4.78E-18	-0.004154	4.06E-19	0.000321	-2.38E-18
7	-0.003254	-5.91E-18	-0.003910	1.82E-19	-0.000173	-2.37E-18
8	-0.003851	-7.01E-18	-0.003397	-7.85E-20	-0.000542	-2.33E-18
9	-0.004385	-8.05E-18	-0.002673	-3.55E-19	-0.000829	-2.26E-18
10	-0.004830	-9.04E-18	-0.001802	-6.19E-19	-0.001073	-2.17E-18
11	-0.005173	-1.00E-17	-0.000855	-8.46E-19	-0.001382	-2.05E-18
12	-0.005442	-1.09E-17	0.000275	-1.07E-18	-0.001697	-1.92E-18
13	-0.005627	-1.17E-17	0.001571	-1.29E-18	-0.001967	-1.78E-18
14	-0.005718	-1.24E-17	0.002996	-1.50E-18	-0.002162	-1.63E-18
15	-0.005709	-1.31E-17	0.004500	-1.71E-18	-0.002268	-1.50E-18
16	-0.005596	-1.37E-17	0.006030	-1.90E-18	-0.002281	-1.37E-18
17	-0.005381	-1.42E-17	0.007533	-2.08E-18	-0.002209	-1.24E-18
18	-0.005066	-1.47E-17	0.008962	-2.25E-18	-0.002055	-1.12E-18
19	-0.004660	-1.51E-17	0.010279	-2.40E-18	-0.001865	-1.00E-18
20	-0.004169	-1.55E-17	0.011454	-2.54E-18	-0.001628	-8.78E-19
21	-0.003605	-1.59E-17	0.012468	-2.66E-18	-0.001369	-7.51E-19
22	-0.002980	-1.61E-17	0.013309	-2.76E-18	-0.001104	-6.17E-19
23	-0.002305	-1.63E-17	0.013973	-2.84E-18	-0.000842	-4.75E-19

J O I N T D I S P L A C E M E N T S

TRANSLATIONS AND ROTATIONS, IN LOCAL COORDINATES

JOINT	U1	U2	U3	R1	R2	R3
24	-0.001592	-1.65E-17	0.014402	-2.90E-18	-0.000588	-3.27E-19
25	-0.000953	-1.66E-17	0.014276	-2.94E-18	-0.000341	-1.74E-19
26	-0.000100	-1.66E-17	0.014018	-2.93E-18	-9.27E-05	-1.91E-20
27	0.000958	-1.66E-17	0.013682	-2.89E-18	0.000169	1.34E-19
28	0.001907	-1.65E-17	0.013255	-2.83E-18	0.000452	2.82E-19
29	0.002136	-1.64E-17	0.014239	-2.68E-18	0.000757	4.23E-19
30	0.002831	-1.62E-17	0.013613	-2.82E-18	0.001079	5.57E-19
31	0.003477	-1.60E-17	0.012779	-2.73E-18	0.001404	6.85E-19
32	0.004061	-1.57E-17	0.011741	-2.62E-18	0.001716	8.09E-19
33	0.004568	-1.53E-17	0.010515	-2.49E-18	0.001997	9.32E-19
34	0.004988	-1.49E-17	0.009129	-2.34E-18	0.002225	1.06E-18
35	0.005319	-1.45E-17	0.007620	-2.18E-18	0.002378	1.19E-18
36	0.005548	-1.40E-17	0.006037	-1.99E-18	0.002441	1.33E-18
37	0.005663	-1.34E-17	0.004436	-1.80E-18	0.002401	1.47E-18
38	0.005638	-1.27E-17	0.002879	-1.58E-18	0.002256	1.63E-18
39	0.005536	-1.20E-17	0.001425	-1.36E-18	0.002013	1.79E-18
40	0.005338	-1.11E-17	0.000124	-1.13E-18	0.001699	1.95E-18
41	0.005056	-1.02E-17	-0.000990	-8.87E-19	0.001355	2.11E-18
42	0.004684	-9.26E-18	-0.001986	-6.21E-19	0.001079	2.23E-18
43	0.004223	-8.23E-18	-0.002835	-3.36E-19	0.000798	2.34E-18
44	0.003693	-7.13E-18	-0.003496	-5.42E-20	0.000487	2.40E-18
45	0.003109	-5.99E-18	-0.003942	2.09E-19	0.000106	2.44E-18
46	0.002492	-4.82E-18	-0.004120	4.33E-19	-0.000388	2.43E-18
47	0.001870	-3.64E-18	-0.003965	5.88E-19	-0.001007	2.38E-18
48	0.001278	-2.47E-18	-0.003419	6.39E-19	-0.001710	2.28E-18
49	0.000758	-1.43E-18	-0.002520	5.97E-19	-0.002185	1.83E-18
50	0.000326	-5.99E-19	-0.001350	3.94E-19	-0.002560	1.34E-18
51	.000000	.000000	.000000	.000000	0.002695	.000000

S P R I N G F O R C E S

FORCES AND MOMENTS ACTING ON JOINTS, IN LOCAL COORDINATES

COMB COMB1 ---------- MAX

JOINT	F1	F2	F3	M1	M2	M3
2	-5.60E-16	-3.47E-31	13.661818	.000000	.000000	.000000
3	-2.75E-16	1.24E-30	16.922974	.000000	.000000	.000000
4	4.96E-18	3.57E-31	22.857313	.000000	.000000	.000000
5	3.19E-16	1.24E-30	26.450079	.000000	.000000	.000000
6	-2.77E-16	2.89E-31	27.681226	.000000	.000000	.000000
7	-5.69E-16	-1.11E-30	27.171215	.000000	.000000	.000000
8	-7.31E-17	-6.56E-31	25.545446	.000000	.000000	.000000
9	-6.44E-16	6.17E-31	23.289360	.000000	.000000	.000000
10	-2.89E-16	1.01E-31	20.797224	.000000	.000000	.000000
41	7.19E-16	-1.20E-30	17.561080	.000000	.000000	.000000
42	-1.01E-16	8.88E-31	20.237394	.000000	.000000	.000000
43	-1.38E-15	2.89E-31	22.831076	.000000	.000000	.000000
44	3.17E-16	2.54E-31	25.098068	.000000	.000000	.000000
45	3.94E-16	-1.50E-30	26.701084	.000000	.000000	.000000
46	-2.86E-16	3.33E-30	27.127412	.000000	.000000	.000000
47	1.39E-16	3.62E-31	25.772067	.000000	.000000	.000000
48	2.77E-16	2.39E-31	22.129550	.000000	.000000	.000000
49	-2.49E-16	-9.69E-31	16.301788	.000000	.000000	.000000
50	6.64E-16	9.06E-31	13.115873	.000000	.000000	.000000

COMB COMB1 ---------- MIN

JOINT	F1	F2	F3	M1	M2	M3
2	-5.60E-16	-3.47E-31	13.661818	.000000	.000000	.000000
3	-2.75E-16	1.24E-30	16.922974	.000000	.000000	.000000
4	4.96E-18	3.57E-31	22.857313	.000000	.000000	.000000
5	3.19E-16	1.24E-30	26.450079	.000000	.000000	.000000
6	-2.77E-16	2.89E-31	27.681226	.000000	.000000	.000000
7	-5.69E-16	-1.11E-30	27.171215	.000000	.000000	.000000
8	-7.31E-17	-6.56E-31	25.545446	.000000	.000000	.000000
9	-6.44E-16	6.17E-31	23.289360	.000000	.000000	.000000
10	-2.89E-16	1.01E-31	20.797224	.000000	.000000	.000000
41	7.19E-16	-1.20E-30	17.561080	.000000	.000000	.000000
42	-1.01E-16	8.88E-31	20.237394	.000000	.000000	.000000
43	-1.38E-15	2.89E-31	22.831076	.000000	.000000	.000000
44	3.17E-16	2.54E-31	25.098068	.000000	.000000	.000000
45	3.94E-16	-1.50E-30	26.701084	.000000	.000000	.000000
46	-2.86E-16	3.33E-30	27.127412	.000000	.000000	.000000
47	1.39E-16	3.62E-31	25.772067	.000000	.000000	.000000
48	2.77E-16	2.39E-31	22.129550	.000000	.000000	.000000
49	-2.49E-16	-9.69E-31	16.301788	.000000	.000000	.000000
50	6.64E-16	9.06E-31	13.115873	.000000	.000000	.000000

COMB COMB2 ---------- MAX

JOINT	F1	F2	F3	M1	M2	M3
2	-5.52E-16	-3.56E-31	13.394819	.000000	.000000	.000000
3	-2.72E-16	1.23E-30	16.668477	.000000	.000000	.000000

S P R I N G F O R C E S

FORCES AND MOMENTS ACTING ON JOINTS, IN LOCAL COORDINATES

JOINT	F1	F2	F3	M1	M2	M3
4	5.03E-18	3.61E-31	22.603776	.000000	.000000	.000000
5	3.17E-16	1.24E-30	26.239498	.000000	.000000	.000000
6	-2.76E-16	2.97E-31	27.523028	.000000	.000000	.000000
7	-5.69E-16	-1.11E-30	27.066427	.000000	.000000	.000000
8	-7.50E-17	-6.52E-31	25.492992	.000000	.000000	.000000
9	-6.45E-16	6.17E-31	23.290247	.000000	.000000	.000000
10	-2.86E-16	1.05E-31	20.855963	.000000	.000000	.000000
41	7.21E-16	-1.20E-30	17.624786	.000000	.000000	.000000
42	-1.04E-16	8.87E-31	20.254167	.000000	.000000	.000000
43	-1.38E-15	2.91E-31	22.806505	.000000	.000000	.000000
44	3.17E-16	2.50E-31	25.033192	.000000	.000000	.000000
45	3.92E-16	-1.50E-30	26.592798	.000000	.000000	.000000
46	-2.89E-16	3.32E-30	26.971074	.000000	.000000	.000000
47	1.39E-16	3.56E-31	25.565881	.000000	.000000	.000000
48	2.74E-16	2.38E-31	21.880828	.000000	.000000	.000000
49	-2.43E-16	-9.54E-31	16.051177	.000000	.000000	.000000
50	6.58E-16	8.82E-31	12.852114	.000000	.000000	.000000

COMB COMB2 ---------- MIN

JOINT	F1	F2	F3	M1	M2	M3
2	-5.52E-16	-3.56E-31	13.394819	.000000	.000000	.000000
3	-2.72E-16	1.23E-30	16.668477	.000000	.000000	.000000
4	5.03E-18	3.61E-31	22.603776	.000000	.000000	.000000
5	3.17E-16	1.24E-30	26.239498	.000000	.000000	.000000
6	-2.76E-16	2.97E-31	27.523028	.000000	.000000	.000000
7	-5.69E-16	-1.11E-30	27.066427	.000000	.000000	.000000
8	-7.50E-17	-6.52E-31	25.492992	.000000	.000000	.000000
9	-6.45E-16	6.17E-31	23.290247	.000000	.000000	.000000
10	-2.86E-16	1.05E-31	20.855963	.000000	.000000	.000000
41	7.21E-16	-1.20E-30	17.624786	.000000	.000000	.000000
42	-1.04E-16	8.87E-31	20.254167	.000000	.000000	.000000
43	-1.38E-15	2.91E-31	22.806505	.000000	.000000	.000000
44	3.17E-16	2.50E-31	25.033192	.000000	.000000	.000000
45	3.92E-16	-1.50E-30	26.592798	.000000	.000000	.000000
46	-2.89E-16	3.32E-30	26.971074	.000000	.000000	.000000
47	1.39E-16	3.56E-31	25.565881	.000000	.000000	.000000
48	2.74E-16	2.38E-31	21.880828	.000000	.000000	.000000
49	-2.43E-16	-9.54E-31	16.051177	.000000	.000000	.000000
50	6.58E-16	8.82E-31	12.852114	.000000	.000000	.000000

COMB COMB3 ---------- MAX

JOINT	F1	F2	F3	M1	M2	M3
2	-5.67E-16	-3.05E-31	12.973999	.000000	.000000	.000000
3	-2.74E-16	1.19E-30	16.040919	.000000	.000000	.000000
4	5.42E-18	3.87E-31	21.570782	.000000	.000000	.000000
5	3.21E-16	1.21E-30	24.743979	.000000	.000000	.000000
6	-1.97E-16	3.50E-31	25.500953	.000000	.000000	.000000
7	-4.95E-16	-7.94E-31	24.445981	.000000	.000000	.000000

S P R I N G F O R C E S

FORCES AND MOMENTS ACTING ON JOINTS, IN LOCAL COORDINATES

JOINT	F1	F2	F3	M1	M2	M3
8	-1.29E-16	-6.50E-31	22.210815	.000000	.000000	.000000
9	-1.47E-16	5.61E-31	19.324867	.000000	.000000	.000000
10	-2.61E-17	-1.37E-31	16.245347	.000000	.000000	.000000
41	1.91E-16	-9.40E-31	11.105081	.000000	.000000	.000000
42	1.00E-16	5.97E-31	15.001271	.000000	.000000	.000000
43	-9.39E-16	8.38E-32	16.683417	.000000	.000000	.000000
44	4.61E-16	1.12E-31	21.858069	.000000	.000000	.000000
45	3.83E-16	-1.42E-30	24.174025	.000000	.000000	.000000
46	2.89E-16	3.15E-30	25.147506	.000000	.000000	.000000
47	1.31E-16	3.69E-31	24.222199	.000000	.000000	.000000
48	2.70E-16	2.90E-31	20.945841	.000000	.000000	.000000
49	-2.29E-16	-9.04E-31	15.477815	.000000	.000000	.000000
50	6.64E-16	8.93E-31	12.465462	.000000	.000000	.000000

COMB COMB3 ---------- MIN

JOINT	F1	F2	F3	M1	M2	M3
2	-5.67E-16	-3.05E-31	12.973999	.000000	.000000	.000000
3	-2.74E-16	1.19E-30	16.040919	.000000	.000000	.000000
4	5.42E-18	3.87E-31	21.570782	.000000	.000000	.000000
5	3.21E-16	1.21E-30	24.743979	.000000	.000000	.000000
6	-1.97E-16	3.56E-31	25.560953	.000000	.000000	.000000
7	-4.95E-16	-7.94E-31	24.445961	.000000	.000000	.000000
8	-1.29E-16	-6.50E-31	22.210815	.000000	.000000	.000000
9	-1.47E-16	5.61E-31	19.324867	.000000	.000000	.000000
10	-2.61E-17	-1.37E-31	16.245347	.000000	.000000	.000000
41	1.91E-16	-9.40E-31	11.105081	.000000	.000000	.000000
42	1.00E-16	5.97E-31	15.001271	.000000	.000000	.000000
43	-9.39E-16	8.38E-32	16.683417	.000000	.000000	.000000
44	4.61E-16	1.12E-31	21.858069	.000000	.000000	.000000
45	3.83E-16	-1.42E-30	24.174025	.000000	.000000	.000000
46	2.89E-16	3.15E-30	25.147506	.000000	.000000	.000000
47	1.31E-16	3.69E-31	24.222199	.000000	.000000	.000000
48	2.70E-16	2.90E-31	20.945841	.000000	.000000	.000000
49	-2.29E-16	-9.04E-31	15.477815	.000000	.000000	.000000
50	6.64E-16	8.93E-31	12.465462	.000000	.000000	.000000

COMB COMB4 ---------- MAX

JOINT	F1	F2	F3	M1	M2	M3
2	-5.66E-16	-3.47E-31	13.228967	.000000	.000000	.000000
3	-2.72E-16	1.19E-30	16.377455	.000000	.000000	.000000
4	5.13E-18	3.61E-31	21.828824	.000000	.000000	.000000
5	3.24E-16	1.20E-30	24.979754	.000000	.000000	.000000
6	-2.24E-16	3.96E-31	25.909547	.000000	.000000	.000000
7	-4.90E-16	-9.22E-31	24.420710	.000000	.000000	.000000
8	-6.32E-17	-5.72E-31	21.298699	.000000	.000000	.000000
9	-1.69E-16	7.48E-31	16.921959	.000000	.000000	.000000
10	-1.22E-16	-2.88E-31	11.702613	.000000	.000000	.000000
41	1.15E-16	-9.39E-31	6.605474	.000000	.000000	.000000
42	3.22E-16	8.03E-31	12.616754	.000000	.000000	.000000
43	-1.26E-15	1.67E-31	17.774391	.000000	.000000	.000000
44	4.86E-16	1.99E-31	21.828824	.000000	.000000	.000000
45	4.29E-16	-1.49E-30	24.579964	.000000	.000000	.000000
46	-3.00E-16	3.25E-30	25.690907	.000000	.000000	.000000
47	1.34E-16	3.39E-31	24.728156	.000000	.000000	.000000
48	2.70E-16	2.78E-31	21.330880	.000000	.000000	.000000
49	-2.27E-16	-8.91E-31	15.722219	.000000	.000000	.000000
50	6.45E-16	8.57E-31	12.635897	.000000	.000000	.000000

S P R I N G F O R C E S

FORCES AND MOMENTS ACTING ON JOINTS, IN LOCAL COORDINATES

JOINT	F1	F2	F3	M1	M2	M3
42	3.22E-16	8.03E-31	12.616754	.000000	.000000	.000000
43	-1.26E-15	1.67E-31	17.774391	.000000	.000000	.000000
44	4.86E-16	1.99E-31	21.828824	.000000	.000000	.000000
45	4.29E-16	-1.49E-30	24.579964	.000000	.000000	.000000
46	-3.00E-16	3.25E-30	25.690907	.000000	.000000	.000000
47	1.34E-16	3.39E-31	24.728156	.000000	.000000	.000000
48	2.70E-16	2.78E-31	21.330880	.000000	.000000	.000000
49	-2.27E-16	-8.91E-31	15.722219	.000000	.000000	.000000
50	6.45E-16	8.57E-31	12.635897	.000000	.000000	.000000

COMB COMB4 ---------- MIN

JOINT	F1	F2	F3	M1	M2	M3
2	-5.66E-16	-3.47E-31	13.228967	.000000	.000000	.000000
3	-2.72E-16	1.19E-30	16.377455	.000000	.000000	.000000
4	5.13E-18	3.61E-31	22.048550	.000000	.000000	.000000
5	3.24E-16	1.20E-30	25.279754	.000000	.000000	.000000
6	-2.24E-16	3.96E-31	25.909547	.000000	.000000	.000000
7	-4.90E-16	-9.22E-31	24.420710	.000000	.000000	.000000
8	-6.32E-17	-5.72E-31	21.298699	.000000	.000000	.000000
9	-1.69E-16	7.48E-31	16.921959	.000000	.000000	.000000
10	-1.22E-16	-2.88E-31	11.702613	.000000	.000000	.000000
41	1.15E-16	-9.39E-31	6.605474	.000000	.000000	.000000
42	3.22E-16	8.03E-31	12.616754	.000000	.000000	.000000
43	-1.26E-15	1.67E-31	17.774391	.000000	.000000	.000000
44	4.86E-16	1.99E-31	21.828824	.000000	.000000	.000000
45	4.29E-16	-1.49E-30	24.579964	.000000	.000000	.000000
46	-3.00E-16	3.25E-30	25.690907	.000000	.000000	.000000
47	1.34E-16	3.39E-31	24.728156	.000000	.000000	.000000
48	2.70E-16	2.78E-31	21.330880	.000000	.000000	.000000
49	-2.27E-16	-8.91E-31	15.722219	.000000	.000000	.000000
50	6.45E-16	8.57E-31	12.635897	.000000	.000000	.000000

COMB COMB5 ---------- MAX

JOINT	F1	F2	F3	M1	M2	M3
2	-3.13E-16	-1.88E-31	7.665692	.000000	.000000	.000000
3	-1.53E-16	6.97E-31	9.491292	.000000	.000000	.000000
4	2.74E-18	2.04E-31	12.814942	.000000	.000000	.000000
5	1.80E-16	6.99E-31	14.826140	.000000	.000000	.000000
6	-1.58E-16	1.56E-31	15.516292	.000000	.000000	.000000
7	-3.21E-16	-6.15E-31	15.233568	.000000	.000000	.000000
8	-3.40E-17	-3.67E-31	14.328337	.000000	.000000	.000000
9	-3.63E-16	3.41E-31	13.072110	.000000	.000000	.000000
10	-1.66E-16	5.47E-32	11.684887	.000000	.000000	.000000
41	4.00E-16	-6.72E-31	9.871265	.000000	.000000	.000000
42	-5.53E-17	4.92E-31	11.361688	.000000	.000000	.000000
43	-7.70E-16	1.62E-31	12.806928	.000000	.000000	.000000
44	1.75E-16	1.49E-31	14.071081	.000000	.000000	.000000
45	2.15E-16	-8.37E-31	14.965680	.000000	.000000	.000000

S P R I N G F O R C E S

FORCES AND MOMENTS ACTING ON JOINTS, IN LOCAL COORDINATES

JOINT	F1	F2	F3	M1	M2	M3
46	-1.58E-16	1.86E-30	15.203655	.000000	.000000	.000000
47	7.76E-17	2.00E-31	14.445853	.000000	.000000	.000000
48	1.54E-16	1.27E-31	12.408023	.000000	.000000	.000000
49	-1.39E-16	-5.44E-31	9.144437	.000000	.000000	.000000
50	3.72E-16	5.11E-31	7.361041	.000000	.000000	.000000

COMB COMB5 ---------- MIN

JOINT	F1	F2	F3	M1	M2	M3
2	-3.13E-16	-1.88E-31	7.665692	.000000	.000000	.000000
3	-1.53E-16	6.97E-31	9.491292	.000000	.000000	.000000
4	2.74E-18	2.04E-31	12.814942	.000000	.000000	.000000
5	1.80E-16	6.99E-31	14.826140	.000000	.000000	.000000
6	-1.58E-16	1.56E-31	15.516292	.000000	.000000	.000000
7	-3.21E-16	-6.15E-31	15.233568	.000000	.000000	.000000
8	-3.40E-17	-3.67E-31	14.328337	.000000	.000000	.000000
9	-3.63E-16	3.41E-31	13.072110	.000000	.000000	.000000
10	-1.66E-16	5.47E-32	11.684887	.000000	.000000	.000000
41	4.00E-16	-6.72E-31	9.871265	.000000	.000000	.000000
42	-5.53E-17	4.92E-31	11.361688	.000000	.000000	.000000
43	-7.70E-16	1.62E-31	12.806928	.000000	.000000	.000000
44	1.75E-16	1.49E-31	14.071081	.000000	.000000	.000000
45	2.15E-16	-8.37E-31	14.965680	.000000	.000000	.000000
46	-1.58E-16	1.86E-30	15.203655	.000000	.000000	.000000
47	7.76E-17	2.00E-31	14.445853	.000000	.000000	.000000
48	1.54E-16	1.27E-31	12.408023	.000000	.000000	.000000
49	-1.39E-16	-5.44E-31	9.144437	.000000	.000000	.000000
50	3.72E-16	5.11E-31	7.361041	.000000	.000000	.000000

COMB COMB6 ---------- MAX

JOINT	F1	F2	F3	M1	M2	M3
2	-3.07E-16	-1.94E-31	7.487693	.000000	.000000	.000000
3	-1.51E-16	6.87E-31	9.321627	.000000	.000000	.000000
4	2.79E-18	2.06E-31	12.645917	.000000	.000000	.000000
5	1.79E-16	6.92E-31	14.685753	.000000	.000000	.000000
6	-1.57E-16	1.61E-31	15.410826	.000000	.000000	.000000
7	-3.22E-16	-6.15E-31	15.163709	.000000	.000000	.000000
8	-3.53E-17	-3.64E-31	14.293368	.000000	.000000	.000000
9	-3.63E-16	3.41E-31	13.072701	.000000	.000000	.000000
10	-1.64E-16	5.70E-32	11.724047	.000000	.000000	.000000
41	4.01E-16	-6.71E-31	9.913735	.000000	.000000	.000000
42	-5.69E-17	4.92E-31	11.372870	.000000	.000000	.000000
43	-7.68E-16	1.63E-31	12.790546	.000000	.000000	.000000
44	1.75E-16	1.47E-31	14.027831	.000000	.000000	.000000
45	2.14E-16	-8.36E-31	14.893489	.000000	.000000	.000000
46	-1.60E-16	1.85E-30	15.099430	.000000	.000000	.000000
47	7.78E-17	1.96E-31	14.308396	.000000	.000000	.000000
48	1.52E-16	1.27E-31	12.242208	.000000	.000000	.000000
49	-1.35E-16	-5.33E-31	8.977363	.000000	.000000	.000000

S P R I N G F O R C E S

FORCES AND MOMENTS ACTING ON JOINTS, IN LOCAL COORDINATES

JOINT	F1	F2	F3	M1	M2	M3
50	3.68E-16	4.95E-31	7.185202	.000000	.000000	.000000

COMB COMB6 ---------- MIN

JOINT	F1	F2	F3	M1	M2	M3
2	-3.07E-16	-1.94E-31	7.487693	.000000	.000000	.000000
3	-1.51E-16	6.87E-31	9.321627	.000000	.000000	.000000
4	2.79E-18	2.06E-31	12.645917	.000000	.000000	.000000
5	1.79E-16	6.92E-31	14.685753	.000000	.000000	.000000
6	-1.57E-16	1.61E-31	15.410826	.000000	.000000	.000000
7	-3.22E-16	-6.15E-31	15.163709	.000000	.000000	.000000
8	-3.53E-17	-3.64E-31	14.293368	.000000	.000000	.000000
9	-3.63E-16	3.41E-31	13.072701	.000000	.000000	.000000
10	-1.64E-16	5.70E-32	11.724047	.000000	.000000	.000000
41	4.01E-16	-6.71E-31	9.913735	.000000	.000000	.000000
42	-5.69E-17	4.92E-31	11.372870	.000000	.000000	.000000
43	-7.68E-16	1.63E-31	12.790546	.000000	.000000	.000000
44	1.75E-16	1.47E-31	14.027831	.000000	.000000	.000000
45	2.14E-16	-8.36E-31	14.893489	.000000	.000000	.000000
46	-1.60E-16	1.85E-30	15.099430	.000000	.000000	.000000
47	7.78E-17	1.96E-31	14.308396	.000000	.000000	.000000
48	1.52E-16	1.27E-31	12.242208	.000000	.000000	.000000
49	-1.35E-16	-5.33E-31	8.977363	.000000	.000000	.000000
50	3.68E-16	4.95E-31	7.185202	.000000	.000000	.000000

COMB COMB7 ---------- MAX

JOINT	F1	F2	F3	M1	M2	M3
2	-3.17E-16	-1.64E-31	7.262480	.000000	.000000	.000000
3	-1.53E-16	6.68E-31	8.977381	.000000	.000000	.000000
4	3.01E-18	2.22E-31	12.070654	.000000	.000000	.000000
5	1.81E-16	6.80E-31	13.848151	.000000	.000000	.000000
6	-1.12E-16	1.86E-31	14.282128	.000000	.000000	.000000
7	-2.80E-16	-4.32E-31	13.716336	.000000	.000000	.000000
8	-6.74E-17	-3.69E-31	12.510497	.000000	.000000	.000000
9	-7.71E-17	3.18E-31	10.956737	.000000	.000000	.000000
10	-1.82E-17	-7.38E-32	9.341985	.000000	.000000	.000000
41	1.13E-16	-5.23E-31	6.468981	.000000	.000000	.000000
42	4.61E-17	3.23E-31	8.549753	.000000	.000000	.000000
43	-5.17E-16	4.81E-32	10.536408	.000000	.000000	.000000
44	2.50E-16	6.82E-32	12.269637	.000000	.000000	.000000
45	2.07E-16	-7.87E-31	13.540980	.000000	.000000	.000000
46	-1.61E-16	1.75E-30	14.075431	.000000	.000000	.000000
47	7.33E-17	2.04E-31	13.556042	.000000	.000000	.000000
48	1.50E-16	1.56E-31	11.724800	.000000	.000000	.000000
49	-1.28E-16	-5.07E-31	8.666673	.000000	.000000	.000000
50	3.72E-16	5.04E-31	6.982158	.000000	.000000	.000000

S P R I N G F O R C E S

FORCES AND MOMENTS ACTING ON JOINTS, IN LOCAL COORDINATES

COMB COMB5 ---------- MIN

JOINT	F1	F2	F3	M1	M2	M3
2	-3.17E-16	-1.64E-31	7.262480	.000000	.000000	.000000
3	-1.53E-16	6.68E-31	8.977361	.000000	.000000	.000000
4	3.01E-16	2.22E-31	12.070654	.000000	.000000	.000000
5	1.81E-16	6.80E-31	13.848151	.000000	.000000	.000000
6	-1.17E-16	1.86E-31	14.282128	.000000	.000000	.000000
7	-2.85E-16	-4.32E-31	13.716336	.000000	.000000	.000000
8	-6.74E-17	-2.69E-31	12.510497	.000000	.000000	.000000
9	-7.77E-17	-3.18E-31	10.966737	.000000	.000000	.000000
10	-1.82E-17	-7.38E-32	9.341985	.000000	.000000	.000000
41	1.13E-16	-5.20E-31	6.468961	.000000	.000000	.000000
42	4.67E-17	3.23E-31	8.549753	.000000	.000000	.000000
43	-5.17E-16	4.61E-32	10.536406	.000000	.000000	.000000
44	2.50E-16	6.62E-32	12.269637	.000000	.000000	.000000
45	2.07E-16	-7.67E-31	13.540980	.000000	.000000	.000000
46	-1.61E-16	1.75E-30	14.075451	.000000	.000000	.000000
47	7.33E-17	2.04E-31	13.556042	.000000	.000000	.000000
48	1.50E-16	1.56E-31	11.724800	.000000	.000000	.000000
49	1.28E-16	-5.07E-31	8.666673	.000000	.000000	.000000
50	3.72E-16	5.04E-31	6.982158	.000000	.000000	.000000

COMB COMB5 ---------- MAX

JOINT	F1	F2	F3	M1	M2	M3
2	-3.16E-16	-1.92E-31	7.432459	.000000	.000000	.000000
3	-1.52E-16	6.65E-31	9.201739	.000000	.000000	.000000
4	2.82E-16	2.04E-31	12.389167	.000000	.000000	.000000
5	1.83E-16	6.71E-31	14.205335	.000000	.000000	.000000
6	-1.30E-16	2.18E-31	14.554524	.000000	.000000	.000000
7	-2.77E-16	-5.18E-31	13.699488	.000000	.000000	.000000
8	-2.35E-17	-3.17E-31	11.902421	.000000	.000000	.000000
9	-9.11E-17	4.29E-31	9.364798	.000000	.000000	.000000
10	-7.54E-17	-1.74E-31	6.313495	.000000	.000000	.000000
41	6.23E-17	-5.22E-31	3.469237	.000000	.000000	.000000
42	1.93E-16	4.60E-31	6.960075	.000000	.000000	.000000
43	-7.27E-16	1.04E-31	9.932391	.000000	.000000	.000000
44	2.67E-16	1.26E-31	12.250146	.000000	.000000	.000000
45	2.38E-16	-8.38E-31	13.611620	.000000	.000000	.000000
46	-1.58E-16	1.82E-30	14.437703	.000000	.000000	.000000
47	7.50E-17	1.84E-31	13.893347	.000000	.000000	.000000
48	1.50E-16	1.48E-31	11.981493	.000000	.000000	.000000
49	-1.27E-16	-4.98E-31	8.829609	.000000	.000000	.000000
50	3.59E-16	4.80E-31	7.095782	.000000	.000000	.000000

COMB COMB8 ---------- MIN

JOINT	F1	F2	F3	M1	M2	M3
2	-3.16E-16	-1.92E-31	7.432459	.000000	.000000	.000000
3	-1.52E-16	6.65E-31	9.201739	.000000	.000000	.000000

S P R I N G F O R C E S

FORCES AND MOMENTS ACTING ON JOINTS, IN LOCAL COORDINATES

JOINT	F1	F2	F3	M1	M2	M3
4	3.80E-16	2.04E-31	12.389167	.000000	.000000	.000000
5	1.83E-16	6.71E-31	14.205335	.000000	.000000	.000000
6	-1.30E-16	2.18E-31	14.554524	.000000	.000000	.000000
7	-2.77E-16	-5.18E-31	13.699488	.000000	.000000	.000000
8	-2.35E-17	-3.17E-31	11.902421	.000000	.000000	.000000
9	-9.11E-17	4.29E-31	9.364798	.000000	.000000	.000000
10	-7.54E-17	-1.74E-31	6.313495	.000000	.000000	.000000
41	6.23E-17	-5.22E-31	3.469237	.000000	.000000	.000000
42	1.93E-16	4.60E-31	6.960075	.000000	.000000	.000000
43	-7.27E-16	1.04E-31	9.932391	.000000	.000000	.000000
44	2.67E-16	1.26E-31	12.250146	.000000	.000000	.000000
45	2.38E-16	-8.38E-31	13.611620	.000000	.000000	.000000
46	-1.66E-16	1.82E-30	14.437703	.000000	.000000	.000000
47	7.50E-17	1.84E-31	13.893347	.000000	.000000	.000000
48	1.50E-16	1.48E-31	11.981493	.000000	.000000	.000000
49	-1.27E-16	-4.98E-31	8.829609	.000000	.000000	.000000
50	3.59E-16	4.80E-31	7.095782	.000000	.000000	.000000

R E S T R A I N T F O R C E S (R E A C T I O N S)

FORCES AND MOMENTS ACTING ON JOINTS, IN LOCAL COORDINATES

COMB COMB1 ---------- MAX

JOINT	F1	F2	F3	M1	M2	M3
1	-44.662620	-6.60E-14	376.979875	1.74E-13	.000000	1.97E-16
51	57.363145	-6.94E-14	372.435076	1.91E-13	.000000	-8.32E-15

COMB COMB1 ---------- MIN

JOINT	F1	F2	F3	M1	M2	M3
1	-44.662620	-6.60E-14	376.979875	1.74E-13	.000000	1.97E-16
51	57.363145	-6.94E-14	372.435076	1.91E-13	.000000	-8.32E-15

COMB COMB2 ---------- MAX

JOINT	F1	F2	F3	M1	M2	M3
1	-43.490251	-6.56E-14	376.984568	1.73E-13	.000000	1.44E-16
51	56.187001	-6.91E-14	372.489673	1.91E-13	.000000	-8.24E-15

COMB COMB2 ---------- MIN

JOINT	F1	F2	F3	M1	M2	M3
1	-43.490251	-6.56E-14	376.984568	1.73E-13	.000000	1.44E-16
51	56.187001	-6.91E-14	372.489673	1.91E-13	.000000	-8.24E-15

COMB COMB3 ---------- MAX

JOINT	F1	F2	F3	M1	M2	M3
1	-42.706812	-5.90E-14	371.062522	1.51E-13	.000000	1.32E-15
51	54.636329	-6.07E-14	363.233490	1.61E-13	.000000	-7.85E-15

COMB COMB3 ---------- MIN

JOINT	F1	F2	F3	M1	M2	M3
1	-42.706812	-5.90E-14	371.062522	1.51E-13	.000000	1.32E-15
51	54.636329	-6.07E-14	363.233490	1.61E-13	.000000	-7.85E-15

COMB COMB4 ---------- MAX

JOINT	F1	F2	F3	M1	M2	M3
1	-41.720955	-5.71E-14	367.386762	1.41E-13	.000000	2.10E-15
51	54.163853	-5.89E-14	359.592462	1.51E-13	.000000	-8.23E-15

COMB COMB4 ---------- MIN

JOINT	F1	F2	F3	M1	M2	M3
1	-41.720955	-5.71E-14	367.386762	1.41E-13	.000000	2.10E-15
51	54.163853	-5.89E-14	359.592462	1.51E-13	.000000	-8.23E-15

R E S T R A I N T F O R C E S (R E A C T I O N S)

FORCES AND MOMENTS ACTING ON JOINTS, IN LOCAL COORDINATES

COMB COMB5 ---------- MAX

JOINT	F1	F2	F3	M1	M2	M3
1	-25.098819	-3.70E-14	211.290091	9.76E-14	.000000	1.05E-16
51	32.217981	-3.90E-14	208.815880	1.07E-13	.000000	-4.66E-15

COMB COMB5 ---------- MIN

JOINT	F1	F2	F3	M1	M2	M3
1	-25.098819	-3.70E-14	211.290091	9.76E-14	.000000	1.05E-16
51	32.217981	-3.90E-14	208.815880	1.07E-13	.000000	-4.66E-15

COMB COMB6 ---------- MAX

JOINT	F1	F2	F3	M1	M2	M3
1	-24.317240	-3.68E-14	211.293219	9.72E-14	.000000	6.93E-17
51	31.433885	-3.87E-14	208.852278	1.07E-13	.000000	-4.61E-15

COMB COMB6 ---------- MIN

JOINT	F1	F2	F3	M1	M2	M3
1	-24.317240	-3.68E-14	211.293219	9.72E-14	.000000	6.93E-17
51	31.433885	-3.87E-14	208.852278	1.07E-13	.000000	-4.61E-15

COMB COMB7 ---------- MAX

JOINT	F1	F2	F3	M1	M2	M3
1	-24.004724	-3.32E-14	208.151378	8.51E-14	.000000	6.93E-16
51	30.793844	-3.41E-14	203.853206	9.06E-14	.000000	-4.38E-15

COMB COMB7 ---------- MIN

JOINT	F1	F2	F3	M1	M2	M3
1	-24.004724	-3.32E-14	208.151378	8.51E-14	.000000	6.93E-16
51	30.793844	-3.41E-14	203.853206	9.06E-14	.000000	-4.38E-15

COMB COMB8 ---------- MAX

JOINT	F1	F2	F3	M1	M2	M3
1	-23.347485	-3.19E-14	205.700871	7.86E-14	.000000	1.21E-15
51	30.345527	-3.29E-14	201.425854	8.41E-14	.000000	-4.64E-15

COMB COMB8 ---------- MIN

JOINT	F1	F2	F3	M1	M2	M3
1	-23.347485	-3.19E-14	205.700871	7.86E-14	.000000	1.21E-15
51	30.345527	-3.29E-14	201.425854	8.41E-14	.000000	-4.64E-15

G L O B A L F O R C E B A L A N C E

TOTAL FORCE AND MOMENT AT THE ORIGIN, IN GLOBAL COORDINATES

LOAD LOAD1 ----------

	FX	FY	FZ	MX	MY	MZ
APPLIED	3.53E-16	-4.29E-32	-22.985350	3.22E-31	3.368220	1.39E-32
SPRINGS	-0.436879	4.69E-15	-3.098209	-1.43E-14	0.015079	1.17E-15
REACTNS	0.436879	-4.69E-15	26.083559	1.43E-14	-3.383142	1.11E-15
TOTAL	-5.76E-13	-3.23E-28	9.95E-14	3.10E-27	-4.90E-12	9.59E-28

LOAD LOAD2 ----------

	FX	FY	FZ	MX	MY	MZ
APPLIED	8.50E-15	-6.07E-31	-352.387947	4.67E-30	9.55E-169	3.38E-30
SPRINGS	-6.681025	7.10E-14	-41.654229	-2.07E-13	0.415141	1.71E-14
REACTNS	6.681025	-7.10E-14	394.042175	2.07E-13	9.180028	1.71E-14
TOTAL	-5.51E-12	-4.50E-27	2.27E-12	4.46E-26	5.43E-11	1.12E-26

LOAD LOAD3 ----------

	FX	FY	FZ	MX	MY	MZ
APPLIED	-2.952475	1.54E-32	-1.32E-15	-7.99E-32	-16.263674	2.44E-31
SPRINGS	3.205530	-9.36E-15	9.889527	3.55E-14	2.636677	-7.63E-15
REACTNS	-0.253155	9.36E-15	-9.889527	-3.55E-14	13.484197	7.63E-15
TOTAL	2.12E-12	7.62E-28	-1.63E-14	-7.97E-27	1.14E-10	-6.45E-26

LOAD LOAD4 ----------

	FX	FY	FZ	MX	MY	MZ
APPLIED	9.86E-32	000000	1.48E-31	2.96E-31	-1.54E-17	-1.26E-32
SPRINGS	-0.001258	2.66E-16	0.019763	-4.49E-16	0.060362	9.76E-18
REACTNS	0.001258	-2.66E-16	-0.019763	4.49E-16	-0.060362	-9.76E-18
TOTAL	1.70E-14	-7.79E-29	1.28E-14	7.45E-28	-6.45E-16	6.87E-29

LOAD LOAD5 ----------

	FX	FY	FZ	MX	MY	MZ
APPLIED	-9.86E-32	000000	-1.48E-31	-2.96E-31	1.54E-17	1.26E-32
SPRINGS	0.001258	-2.66E-16	-0.019763	4.49E-16	-0.060362	-9.76E-18
REACTNS	-0.001258	2.66E-16	0.019763	-4.49E-16	0.060362	9.76E-18
TOTAL	-1.70E-14	7.79E-29	-1.28E-14	-7.45E-28	6.45E-16	-6.87E-29

G L O B A L F O R C E B A L A N C E

TOTAL FORCE AND MOMENT AT THE ORIGIN, IN GLOBAL COORDINATES

LOAD LOAD6 ----------

	FX	FY	FZ	MX	MY	MZ
APPLIED	.000000	000000	000000	.000000	-6.55E-15	000000
SPRINGS	0.076886	6.98E-16	-1.788140	-4.62E-15	0.006983	-1.91E-16
REACTNS	-0.076886	-6.98E-16	1.788140	4.62E-15	-0.006983	1.91E-16
TOTAL	-6.62E-13	-8.56E-28	2.89E-15	7.31E-27	-4.36E-12	9.13E-28

LOAD LOAD7 ----------

	FX	FY	FZ	MX	MY	MZ
APPLIED	000000	000000	000000	000000	-1.05E-12	000000
SPRINGS	-0.134551	-1.22E-15	3.129245	8.08E-15	-0.012220	3.34E-16
REACTNS	0.134551	1.22E-15	-3.129245	-8.08E-15	0.012220	-3.34E-16
TOTAL	1.23E-12	1.54E-27	-2.99E-13	-1.30E-26	6.00E-12	-1.49E-27

COMB COMB1 ---------- MAX

	FX	FY	FZ	MX	MY	MZ
APPLIED	1.58E-14	-1.16E-30	-669.695743	9.35E-30	-12.084246	6.08E-30
SPRINGS	-12.700525	1.35E-13	-79.719209	-3.95E-13	0.814577	3.25E-14
REACTNS	12.700525	-1.35E-13	749.414952	3.95E-13	11.269669	-3.25E-14
TOTAL	-1.08E-11	-9.25E-27	4.27E-12	8.62E-26	-1.05E-10	2.17E-26

COMB COMB1 ---------- MIN

	FX	FY	FZ	MX	MY	MZ
APPLIED	1.58E-14	-1.16E-30	-669.695743	9.35E-30	-12.084246	6.08E-30
SPRINGS	-12.700525	1.35E-13	-79.719209	-3.95E-13	0.814577	3.25E-14
REACTNS	12.700525	-1.35E-13	749.414952	3.95E-13	11.269669	-3.25E-14
TOTAL	-1.08E-11	-9.25E-27	4.27E-12	8.62E-26	-1.05E-10	2.17E-26

COMB COMB2 ---------- MAX

	FX	FY	FZ	MX	MY	MZ
APPLIED	1.58E-14	-1.16E-30	-669.695743	8.46E-30	-12.084246	6.12E-30
SPRINGS	-12.696750	1.35E-13	-79.778497	-3.94E-13	0.633490	3.25E-14
REACTNS	12.696750	-1.35E-13	749.474240	3.94E-13	11.450756	-3.25E-14
TOTAL	-1.08E-11	-9.01E-27	4.23E-12	8.40E-26	-1.05E-10	2.15E-26

G L O B A L F O R C E B A L A N C E

TOTAL FORCE AND MOMENT AT THE ORIGIN, IN GLOBAL COORDINATES

COMB COMB2 ---------- MIN

	FX	FY	FZ	MX	MY	MZ
APPLIED	1.58E-14	-1.16E-30	-669.695743	8.46E-30	-12.084246	6.12E-30
SPRINGS	-12.696750	1.35E-13	-79.778497	-3.94E-13	0.633490	3.25E-14
REACTNS	12.696750	-1.35E-13	749.474240	3.94E-13	11.450756	-3.25E-14
TOTAL	-1.08E-11	-9.01E-27	4.23E-12	8.40E-26	-1.05E-10	2.15E-26

COMB COMB3 ---------- MAX

	FX	FY	FZ	MX	MY	MZ
APPLIED	-5.314455	-1.12E-30	-669.695743	9.21E-30	-41.411779	6.52E-30
SPRINGS	-6.815062	1.20E-13	-64.600270	-3.38E-13	5.881029	1.81E-14
REACTNS	12.129517	-1.20E-13	734.296013	3.38E-13	35.530749	-1.81E-14
TOTAL	-8.24E-12	-9.16E-27	4.24E-12	8.39E-26	-8.63E-11	1.42E-26

COMB COMB3 ---------- MIN

	FX	FY	FZ	MX	MY	MZ
APPLIED	-5.314455	-1.12E-30	-669.695743	9.21E-30	-41.411779	6.52E-30
SPRINGS	-6.815062	1.20E-13	-64.600270	-3.38E-13	5.881029	1.81E-14
REACTNS	12.129517	-1.20E-13	734.296013	3.38E-13	35.530749	-1.81E-14
TOTAL	-8.24E-12	-9.16E-27	4.24E-12	8.39E-26	-8.63E-11	1.42E-26

COMB COMB4 ---------- MAX

	FX	FY	FZ	MX	MY	MZ
APPLIED	-5.314455	-1.12E-30	-669.695743	8.32E-30	-41.411779	6.56E-30
SPRINGS	-7.128443	1.16E-13	-57.283481	-3.18E-13	5.671138	1.89E-14
REACTNS	12.442899	-1.16E-13	726.979224	3.18E-13	35.740641	-1.89E-14
TOTAL	-5.16E-12	-5.33E-27	3.76E-12	5.12E-26	-7.08E-11	1.04E-26

COMB COMB4 ---------- MIN

	FX	FY	FZ	MX	MY	MZ
APPLIED	-5.314455	-1.12E-30	-669.695743	8.32E-30	-41.411779	6.56E-30
SPRINGS	-7.128443	1.16E-13	-57.283481	-3.18E-13	5.671138	1.89E-14
REACTNS	12.442899	-1.16E-13	726.979224	3.18E-13	35.740641	-1.89E-14
TOTAL	-5.16E-12	-5.33E-27	3.76E-12	5.12E-26	-7.08E-11	1.04E-26

G L O B A L F O R C E B A L A N C E

TOTAL FORCE AND MOMENT AT THE ORIGIN, IN GLOBAL COORDINATES

COMB COMB5 ---------- MAX

	FX	FY	FZ	MX	MY	MZ
APPLIED	8.85E-15	-6.49E-31	-375.373297	5.29E-30	-6.226949	3.38E-30
SPRINGS	7.119162	7.60E-14	-44.732674	-2.22E-13	0.460425	1.82E-14
REACTNS	7.119162	-7.60E-14	420.105971	2.22E-13	5.766524	-1.82E-14
TOTAL	-6.07E-12	-5.20E-27	2.39E-12	4.85E-26	-5.92E-11	1.22E-26

COMB COMB5 ---------- MIN

	FX	FY	FZ	MX	MY	MZ
APPLIED	8.85E-15	-6.49E-31	-375.373297	5.29E-30	-6.226949	3.38E-30
SPRINGS	-7.119162	7.60E-14	-44.732674	-2.22E-13	0.460425	1.82E-14
REACTNS	7.119162	-7.60E-14	420.105971	2.22E-13	5.766524	-1.82E-14
TOTAL	-6.07E-12	-5.20E-27	2.39E-12	4.85E-26	-5.92E-11	1.22E-26

COMB COMB6 ---------- MAX

	FX	FY	FZ	MX	MY	MZ
APPLIED	8.85E-15	-6.49E-31	-375.373297	4.70E-30	-6.226949	3.41E-30
SPRINGS	-7.116645	7.55E-14	-44.772200	-2.21E-13	0.339700	1.82E-14
REACTNS	7.116645	-7.55E-14	420.145497	2.21E-13	5.887249	-1.82E-14
TOTAL	-6.10E-12	-5.04E-27	2.36E-12	4.70E-26	-5.92E-11	1.21E-26

COMB COMB6 ---------- MIN

	FX	FY	FZ	MX	MY	MZ
APPLIED	8.85E-15	-6.49E-31	-375.373297	4.70E-30	-6.226949	3.41E-30
SPRINGS	-7.116645	7.55E-14	-44.772200	-2.21E-13	0.339700	1.82E-14
REACTNS	7.116645	-7.55E-14	420.145497	2.21E-13	5.887249	-1.82E-14
TOTAL	-6.10E-12	-5.04E-27	2.36E-12	4.70E-26	-5.92E-11	1.21E-26

COMB COMB7 ---------- MAX

	FX	FY	FZ	MX	MY	MZ
APPLIED	-2.952475	-6.30E-31	-375.373297	5.21E-30	-22.520023	3.62E-30
SPRINGS	-3.836646	6.73E-14	-36.631287	-1.91E-13	3.276285	1.02E-14
REACTNS	6.789121	-6.73E-14	412.004584	1.91E-13	19.243738	-1.02E-14
TOTAL	-4.80E-12	-5.29E-27	2.37E-12	4.84E-26	-4.94E-11	8.19E-27

G L O B A L   F O R C E   B A L A N C E

TOTAL FORCE AND MOMENT AT THE ORIGIN IN GLOBAL COORDINATES

COMB COMB7 ----------------- MIN

	FX	FY	FZ	MX	MY	MZ
APPLIED	-2.952475	-6.30E-31	-375.373297	5.21E-30	-22.520023	3.62E-30
SPRINGS	-3.836646	6.73E-14	-36.631287	-1.91E-13	3.276285	1.02E-14
REACTNS	6.789121	-6.73E-14	412.004584	1.91E-13	19.243738	-1.02E-14
TOTAL	4.60E-12	-5.29E-27	2.37E-12	4.84E-26	-4.94E-11	8.19E-27

COMB COMB8 ----------------- MAX

	FX	FY	FZ	MX	MY	MZ
APPLIED	-2.952475	-6.30E-31	-375.373297	4.62E-30	-22.520023	3.65E-30
SPRINGS	-4.045567	6.49E-14	-31.753428	-1.77E-13	3.136357	1.07E-14
REACTNS	6.998042	-6.49E-14	407.126725	1.77E-13	19.383666	-1.07E-14
TOTAL	-2.75E-12	-2.74E-27	2.05E-12	2.66E-26	-3.90E-11	5.64E-27

COMB COMB8 ----------------- MIN

	FX	FY	FZ	MX	MY	MZ
APPLIED	-2.952475	-6.30E-31	-375.373297	4.62E-30	-22.520023	3.65E-30
SPRINGS	-4.045567	6.49E-14	-31.753428	-1.77E-13	3.136357	1.07E-14
REACTNS	6.998042	-6.49E-14	407.126725	1.77E-13	19.383666	-1.07E-14
TOTAL	-2.75E-12	-2.74E-27	2.05E-12	2.66E-26	-3.90E-11	5.64E-27

F R A M E   E L E M E N T   I N T E R N A L   F O R C E S

ELEM 1 ================= LENGTH = 0.503047

COMB COMB1 ----------------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-377.521123	39.829357	-9.65E-14	3.83E-14	-1.70E-13	4.07E-15
0.50000	-377.119762	39.738323	-9.65E-14	3.83E-14	-1.45E-13	-10.006574
1.00000	-376.718401	39.647290	-9.64E-14	3.83E-14	-1.21E-13	-19.990251

COMB COMB1 ----------------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-377.521123	39.829357	-9.65E-14	3.83E-14	-1.70E-13	4.07E-15
0.50000	-377.119762	39.738323	-9.65E-14	3.83E-14	-1.45E-13	-10.006574
1.00000	-376.718401	39.647290	-9.64E-14	3.83E-14	-1.21E-13	-19.990251

COMB COMB2 ----------------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-377.266378	40.973723	-9.70E-14	3.82E-14	-1.69E-13	1.40E-15
0.50000	-376.865017	40.882690	-9.69E-14	3.82E-14	-1.45E-13	-10.294409
1.00000	-376.463656	40.791656	-9.69E-14	3.82E-14	-1.20E-13	-20.565921

COMB COMB2 ----------------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-377.266378	40.973723	-9.70E-14	3.82E-14	-1.69E-13	1.40E-15
0.50000	-376.865017	40.882690	-9.69E-14	3.82E-14	-1.45E-13	-10.294409
1.00000	-376.463656	40.791656	-9.69E-14	3.82E-14	-1.20E-13	-20.565921

COMB COMB3 ----------------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-371.317731	40.427836	-9.00E-14	3.21E-14	-1.47E-13	1.80E-15
0.50000	-370.910235	40.363848	-8.99E-14	3.21E-14	-1.25E-13	-10.159373
1.00000	-370.490476	40.353933	-8.99E-14	3.21E-14	-1.02E-13	-20.309455

COMB COMB3 ----------------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-371.317731	40.427836	-9.00E-14	3.21E-14	-1.47E-13	1.80E-15
0.50000	-370.910235	40.363848	-8.99E-14	3.21E-14	-1.25E-13	-10.159373
1.00000	-370.490476	40.353933	-8.99E-14	3.21E-14	-1.02E-13	-20.309455

COMB COMB4 ----------------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-367.514954	40.576218	-8.82E-14	2.92E-14	-1.38E-13	-1.95E-16
0.50000	-367.107459	40.512230	-8.81E-14	2.92E-14	-1.16E-13	-10.196695
1.00000	-366.687699	40.502315	-8.81E-14	2.92E-14	-9.37E-14	-20.384098

F R A M E   E L E M E N T   I N T E R N A L   F O R C E S

COMB COMB4 ----------------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-367.514954	40.576218	-8.82E-14	2.92E-14	-1.38E-13	-1.95E-16
0.50000	-367.107459	40.512230	-8.81E-14	2.92E-14	-1.16E-13	-10.196695
1.00000	-366.687699	40.502315	-8.81E-14	2.92E-14	-9.37E-14	-20.384098

COMB COMB5 ----------------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-211.608107	22.258977	-5.41E-14	2.15E-14	-9.52E-14	2.66E-15
0.50000	-211.347483	22.199865	-5.40E-14	2.15E-14	-8.16E-14	-5.591224
1.00000	-211.086859	22.140752	-5.40E-14	2.15E-14	-6.80E-14	-11.167579

COMB COMB5 ----------------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-211.608107	22.258977	-5.41E-14	2.15E-14	-9.52E-14	2.66E-15
0.50000	-211.347483	22.199865	-5.40E-14	2.15E-14	-8.16E-14	-5.591224
1.00000	-211.086859	22.140752	-5.40E-14	2.15E-14	-6.80E-14	-11.167579

COMB COMB6 ----------------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-211.438278	23.021888	-5.44E-14	2.14E-14	-9.48E-14	8.88E-16
0.50000	-211.177653	22.962776	-5.44E-14	2.14E-14	-8.11E-14	-5.783114
1.00000	-210.917029	22.903663	-5.43E-14	2.14E-14	-6.74E-14	-11.551359

COMB COMB6 ----------------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-211.438278	23.021888	-5.44E-14	2.14E-14	-9.48E-14	8.88E-16
0.50000	-211.177653	22.962776	-5.44E-14	2.14E-14	-8.11E-14	-5.783114
1.00000	-210.917029	22.903663	-5.43E-14	2.14E-14	-6.74E-14	-11.551359

COMB COMB7 ----------------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-208.305133	22.631707	-5.05E-14	1.82E-14	-8.32E-14	1.33E-15
0.50000	-208.041101	22.587620	-5.05E-14	1.82E-14	-7.05E-14	-5.686234
1.00000	-207.770256	22.573573	-5.05E-14	1.82E-14	-5.78E-14	-11.365158

COMB COMB7 ----------------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-208.305133	22.631707	-5.05E-14	1.82E-14	-8.32E-14	1.33E-15
0.50000	-208.041101	22.587620	-5.05E-14	1.82E-14	-7.05E-14	-5.686234
1.00000	-207.770256	22.573573	-5.05E-14	1.82E-14	-5.78E-14	-11.365158

COMB COMB8 ----------------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-205.769949	22.730629	-4.93E-14	1.62E-14	-7.69E-14	.000000

F R A M E   E L E M E N T   I N T E R N A L   F O R C E S

REL DIST	P	V2	V3	T	M2	M3
0.50000	-205.505917	22.686541	-4.93E-14	1.62E-14	-6.45E-14	-5.711115
1.00000	-205.235071	22.672494	-4.93E-14	1.62E-14	-5.21E-14	-11.414920

COMB COMB8 ----------------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-205.769949	22.730629	-4.93E-14	1.62E-14	-7.69E-14	.000000
0.50000	-205.505917	22.686541	-4.93E-14	1.62E-14	-6.45E-14	-5.711115
1.00000	-205.235071	22.672494	-4.93E-14	1.62E-14	-5.21E-14	-11.414920

ELEM 2 ================= LENGTH = 0.503047

COMB COMB1 ----------------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-379.376993	19.114416	-7.63E-14	2.58E-14	-1.24E-13	-19.990251
0.50000	-378.969052	19.059998	-7.62E-14	2.58E-14	-1.05E-13	-24.791132
1.00000	-378.561110	19.005581	-7.62E-14	2.58E-14	-8.57E-14	-29.578326

COMB COMB1 ----------------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-379.376993	19.114416	-7.63E-14	2.58E-14	-1.24E-13	-19.990251
0.50000	-378.969052	19.059998	-7.62E-14	2.58E-14	-1.05E-13	-24.791132
1.00000	-378.561110	19.005581	-7.62E-14	2.58E-14	-8.57E-14	-29.578326

COMB COMB2 ----------------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-379.214562	20.010385	-7.67E-14	2.58E-14	-1.23E-13	-20.565921
0.50000	-378.806620	19.955967	-7.66E-14	2.58E-14	-1.04E-13	-25.592160
1.00000	-378.398678	19.901550	-7.66E-14	2.58E-14	-8.47E-14	-30.604711

COMB COMB2 ----------------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-379.214562	20.010385	-7.67E-14	2.58E-14	-1.23E-13	-20.565921
0.50000	-378.806620	19.955967	-7.66E-14	2.58E-14	-1.04E-13	-25.592160
1.00000	-378.398678	19.901550	-7.66E-14	2.58E-14	-8.47E-14	-30.604711

COMB COMB3 ----------------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-373.207238	19.693455	-6.99E-14	2.13E-14	-1.05E-13	-20.309455
0.50000	-372.780888	19.777036	-7.00E-14	2.13E-14	-8.70E-14	-25.272157
1.00000	-372.347060	19.916676	-7.01E-14	2.13E-14	-6.93E-14	-30.262937

COMB COMB3 ----------------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-373.207238	19.693455	-6.99E-14	2.13E-14	-1.05E-13	-20.309455
0.50000	-372.780888	19.777036	-7.00E-14	2.13E-14	-8.70E-14	-25.272157

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
1.00000	-372.347060	19.916675	-7.01E-14	2.13E-14	-6.93E-14	-30.262937

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-369.444921	20.439340	-6.85E-14	1.92E-14	-9.59E-14	-20.384098
0.50000	-369.018571	20.522921	-6.86E-14	1.92E-14	-7.87E-14	-25.534408
1.00000	-368.584743	20.662561	-6.87E-14	1.92E-14	-6.14E-14	-30.712796

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-369.444921	20.439340	-6.85E-14	1.92E-14	-9.59E-14	-20.384098
0.50000	-369.018571	20.522921	-6.86E-14	1.92E-14	-7.87E-14	-25.534408
1.00000	-368.584743	20.662561	-6.87E-14	1.92E-14	-6.14E-14	-30.712796

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-212.570269	10.646406	-4.27E-14	1.45E-14	-6.96E-14	-11.167579
0.50000	-212.305372	10.611070	4.27E-14	1.45E-14	-5.89E-14	-13.840956
1.00000	-212.040474	10.575733	-4.27E-14	1.45E-14	-4.81E-14	-16.505446

COMB COMB5 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-212.570269	10.646406	-4.27E-14	1.45E-14	-6.96E-14	-11.167579
0.50000	-212.305372	10.611070	-4.27E-14	1.45E-14	-5.89E-14	-13.840956
1.00000	-212.040474	10.575733	-4.27E-14	1.45E-14	-4.81E-14	-16.505446

COMB COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-212.461981	11.243718	-4.30E-14	1.45E-14	-6.91E-14	-11.551359
0.50000	-212.197084	11.208382	-4.29E-14	1.45E-14	-5.83E-14	-14.374975
1.00000	-211.932187	11.173046	-4.29E-14	1.45E-14	-4.75E-14	-17.189703

COMB COMB6 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-212.461981	11.243718	-4.30E-14	1.45E-14	-6.91E-14	-11.551359
0.50000	-212.197084	11.208382	-4.29E-14	1.45E-14	-5.83E-14	-14.374975
1.00000	-211.932187	11.173046	-4.29E-14	1.45E-14	-4.75E-14	-17.189703

COMB COMB7 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-209.288077	10.974158	-3.93E-14	1.21E-14	-5.91E-14	-11.365158
0.50000	-209.012953	11.015488	-3.93E-14	1.21E-14	-4.92E-14	-14.129961
1.00000	-208.733674	11.087962	-3.94E-14	1.21E-14	-3.93E-14	-16.909079

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB7 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-209.288077	10.974158	-3.93E-14	1.21E-14	-5.91E-14	-11.365158
0.50000	-209.012953	11.015488	-3.93E-14	1.21E-14	-4.92E-14	-14.129961
1.00000	-208.733674	11.087962	-3.94E-14	1.21E-14	-3.93E-14	-16.909079

COMB COMB8 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-206.779866	11.471415	-3.83E-14	1.06E-14	-5.34E-14	-11.414920
0.50000	-206.504742	11.512744	-3.84E-14	1.06E-14	-4.37E-14	-14.304795
1.00000	-206.225463	11.585218	-3.84E-14	1.06E-14	-3.41E-14	-17.208985

COMB COMB8 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-206.779866	11.471415	-3.83E-14	1.06E-14	-5.34E-14	-11.414920
0.50000	-206.504742	11.512744	-3.84E-14	1.06E-14	-4.37E-14	-14.304795
1.00000	-206.225463	11.585218	-3.84E-14	1.06E-14	-3.41E-14	-17.208985

ELEM 3 ========== LENGTH = 0.503047

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-379.495622	1.650349	-5.75E-14	1.59E-14	-8.76E-14	-29.578326
0.50000	-379.084433	1.632990	-5.75E-14	1.59E-14	-7.31E-14	-29.991245
1.00000	-378.673244	1.615631	-5.74E-14	1.59E-14	-5.87E-14	-30.399797

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-379.495622	1.650349	-5.75E-14	1.59E-14	-8.76E-14	-29.578326
0.50000	-379.084433	1.632990	-5.75E-14	1.59E-14	-7.31E-14	-29.991245
1.00000	-378.673244	1.615631	-5.74E-14	1.59E-14	-5.87E-14	-30.399797

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-379.403255	2.303088	-5.77E-14	1.59E-14	-8.65E-14	-30.604711
0.50000	-378.992066	2.285729	-5.77E-14	1.59E-14	-7.20E-14	-31.181809
1.00000	-378.580878	2.268370	-5.77E-14	1.59E-14	-5.75E-14	-31.754540

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-379.403255	2.303088	-5.77E-14	1.59E-14	-8.65E-14	-30.604711
0.50000	-378.992066	2.285729	-5.77E-14	1.59E-14	-7.20E-14	-31.181809
1.00000	-378.580878	2.268370	-5.77E-14	1.59E-14	-5.75E-14	-31.754540

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-373.349362	2.237684	-5.14E-14	1.29E-14	-7.09E-14	-30.262937
0.50000	-372.927522	2.472620	-5.16E-14	1.29E-14	-5.79E-14	-30.854123
1.00000	-372.503288	2.764267	-5.18E-14	1.29E-14	-4.49E-14	-31.511541

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-373.349362	2.237684	-5.14E-14	1.29E-14	-7.09E-14	-30.262937
0.50000	-372.927522	2.472620	-5.16E-14	1.29E-14	-5.79E-14	-30.854123
1.00000	-372.503288	2.764267	-5.18E-14	1.29E-14	-4.49E-14	-31.511541

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-369.684977	3.656444	-5.04E-14	1.14E-14	-6.28E-14	-30.712796
0.50000	-369.263137	3.891380	-5.06E-14	1.14E-14	-5.01E-14	-31.660833
1.00000	-368.838903	4.183026	-5.08E-14	1.14E-14	-3.74E-14	-32.675101

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-369.684977	3.656444	-5.04E-14	1.14E-14	-6.28E-14	-30.712796
0.50000	-369.263137	3.891380	-5.06E-14	1.14E-14	-5.01E-14	-31.660833
1.00000	-368.838903	4.183026	-5.08E-14	1.14E-14	-3.74E-14	-32.675101

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-212.558179	0.867315	-3.22E-14	8.93E-15	-4.92E-14	-16.505446
0.50000	-212.291173	0.856043	-3.22E-14	8.93E-15	-4.11E-14	-16.722178
1.00000	-212.024167	0.844771	-3.22E-14	8.93E-15	-3.30E-14	-16.936075

COMB COMB5 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-212.558179	0.867315	-3.22E-14	8.93E-15	-4.92E-14	-16.505446
0.50000	-212.291173	0.856043	-3.22E-14	8.93E-15	-4.11E-14	-16.722178
1.00000	-212.024167	0.844771	-3.22E-14	8.93E-15	-3.30E-14	-16.936075

COMB COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-212.496601	1.302474	-3.24E-14	8.92E-15	-4.85E-14	-17.189703
0.50000	-212.229596	1.291202	-3.24E-14	8.92E-15	-4.04E-14	-17.515888
1.00000	-211.962590	1.279930	-3.23E-14	8.92E-15	-3.22E-14	-17.839237

COMB COMB6 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-212.496601	1.302474	-3.24E-14	8.92E-15	-4.85E-14	-17.189703

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
0.50000	-212.229596	1.291202	-3.24E-14	8.92E-15	-4.04E-14	-17.515888
1.00000	-211.962590	1.279930	-3.23E-14	8.92E-15	-3.22E-14	-17.839237

COMB COMB7 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-209.287914	1.162661	-2.89E-14	7.31E-15	-4.02E-14	-16.909079
0.50000	-209.014991	1.291553	-2.90E-14	7.31E-15	-3.29E-14	-17.217064
1.00000	-208.740738	1.451951	-2.91E-14	7.31E-15	-2.56E-14	-17.561435

COMB COMB7 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-209.287914	1.162661	-2.89E-14	7.31E-15	-4.02E-14	-16.909079
0.50000	-209.014991	1.291553	-2.90E-14	7.31E-15	-3.29E-14	-17.217064
1.00000	-208.740738	1.451951	-2.91E-14	7.31E-15	-2.56E-14	-17.561435

COMB COMB8 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-206.844991	2.108501	-2.82E-14	6.34E-15	-3.48E-14	-17.208985
0.50000	-206.572068	2.237393	-2.83E-14	6.34E-15	-2.77E-14	-17.754871
1.00000	-206.297815	2.397791	-2.84E-14	6.34E-15	-2.06E-14	-18.337142

COMB COMB8 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-206.844991	2.108501	-2.82E-14	6.34E-15	-3.48E-14	-17.208985
0.50000	-206.572068	2.237393	-2.83E-14	6.34E-15	-2.77E-14	-17.754871
1.00000	-206.297815	2.397791	-2.84E-14	6.34E-15	-2.06E-14	-18.337142

ELEM 4 ========== LENGTH = 0.503047

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-378.305134	-9.751665	-4.77E-14	8.45E-15	-7.94E-14	-30.399797
0.50000	-377.942420	-9.734156	-4.77E-14	8.45E-15	-6.74E-14	-27.949226
1.00000	-377.579705	-9.716648	-4.77E-14	8.45E-15	-5.54E-14	-25.503058

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-378.305134	-9.751665	-4.77E-14	8.45E-15	-7.94E-14	-30.399797
0.50000	-377.942420	-9.734156	-4.77E-14	8.45E-15	-6.74E-14	-27.949226
1.00000	-377.579705	-9.716648	-4.77E-14	8.45E-15	-5.54E-14	-25.503058

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-378.260629	-9.346531	-4.76E-14	8.44E-15	-7.91E-14	-31.754540
0.50000	-377.897915	-9.329022	-4.76E-14	8.44E-15	-6.71E-14	-29.405869

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
1.00000	-377.553260	-9.311514	-4.76E-14	8.44E-15	-5.51E-14	-27.061603

COMB COMB82 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-379.266029	-9.346531	-4.76E-14	8.44E-15	-7.91E-14	-31.754540
0.50000	-377.859715	-9.329092	-4.76E-14	8.44E-15	-6.71E-14	-29.408865
1.00000	-377.553260	-9.311514	-4.76E-14	8.44E-15	-5.51E-14	-27.061603

COMB COMB83 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-372.205963	-9.335784	-4.16E-14	6.59E-15	-6.61E-14	-31.511541
0.50000	-371.890902	-8.952544	-4.17E-14	6.59E-15	-5.57E-14	-29.210379
1.00000	-371.518577	-8.512629	-4.17E-14	6.59E-15	-4.52E-14	-27.012749

COMB COMB83 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-372.205963	-9.335784	-4.16E-14	6.59E-15	-6.61E-14	-31.511541
0.50000	-371.890902	-8.952544	-4.17E-14	6.59E-15	-5.57E-14	-29.210379
1.00000	-371.518577	-8.512629	-4.17E-14	6.59E-15	-4.52E-14	-27.012749

COMB COMB84 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-368.706257	-7.114642	-3.96E-14	5.75E-15	-5.92E-14	-32.675101
0.50000	-368.361157	-6.731402	-3.97E-14	5.75E-15	-4.92E-14	-30.932609
1.00000	-368.018872	-6.291487	-3.97E-14	5.75E-15	-3.92E-14	-29.293648

COMB COMB84 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-368.706257	-7.114642	-3.96E-14	5.75E-15	-5.92E-14	-32.675101
0.50000	-368.361157	-6.731402	-3.97E-14	5.75E-15	-4.92E-14	-30.932609
1.00000	-368.018872	-6.291487	-3.97E-14	5.75E-15	-3.92E-14	-29.293648

COMB COMB85 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-211.813415	-5.502872	-2.67E-14	4.74E-15	-4.45E-14	-16.936075
0.50000	-211.577886	-5.491503	-2.67E-14	4.74E-15	-3.78E-14	-15.553403
1.00000	-211.342357	-5.480134	-2.67E-14	4.74E-15	-3.11E-14	-14.173591

COMB COMB85 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-211.813415	-5.502872	-2.67E-14	4.74E-15	-4.45E-14	-16.936075
0.50000	-211.577886	-5.491503	-2.67E-14	4.74E-15	-3.78E-14	-15.553403
1.00000	-211.342357	-5.480134	-2.67E-14	4.74E-15	-3.11E-14	-14.173591

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB80 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-211.783745	-5.232783	-2.67E-14	4.74E-15	-4.44E-14	-17.839237
0.50000	-211.548216	-5.221414	-2.67E-14	4.74E-15	-3.76E-14	-16.524499
1.00000	-211.312687	-5.210045	-2.67E-14	4.74E-15	-3.09E-14	-15.212620

COMB COMB80 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-211.783745	-5.232783	-2.67E-14	4.74E-15	-4.44E-14	-17.839237
0.50000	-211.548216	-5.221414	-2.67E-14	4.74E-15	-3.76E-14	-16.524499
1.00000	-211.312687	-5.210045	-2.67E-14	4.74E-15	-3.09E-14	-15.212620

COMB COMB87 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-208.564590	-5.345202	-2.35E-14	3.75E-15	-3.75E-14	-17.561435
0.50000	-208.338869	-5.130648	-2.35E-14	3.75E-15	-3.16E-14	-16.243313
1.00000	-208.114667	-4.884609	-2.35E-14	3.75E-15	-2.57E-14	-14.983122

COMB COMB87 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-208.564590	-5.345202	-2.35E-14	3.75E-15	-3.75E-14	-17.561435
0.50000	-208.338869	-5.130648	-2.35E-14	3.75E-15	-3.16E-14	-16.243313
1.00000	-208.114667	-4.884609	-2.35E-14	3.75E-15	-2.57E-14	-14.983122

COMB COMB88 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-206.231453	-3.864441	-2.21E-14	3.18E-15	-3.28E-14	-18.337142
0.50000	-206.005732	-3.649887	-2.22E-14	3.18E-15	-2.73E-14	-17.391466
1.00000	-205.781530	-3.403848	-2.22E-14	3.18E-15	-2.17E-14	-16.503721

COMB COMB88 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-206.231453	-3.864441	-2.21E-14	3.18E-15	-3.28E-14	-18.337142
0.50000	-206.005732	-3.649887	-2.22E-14	3.18E-15	-2.73E-14	-17.391466
1.00000	-205.781530	-3.403848	-2.22E-14	3.18E-15	-2.17E-14	-16.503721

ELEM 5 ========== LENGTH = 0.503047

COMB COMB81 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-376.355249	-17.348449	-3.82E-14	3.14E-15	-5.59E-14	-25.503058
0.50000	-364.083717	-15.635968	-3.84E-14	3.14E-15	-4.63E-14	-21.355702
1.00000	-352.094604	-13.962898	-3.87E-14	3.14E-15	-3.66E-14	-17.634156

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB81 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-376.355249	-17.348449	-3.82E-14	3.14E-15	-5.59E-14	-25.503058
0.50000	-364.083717	-15.635968	-3.84E-14	3.14E-15	-4.63E-14	-21.355702
1.00000	-352.094604	-13.962898	-3.87E-14	3.14E-15	-3.66E-14	-17.634156

COMB COMB82 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-376.337991	-17.151317	-3.82E-14	3.13E-15	-5.57E-14	-27.061603
0.50000	-364.066460	-15.438836	-3.84E-14	3.13E-15	-4.60E-14	-22.963830
1.00000	-352.077346	-13.765766	-3.86E-14	3.13E-15	-3.64E-14	-19.291867

COMB COMB82 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-376.337991	-17.151317	-3.82E-14	3.13E-15	-5.57E-14	-27.061603
0.50000	-364.066460	-15.438836	-3.84E-14	3.13E-15	-4.60E-14	-22.963830
1.00000	-352.077346	-13.765766	-3.86E-14	3.13E-15	-3.64E-14	-19.291867

COMB COMB83 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-370.350495	-17.306400	-3.27E-14	2.19E-15	-4.56E-14	-27.012749
0.50000	-358.145244	-15.118952	-3.30E-14	2.19E-15	-3.73E-14	-22.934531
1.00000	-346.230188	-12.915189	-3.32E-14	2.19E-15	-2.90E-14	-19.408611

COMB COMB83 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-370.350495	-17.306400	-3.27E-14	2.19E-15	-4.56E-14	-27.012749
0.50000	-358.145244	-15.118952	-3.30E-14	2.19E-15	-3.73E-14	-22.934531
1.00000	-346.230188	-12.915189	-3.32E-14	2.19E-15	-2.90E-14	-19.408611

COMB COMB84 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-367.089865	-14.243089	-3.06E-14	1.86E-15	-3.96E-14	-29.293648
0.50000	-354.884614	-12.055641	-3.09E-14	1.86E-15	-3.18E-14	-25.985925
1.00000	-342.969558	-9.851877	-3.12E-14	1.86E-15	-2.40E-14	-23.230499

COMB COMB84 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-367.089865	-14.243089	-3.06E-14	1.86E-15	-3.96E-14	-29.293648
0.50000	-354.884614	-12.055641	-3.09E-14	1.86E-15	-3.18E-14	-25.985925
1.00000	-342.969558	-9.851877	-3.12E-14	1.86E-15	-2.40E-14	-23.230499

COMB COMB85 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-210.654212	-9.730467	-2.15E-14	1.76E-15	-3.14E-14	-14.173591

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
0.50000	-203.802960	-8.774381	-2.16E-14	1.76E-15	-2.60E-14	-11.846845
1.00000	-197.108608	-7.840191	-2.17E-14	1.76E-15	-2.05E-14	-9.757845

COMB COMB85 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-210.654212	-9.730467	-2.15E-14	1.76E-15	-3.14E-14	-14.173591
0.50000	-203.802960	-8.774381	-2.16E-14	1.76E-15	-2.60E-14	-11.846845
1.00000	-197.108608	-7.840191	-2.17E-14	1.76E-15	-2.05E-14	-9.757845

COMB COMB86 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-210.642707	-9.599046	-2.14E-14	1.76E-15	-3.12E-14	-15.212620
0.50000	-203.791455	-8.642960	-2.15E-14	1.76E-15	-2.58E-14	-12.918930
1.00000	-197.097103	-7.708769	-2.16E-14	1.76E-15	-2.04E-14	-10.862986

COMB COMB86 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-210.642707	-9.599046	-2.14E-14	1.76E-15	-3.12E-14	-15.212620
0.50000	-203.791455	-8.642960	-2.15E-14	1.76E-15	-2.58E-14	-12.918930
1.00000	-197.097103	-7.708769	-2.16E-14	1.76E-15	-2.04E-14	-10.862986

COMB COMB87 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-207.449282	-9.822912	-1.85E-14	1.25E-15	-2.59E-14	-14.983122
0.50000	-200.634854	-8.602956	-1.86E-14	1.25E-15	-2.12E-14	-12.665659
1.00000	-193.981645	-7.373935	-1.88E-14	1.25E-15	-1.65E-14	-10.656211

COMB COMB87 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-207.449282	-9.822912	-1.85E-14	1.25E-15	-2.59E-14	-14.983122
0.50000	-200.634854	-8.602956	-1.86E-14	1.25E-15	-2.12E-14	-12.665659
1.00000	-193.981645	-7.373935	-1.88E-14	1.25E-15	-1.65E-14	-10.656211

COMB COMB88 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-205.275529	-7.780704	-1.71E-14	1.03E-15	-2.19E-14	-16.503721
0.50000	-198.461100	-6.560748	-1.72E-14	1.03E-15	-1.76E-14	-14.699921
1.00000	-191.807892	-5.331728	-1.74E-14	1.03E-15	-1.32E-14	-13.204137

COMB COMB88 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-205.275529	-7.780704	-1.71E-14	1.03E-15	-2.19E-14	-16.503721
0.50000	-198.461100	-6.560748	-1.72E-14	1.03E-15	-1.76E-14	-14.699921
1.00000	-191.807892	-5.331728	-1.74E-14	1.03E-15	-1.32E-14	-13.204137

F R A M E E L E M E N T I N T E R N A L F O R C E S

ELEM 6 ========== LENGTH = 0.503048

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-350.646324	16.047545	-2.93E-14	-3.71E-16	-3.67E-14	-17.634156
0.50000	-339.126487	-15.361916	-2.95E-14	-3.71E-16	-2.93E-14	-13.433845
1.00000	-327.983846	-12.739989	-2.99E-14	-3.71E-16	-2.18E-14	-9.901080

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-350.646324	-16.047545	-2.93E-14	-3.71E-16	-3.67E-14	-17.634156
0.50000	-339.126487	-15.361916	-2.95E-14	-3.71E-16	-2.93E-14	-13.433845
1.00000	-327.983846	-12.739989	-2.99E-14	-3.71E-16	-2.18E-14	-9.901080

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-350.639788	-16.007697	-2.92E-14	-3.78E-16	-3.65E-14	-19.291867
0.50000	-339.121951	-15.322068	-2.96E-14	-3.78E-16	-2.91E-14	-15.101579
1.00000	-327.877310	-12.700141	-2.99E-14	-3.78E-16	-2.16E-14	-11.578837

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-350.639788	-16.007697	-2.92E-14	-3.78E-16	-3.65E-14	-19.291867
0.50000	-339.121951	-15.322068	-2.96E-14	-3.78E-16	-2.91E-14	-15.101579
1.00000	-327.877310	-12.700141	-2.99E-14	-3.78E-16	-2.16E-14	-11.578837

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-344.801938	-18.652597	-2.43E-14	-6.46E-16	-2.90E-14	-19.406611
0.50000	-333.418499	-15.390579	-2.47E-14	-6.46E-16	-2.29E-14	-15.127470
1.00000	-322.320822	-12.138368	-2.51E-14	-6.46E-16	-1.66E-14	-11.665645

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-344.801938	-18.652597	-2.43E-14	-6.46E-16	-2.90E-14	-19.406611
0.50000	-333.418499	-15.390579	-2.47E-14	-6.46E-16	-2.29E-14	-15.127470
1.00000	-322.320822	-12.138368	-2.51E-14	-6.46E-16	-1.66E-14	-11.665645

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-341.849717	-14.899184	-2.22E-14	-5.69E-16	-2.41E-14	-23.230499
0.50000	-330.466278	-11.637156	-2.26E-14	-5.69E-16	-1.84E-14	-19.893431
1.00000	-319.368601	-8.384956	-2.30E-14	-5.69E-16	-1.27E-14	-17.375678

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-341.849717	-14.899184	-2.22E-14	-5.69E-16	-2.41E-14	-23.230499
0.50000	-330.466278	-11.637156	-2.26E-14	-5.69E-16	-1.84E-14	-19.893431
1.00000	-319.368601	-8.384956	-2.30E-14	-5.69E-16	-1.27E-14	-17.375678

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-196.296610	-10.108905	-1.64E-14	-2.07E-16	-2.06E-14	-9.757845
0.50000	-189.864641	-8.607154	-1.66E-14	-2.07E-16	-1.65E-14	-7.405066
1.00000	-183.564448	-7.142794	-1.68E-14	-2.07E-16	-1.23E-14	-5.425092

COMB COMB5 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-196.296610	-10.108905	-1.64E-14	-2.07E-16	-2.06E-14	-9.757845
0.50000	-189.864641	-8.607154	-1.66E-14	-2.07E-16	-1.65E-14	-7.405066
1.00000	-183.564448	-7.142794	-1.68E-14	-2.07E-16	-1.23E-14	-5.425092

COMB COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-196.292253	-10.080339	-1.64E-14	-2.12E-16	-2.05E-14	-10.862986
0.50000	-189.860264	-8.580589	-1.66E-14	-2.12E-16	-1.63E-14	-8.516888
1.00000	-183.560091	-7.116228	-1.68E-14	-2.12E-16	-1.21E-14	-6.543596

COMB COMB6 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-196.292253	-10.080339	-1.64E-14	-2.12E-16	-2.05E-14	-10.862986
0.50000	-189.860264	-8.580589	-1.66E-14	-2.12E-16	-1.63E-14	-8.516888
1.00000	-183.560091	-7.116228	-1.68E-14	-2.12E-16	-1.21E-14	-6.543596

COMB COMB7 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-193.168747	-10.593087	-1.38E-14	-3.63E-16	-1.66E-14	-10.656211
0.50000	-186.811443	-8.773121	-1.40E-14	-3.63E-16	-1.31E-14	-8.220788
1.00000	-180.612896	-6.956603	-1.42E-14	-3.63E-16	-9.51E-15	-6.242485

COMB COMB7 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	193.168747	-10.593087	-1.38E-14	-3.63E-16	-1.66E-14	-10.656211
0.50000	-186.811443	-8.773121	-1.40E-14	-3.63E-16	-1.31E-14	-8.220788
1.00000	-180.612896	-6.956603	-1.42E-14	-3.63E-16	-9.51E-15	-6.242485

COMB COMB8 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-191.200599	-8.090812	-1.24E-14	-3.12E-16	-1.32E-14	-13.204137

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
0.50000	-184.843296	-6.270846	-1.26E-14	-3.12E-16	-1.01E-14	-11.398095
1.00000	-178.644749	-4.456328	-1.28E-14	-3.12E-16	-6.92E-15	-10.049174

COMB COMB8 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-191.200599	-8.090812	-1.24E-14	-3.12E-16	-1.32E-14	-13.204137
0.50000	-184.843296	-6.270846	-1.26E-14	-3.12E-16	-1.01E-14	-11.398095
1.00000	-178.644749	-4.456328	-1.28E-14	-3.12E-16	-6.92E-15	-10.049174

ELEM 7 ========== LENGTH = 0.503047

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-326.621970	-15.151973	-2.09E-14	-2.45E-15	-2.17E-14	-9.901080
0.50000	-315.919069	-11.611082	-2.13E-14	-2.45E-15	-1.64E-14	-6.537099
1.00000	-305.475736	-8.156066	-2.17E-14	-2.45E-15	-1.10E-14	-4.053013

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-326.621970	-15.151973	-2.09E-14	-2.45E-15	-2.17E-14	-9.901080
0.50000	-315.919069	-11.611082	-2.13E-14	-2.45E-15	-1.64E-14	-6.537099
1.00000	-305.475736	-8.156066	-2.17E-14	-2.45E-15	-1.10E-14	-4.053013

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-326.614323	-15.216379	-2.09E-14	-2.46E-15	-2.15E-14	-11.578837
0.50000	-315.911422	-11.675488	-2.13E-14	-2.46E-15	-1.62E-14	-8.198656
1.00000	-305.468089	-8.220471	-2.17E-14	-2.46E-15	-1.08E-14	-5.698370

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-326.614323	-15.216379	-2.09E-14	-2.46E-15	-2.15E-14	-11.578837
0.50000	-315.911422	-11.675488	-2.13E-14	-2.46E-15	-1.62E-14	-8.198656
1.00000	-305.468089	-8.220471	-2.17E-14	-2.46E-15	-1.08E-14	-5.698370

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-321.012829	-16.772925	-1.67E-14	-2.27E-15	-1.65E-14	-11.665645
0.50000	-310.530449	-12.565473	-1.72E-14	-2.27E-15	-1.22E-14	-7.976707
1.00000	-300.324587	-8.392664	-1.77E-14	-2.27E-15	-7.80E-15	-5.341781

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-321.012829	-16.772925	-1.67E-14	-2.27E-15	-1.65E-14	-11.665645
0.50000	-310.530449	-12.565473	-1.72E-14	-2.27E-15	-1.22E-14	-7.976707

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
1.00000	-300.324587	-8.392664	1.77E-14	-2.27E-15	-7.80E-15	-5.341781

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-318.410455	-12.793510	-1.46E-14	-1.90E-15	-1.26E-14	-17.375678
0.50000	-307.928075	-8.586058	-1.51E-14	-1.90E-15	-8.84E-15	-14.687657
1.00000	-297.722213	-4.413249	-1.57E-14	-1.90E-15	-4.97E-15	-13.053647

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-318.410455	-12.793510	-1.46E-14	-1.90E-15	-1.26E-14	-17.375678
0.50000	-307.928075	-8.586058	-1.51E-14	-1.90E-15	-8.84E-15	-14.687657
1.00000	-297.722213	-4.413249	-1.57E-14	-1.90E-15	-4.97E-15	-13.053647

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-182.877963	-8.473047	-1.17E-14	-1.37E-15	-1.22E-14	-5.425092
0.50000	-176.899570	-6.495187	-1.20E-14	-1.37E-15	-9.21E-15	-3.543654
1.00000	-171.065382	-4.565035	-1.22E-14	-1.37E-15	-6.18E-15	-2.153737

COMB COMB5 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-182.877963	-8.473047	-1.17E-14	-1.37E-15	-1.22E-14	-5.425092
0.50000	-176.899570	-6.495187	-1.20E-14	-1.37E-15	-9.21E-15	-3.543654
1.00000	-171.065382	-4.565035	-1.22E-14	-1.37E-15	-6.18E-15	-2.153737

COMB COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-182.872865	-8.515984	-1.17E-14	-1.38E-15	-1.21E-14	-6.543596
0.50000	-176.894472	-6.538124	-1.20E-14	-1.38E-15	-9.09E-15	-4.651358
1.00000	-171.060284	-4.607972	-1.22E-14	-1.38E-15	-6.05E-15	-3.250642

COMB COMB6 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-182.872865	-8.515984	-1.17E-14	-1.38E-15	-1.21E-14	-6.543596
0.50000	-176.894472	-6.538124	-1.20E-14	-1.38E-15	-9.09E-15	-4.651358
1.00000	-171.060284	-4.607972	-1.22E-14	-1.38E-15	-6.05E-15	-3.250642

COMB COMB7 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-179.866610	-9.536962	-9.49E-15	-1.29E-15	-9.44E-15	-6.242485
0.50000	-174.010730	-7.188791	-9.78E-15	-1.29E-15	-7.01E-15	-4.139420
1.00000	-168.308469	-4.859866	-1.01E-14	-1.29E-15	-4.52E-15	-2.624608

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB7 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-179.560010	-9.538892	-9.49E-15	-1.29E-15	-9.44E-15	-6.242485
0.50000	-174.010750	-7.198791	-9.78E-15	-1.29E-15	-7.01E-15	-4.139420
1.00000	-168.306469	-4.858866	-1.07E-14	-1.29E-15	-4.52E-15	-2.574608

COMB COMB8 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-178.131654	-6.884019	-8.11E-15	-1.04E-15	-6.86E-15	-10.049174
0.50000	-172.275814	-4.535847	-8.39E-15	-1.04E-15	-4.78E-15	-8.613387
1.00000	-166.573953	-2.206922	-8.67E-15	-1.04E-15	-2.63E-15	-7.765852

COMB COMB8 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-178.131654	-6.884019	-8.11E-15	-1.04E-15	-6.86E-15	-10.049174
0.50000	-172.275814	-4.535847	-8.39E-15	-1.04E-15	-4.78E-15	-8.613387
1.00000	-166.573953	-2.206922	-8.67E-15	-1.04E-15	-2.63E-15	-7.765852

ELEM 8 ========== LENGTH = 0.503047

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-304.645780	-10.188927	-1.32E-14	-3.47E-15	-1.07E-14	-4.053013
0.50000	-294.799959	-5.909618	-1.38E-14	-3.47E-15	-7.30E-15	-2.030735
1.00000	-285.196289	-1.736434	-1.43E-14	-3.47E-15	-3.78E-15	-1.071438

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-304.645780	-10.188927	-1.32E-14	-3.47E-15	-1.07E-14	-4.053013
0.50000	-294.799959	-5.909618	-1.38E-14	-3.47E-15	-7.30E-15	-2.030735
1.00000	-285.196289	-1.736434	-1.43E-14	-3.47E-15	-3.78E-15	-1.071438

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-304.629978	-10.303880	-1.33E-14	-3.48E-15	-1.05E-14	-5.698370
0.50000	-294.784157	-6.025471	-1.38E-14	-3.48E-15	-7.11E-15	-3.646953
1.00000	-285.180487	-1.852286	-1.43E-14	-3.48E-15	-3.59E-15	-2.658516

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-304.629978	-10.303880	-1.33E-14	-3.48E-15	-1.05E-14	-5.698370
0.50000	-294.784157	-6.025471	-1.38E-14	-3.48E-15	-7.11E-15	-3.646953
1.00000	-285.180487	-1.852286	-1.43E-14	-3.48E-15	-3.59E-15	-2.658516

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-299.343599	-13.289732	-9.99E-15	-3.02E-15	-7.56E-15	-5.341781
0.50000	-289.820354	-8.268990	-1.06E-14	-3.02E-15	-4.97E-15	-2.631704
1.00000	-280.560034	-3.305658	-1.12E-14	-3.02E-15	-2.22E-15	-1.177354

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-299.343599	-13.289732	-9.99E-15	-3.02E-15	-7.56E-15	-5.341781
0.50000	-289.820354	-8.268990	-1.06E-14	-3.02E-15	-4.97E-15	-2.631704
1.00000	-280.560034	-3.305658	-1.12E-14	-3.02E-15	-2.22E-15	-1.177354

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-297.069977	-10.002762	-8.12E-15	-2.49E-15	-4.77E-15	-13.053647
0.50000	-287.546731	-4.982019	-8.73E-15	-2.49E-15	-2.65E-15	-11.170320
1.00000	-278.286412	-0.018687	-9.33E-15	-2.49E-15	-3.75E-16	-10.542720

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-297.069977	-10.002762	-8.12E-15	-2.49E-15	-4.77E-15	-13.053647
0.50000	-287.546731	-4.982019	-8.73E-15	-2.49E-15	-2.65E-15	-11.170320
1.00000	-278.286412	-0.018687	-9.33E-15	-2.49E-15	-3.75E-16	-10.542720

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-170.601858	-5.679986	-7.45E-15	-1.95E-15	-6.03E-15	-2.153737
0.50000	-165.100719	-3.289518	-7.73E-15	-1.95E-15	-4.12E-15	-1.026933
1.00000	-159.734108	-0.957506	-8.02E-15	-1.95E-15	-2.14E-15	-0.494088

COMB COMB5 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-170.601858	-5.679986	-7.45E-15	-1.95E-15	-6.03E-15	-2.153737
0.50000	-165.100719	-3.289518	-7.73E-15	-1.95E-15	-4.12E-15	-1.026933
1.00000	-159.734108	-0.957506	-8.02E-15	-1.95E-15	-2.14E-15	-0.494088

COMB COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-170.591323	-5.757222	-7.45E-15	-1.95E-15	-5.90E-15	-3.250642
0.50000	-165.090184	-3.366753	-7.74E-15	-1.95E-15	-3.99E-15	-2.104412
1.00000	-159.723573	-1.034743	-8.02E-15	-1.95E-15	-2.01E-15	-1.552140

COMB COMB6 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-170.591323	-5.757222	-7.45E-15	-1.95E-15	-5.90E-15	-3.250642

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
0.50000	-165.090184	-3.366753	-7.74E-15	-1.95E-15	-3.99E-15	-2.104412
1.00000	-159.723573	-1.034743	-8.02E-15	-1.95E-15	-2.01E-15	-1.552140

COMB COMB7 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-167.747427	-7.540644	-5.71E-15	-1.72E-15	-4.38E-15	-2.624608
0.50000	-162.425496	-4.737768	-6.05E-15	-1.72E-15	-2.90E-15	-1.081112
1.00000	-157.249636	-1.966787	-6.39E-15	-1.72E-15	-1.34E-15	-0.238656

COMB COMB7 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-167.747427	-7.540644	-5.71E-15	-1.72E-15	-4.38E-15	-2.624608
0.50000	-162.425496	-4.737768	-6.05E-15	-1.72E-15	-2.90E-15	-1.081112
1.00000	-157.249636	-1.966787	-6.39E-15	-1.72E-15	-1.34E-15	-0.238656

COMB COMB8 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-166.231679	-5.349330	-4.47E-15	-1.36E-15	-2.52E-15	-7.765852
0.50000	-160.909748	-2.546454	-4.81E-15	-1.36E-15	-1.36E-15	-6.773522
1.00000	-155.733887	0.224527	-5.14E-15	-1.36E-15	-1.08E-16	-6.482234

COMB COMB8 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-166.231679	-5.349330	-4.47E-15	-1.36E-15	-2.52E-15	-7.765852
0.50000	-160.909748	-2.546454	-4.81E-15	-1.36E-15	-1.36E-15	-6.773522
1.00000	-155.733887	0.224527	-5.14E-15	-1.36E-15	-1.08E-16	-6.482234

ELEM 9 ========== LENGTH = 0.503060

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-284.929874	-4.014998	-6.51E-15	-3.81E-15	-3.45E-15	-1.071438
0.50000	-275.429415	1.170662	-7.13E-15	-3.81E-15	-1.73E-15	-0.716239
1.00000	-266.149119	6.236149	-7.75E-15	-3.81E-15	1.39E-16	-1.650276

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-284.929874	-4.014998	-6.51E-15	-3.81E-15	-3.45E-15	-1.071438
0.50000	-275.429415	1.170662	-7.13E-15	-3.81E-15	-1.73E-15	-0.716239
1.00000	-266.149119	6.236149	-7.75E-15	-3.81E-15	1.39E-16	-1.650276

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-284.903795	-4.128083	-6.51E-15	-3.82E-15	-3.26E-15	-2.658516
0.50000	-275.403336	1.057577	-7.14E-15	-3.82E-15	-1.54E-15	-2.274873

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
1.00000	-266.123040	6.123064	-7.75E-15	-3.82E-15	3.32E-16	-3.180465

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-284.903795	-4.128083	-6.51E-15	-3.82E-15	-3.26E-15	-2.658516
0.50000	-275.403336	1.057577	-7.14E-15	-3.82E-15	-1.54E-15	-2.274873
1.00000	-266.123040	6.123064	-7.75E-15	-3.82E-15	3.32E-16	-3.180465

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-279.995297	-9.123099	-4.28E-15	-3.22E-15	-1.94E-15	-1.177354
0.50000	-270.932144	-3.136265	-5.01E-15	-3.22E-15	-7.76E-16	0.362843
1.00000	-262.113016	2.774110	-5.72E-15	-3.22E-15	5.74E-16	0.406787

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-279.995297	-9.123099	-4.28E-15	-3.22E-15	-1.94E-15	-1.177354
0.50000	-270.932144	-3.136265	-5.01E-15	-3.22E-15	-7.76E-16	0.362843
1.00000	-262.113016	2.774110	-5.72E-15	-3.22E-15	5.74E-16	0.406787

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-277.918409	-8.046173	-2.92E-15	-2.62E-15	-1.46E-16	-10.542720
0.50000	-268.855256	-2.059340	-3.64E-15	-2.62E-15	6.79E-16	-9.273403
1.00000	-260.036128	3.851036	-4.36E-15	-2.62E-15	1.69E-15	-9.500338

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-277.918409	-8.046173	-2.92E-15	-2.62E-15	-1.46E-16	-10.542720
0.50000	-268.855256	-2.059340	-3.64E-15	-2.62E-15	6.79E-16	-9.273403
1.00000	-260.036128	3.851036	-4.36E-15	-2.62E-15	1.69E-15	-9.500338

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-159.587490	-2.205692	-3.66E-15	-2.14E-15	-1.95E-15	-0.494088
0.50000	-154.279560	0.691549	-4.01E-15	-2.14E-15	-9.87E-16	-0.305062
1.00000	-149.093943	3.522028	-4.36E-15	-2.14E-15	6.60E-17	-0.836382

COMB COMB5 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-159.587490	-2.205692	-3.66E-15	-2.14E-15	-1.95E-15	-0.494088
0.50000	-154.279560	0.691549	-4.01E-15	-2.14E-15	-9.87E-16	-0.305062
1.00000	-149.093943	3.522028	-4.36E-15	-2.14E-15	6.60E-17	-0.836382

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-156.928920	-5.091607	-2.48E-15	-1.84E-15	-1.18E-15	-0.238656
0.50000	-151.863937	-1.749269	-2.89E-15	-1.84E-15	-5.06E-16	0.620797
1.00000	-146.934524	1.550592	-3.29E-15	-1.84E-15	2.70E-16	0.644893

COMB COMB7 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-156.928920	-5.091607	-2.48E-15	-1.84E-15	-1.18E-15	-0.238656
0.50000	-151.863937	-1.749269	-2.89E-15	-1.84E-15	-5.06E-16	0.620797
1.00000	-146.934524	1.550592	-3.29E-15	-1.84E-15	2.70E-16	0.644893

COMB COMB8 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-155.544327	-4.373657	-1.57E-15	-1.44E-15	1.79E-17	-6.482234
0.50000	-150.479345	-1.031319	-1.98E-15	-1.44E-15	4.64E-16	-5.803367
1.00000	-145.549932	2.268542	-2.38E-15	-1.44E-15	1.01E-15	-5.959857

COMB COMB8 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-155.544327	-4.373657	-1.57E-15	-1.44E-15	1.79E-17	-6.482234
0.50000	-150.479345	-1.031319	-1.98E-15	-1.44E-15	4.64E-16	-5.803367
1.00000	-145.549932	2.268542	-2.38E-15	-1.44E-15	1.01E-15	-5.959857

ELEM 10 ========== LENGTH = 0.503126

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-266.581654	7.518323	-1.21E-15	-3.80E-15	4.18E-16	-1.650276
0.50000	-258.432556	12.775289	-1.85E-15	-3.80E-15	8.04E-16	-4.205565
1.00000	-250.486109	17.901526	-2.47E-15	-3.80E-15	1.35E-15	-8.066931

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-266.581654	7.518323	-1.21E-15	-3.80E-15	4.18E-16	-1.650276
0.50000	-258.432556	12.775289	-1.85E-15	-3.80E-15	8.04E-16	-4.205565
1.00000	-250.486109	17.901526	-2.47E-15	-3.80E-15	1.35E-15	-8.066931

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-266.549315	7.466158	-1.21E-15	-3.81E-15	6.12E-16	-1.180465
0.50000	-258.400217	12.723123	-1.84E-15	-3.81E-15	9.96E-16	-5.722631
1.00000	-250.453770	17.849360	-2.46E-15	-3.81E-15	1.54E-15	-9.570875

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-266.549315	7.466158	-1.21E-15	-3.81E-15	6.12E-16	-1.180465
0.50000	-258.400217	12.723123	-1.84E-15	-3.81E-15	9.96E-16	-5.722631
1.00000	-250.453770	17.849360	-2.46E-15	-3.81E-15	1.54E-15	-9.570875

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-262.151819	-0.188278	-1.38E-15	-3.17E-15	8.08E-16	0.406787
0.50000	-254.551090	5.918744	-8.78E-16	-3.17E-15	9.36E-16	-0.315684
1.00000	-247.178973	11.935280	-1.61E-15	-3.17E-15	1.25E-15	-2.563548

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-262.151819	-0.188278	-1.38E-15	-3.17E-15	8.08E-16	0.406787
0.50000	-254.551090	5.918744	-8.78E-16	-3.17E-15	9.36E-16	-0.315684
1.00000	-247.178973	11.935280	-1.61E-15	-3.17E-15	1.25E-15	-2.563548

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-260.008575	-3.502408	2.96E-16	-2.58E-15	1.88E-15	-9.500338
0.50000	-252.407847	2.604614	-4.44E-16	-2.58E-15	1.90E-15	-9.389296
1.00000	-245.035729	8.621149	-1.17E-15	-2.58E-15	2.10E-15	-10.803248

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-260.008575	-3.502408	2.96E-16	-2.58E-15	1.88E-15	-9.500338
0.50000	-252.407847	2.604614	-4.44E-16	-2.58E-15	1.90E-15	-9.389296
1.00000	-245.035729	8.621149	-1.17E-15	-2.58E-15	2.10E-15	-10.803248

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-149.339484	4.274693	-6.88E-16	-2.13E-15	2.23E-16	-0.836382

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
0.50000	-144.785489	7.212466	-1.04E-15	2.13E-15	4.41E-16	-2.282769
1.00000	-140.344078	10.077610	-1.39E-15	-2.13E-15	7.47E-16	-4.459091

COMB COMB5 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-149.339484	4.274693	-6.88E-16	-2.13E-15	2.23E-16	-0.836382
0.50000	-144.785489	7.212466	-1.04E-15	-2.13E-15	4.41E-16	-2.282769
1.00000	-140.344078	10.077610	-1.39E-15	2.13E-15	7.47E-16	-4.459091

COMB COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-149.317924	4.239916	-6.84E-16	-2.14E-15	3.52E-16	-1.856508
0.50000	-144.763930	7.177688	-1.04E-15	-2.14E-15	5.69E-16	-3.294147
1.00000	-140.322519	10.042833	-1.39E-15	-2.14E-15	8.74E-16	-5.461720

COMB COMB6 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-149.317924	4.239916	-6.84E-16	-2.14E-15	3.52E-16	-1.856508
0.50000	-144.763930	7.177688	-1.04E-15	-2.14E-15	5.69E-16	-3.294147
1.00000	-140.322519	10.042833	-1.39E-15	-2.14E-15	8.74E-16	-5.461720

COMB COMB7 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-146.963753	0.125045	-1.08E-16	-1.81E-15	4.04E-16	0.644893
0.50000	-142.714408	3.535071	-5.21E-16	-1.81E-15	4.83E-16	0.183472
1.00000	-138.592069	6.894826	-9.28E-16	-1.81E-15	6.65E-16	-1.129504

COMB COMB7 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-146.963753	0.125045	-1.08E-16	-1.81E-15	4.04E-16	0.644893
0.50000	-142.714408	3.535071	-5.21E-16	-1.81E-15	4.83E-16	0.183472
1.00000	-138.592069	6.894826	-9.28E-16	-1.81E-15	6.65E-16	-1.129504

COMB COMB8 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-145.534924	-2.084376	1.82E-16	-1.41E-15	1.12E-15	-5.959857
0.50000	-141.285579	1.325650	-2.31E-16	-1.41E-15	1.12E-15	-5.865470
1.00000	-137.163241	4.685405	-6.38E-16	-1.41E-15	1.23E-15	-6.622638

COMB COMB8 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-145.534924	-2.084376	1.82E-16	-1.41E-15	1.12E-15	-5.959857
0.50000	-141.285579	1.325650	-2.31E-16	-1.41E-15	1.12E-15	-5.865470
1.00000	-137.163241	4.685405	-6.38E-16	-1.41E-15	1.23E-15	-6.622638

F R A M E E L E M E N T I N T E R N A L F O R C E S

ELEM 11 ========== LENGTH = 0.503126

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-251.121904	1.242953	-4.54E-16	-3.77E-15	1.60E-15	-8.066931
0.50000	-243.720826	6.745534	-1.12E-15	-3.77E-15	1.80E-15	-9.074606
1.00000	-236.504701	12.110606	-1.77E-15	-3.77E-15	2.16E-15	-11.449297

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-251.121904	1.242953	-4.54E-16	-3.77E-15	1.60E-15	-8.066931
0.50000	-243.720826	6.745534	-1.12E-15	-3.77E-15	1.80E-15	-9.074606
1.00000	-236.504701	12.110606	-1.77E-15	-3.77E-15	2.16E-15	-11.449297

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-251.086175	1.193048	-4.48E-16	-3.78E-15	1.79E-15	-9.570875
0.50000	-243.685097	6.695629	-1.11E-15	-3.78E-15	1.99E-15	-10.565996
1.00000	-236.468972	12.060700	-1.76E-15	-3.78E-15	2.35E-15	-12.928132

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-251.086175	1.193048	-4.48E-16	-3.78E-15	1.79E-15	-9.570875
0.50000	-243.685097	6.695629	-1.11E-15	-3.78E-15	1.99E-15	-10.565996
1.00000	-236.468972	12.060700	-1.76E-15	-3.78E-15	2.35E-15	-12.928132

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-247.426209	-4.490727	3.83E-16	-3.10E-15	1.46E-15	-2.563548
0.50000	-240.685293	1.899784	-3.91E-16	-3.10E-15	1.46E-15	-2.239757
1.00000	-234.156545	8.189392	-1.15E-15	-3.10E-15	1.65E-15	-3.510969

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-247.426209	-4.490727	3.83E-16	-3.10E-15	1.46E-15	-2.563548
0.50000	-240.685293	1.899784	-3.91E-16	-3.10E-15	1.46E-15	-2.239757
1.00000	-234.156545	8.189392	-1.15E-15	-3.10E-15	1.65E-15	-3.510969

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-245.067804	-7.655356	7.99E-16	-2.52E-15	2.27E-15	-10.803248
0.50000	-238.326887	-1.264845	2.49E-17	-2.52E-15	2.16E-15	-9.683355
1.00000	-231.798140	5.024763	-7.37E-16	-2.52E-15	2.25E-15	-10.158463

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-245.067504	-7.665336	7.99E-16	-2.52E-15	2.27E-15	-10.803245
0.50000	-236.026667	-1.264845	2.49E-17	-2.52E-15	2.16E-15	-9.683355
1.00000	-231.726140	5.074757	-7.37E-16	-2.52E-15	2.25E-15	-10.156463

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-140.679646	0.743926	-2.61E-16	-2.12E-15	8.88E-16	-4.459091
0.50000	-136.542421	3.819685	-6.33E-16	-2.12E-15	1.00E-15	-5.034729
1.00000	-132.507947	6.819451	-9.97E-16	-2.12E-15	1.21E-15	-6.374593

COMB COMB6 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-140.679646	0.710656	-2.56E-16	-2.12E-15	1.02E-15	-5.461720
0.50000	-136.542421	3.786615	-6.29E-16	-2.12E-15	1.13E-15	-6.028989
1.00000	-132.507947	6.786181	-9.92E-16	-2.12E-15	1.33E-15	-7.360483

COMB COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-140.679646	0.710656	-2.56E-16	-2.12E-15	1.02E-15	-5.461720
0.50000	-136.542421	3.786615	-6.29E-16	-2.12E-15	1.13E-15	-6.028989
1.00000	-132.507947	6.786181	-9.92E-16	-2.12E-15	1.33E-15	-7.360483

COMB COMB7 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-138.744147	-2.315604	1.88E-16	-1.77E-15	7.84E-16	-1.129504
0.50000	-134.973678	1.253650	-2.44E-16	-1.77E-15	7.91E-16	-0.997098
1.00000	-131.321081	4.766846	-6.70E-16	-1.77E-15	9.06E-16	-1.755576

COMB COMB7 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-138.744147	-2.315604	1.88E-16	-1.77E-15	7.84E-16	-1.129504
0.50000	-134.973678	1.253650	-2.44E-16	-1.77E-15	7.91E-16	-0.997098
1.00000	-131.321081	4.766846	-6.70E-16	-1.77E-15	9.06E-16	-1.755576

COMB COMB8 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-137.171677	-4.425357	4.65E-16	-1.38E-15	1.32E-15	-6.622638

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
0.50000	-133.441498	0.850302	3.29E-17	-1.38E-15	1.26E-15	-5.959496
1.00000	-129.748611	2.657094	-3.93E-16	-1.38E-15	1.31E-15	-6.187239

COMB COMB8 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-137.171677	-4.425357	4.65E-16	-1.38E-15	1.32E-15	-6.622638
0.50000	-133.441498	-0.850302	3.29E-17	-1.38E-15	1.26E-15	-5.959496
1.00000	-129.748611	2.657094	-3.93E-16	-1.38E-15	1.31E-15	-6.187239

ELEM 12 ========== LENGTH = 0.503125

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-236.787057	3.607736	1.33E-16	-3.71E-15	2.41E-15	-11.449297
0.50000	-230.112326	2.079858	-5.56E-16	-3.71E-15	2.46E-15	-11.260077
1.00000	-223.603818	7.625788	-1.23E-15	-3.71E-15	2.69E-15	-12.483892

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-236.787057	-3.607736	1.33E-16	-3.71E-15	2.41E-15	-11.449297
0.50000	-230.112326	2.079858	-5.56E-16	-3.71E-15	2.46E-15	-11.260077
1.00000	-223.603818	7.625788	-1.23E-15	-3.71E-15	2.69E-15	-12.483892

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-236.748126	3.655161	1.39E-16	-3.72E-15	2.60E-15	-12.928132
0.50000	-230.073364	2.032433	-5.49E-16	-3.72E-15	2.65E-15	-12.726981
1.00000	-223.564856	7.578363	-1.22E-15	-3.72E-15	2.87E-15	-13.938867

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-236.748126	-3.655161	1.39E-16	-3.72E-15	2.60E-15	-12.928132
0.50000	-230.073364	2.032433	-5.49E-16	-3.72E-15	2.65E-15	-12.726981
1.00000	-223.564856	7.578363	-1.22E-15	-3.72E-15	2.87E-15	-13.938867

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-234.163940	-7.364514	7.31E-16	-3.01E-15	1.86E-15	-3.510969
0.50000	-228.285314	-0.766075	-6.83E-17	-3.01E-15	1.77E-15	-2.490561
1.00000	-222.580905	5.723517	-8.54E-16	-3.01E-15	1.89E-15	-3.116464

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-234.163940	-7.364514	7.31E-16	-3.01E-15	1.86E-15	-3.510969
0.50000	-228.285314	-0.766075	-6.83E-17	-3.01E-15	1.77E-15	-2.490561

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
1.00000	-222.580905	5.723517	-8.54E-16	-3.01E-15	1.89E-15	-3.116464

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-231.620764	-10.365694	1.13E-15	-2.45E-15	2.42E-15	-10.158463
0.50000	-225.722138	-3.767255	3.28E-16	-2.45E-15	2.24E-15	-8.383070
1.00000	-220.017729	2.722337	-4.58E-16	-2.45E-15	2.25E-15	-8.253988

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-231.620764	-10.365694	1.13E-15	-2.45E-15	2.42E-15	-10.158463
0.50000	-225.722138	-3.767255	3.28E-16	-2.45E-15	2.24E-15	-8.383070
1.00000	-220.017729	2.722337	-4.58E-16	-2.45E-15	2.25E-15	-8.253988

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-132.692195	-1.988817	7.02E-17	-2.08E-15	1.35E-15	-6.374593
0.50000	-128.959794	1.191579	-3.15E-16	-2.08E-15	1.38E-15	-6.275959
1.00000	-125.319755	4.293273	-6.91E-16	-2.08E-15	1.50E-15	-6.967532

COMB COMB5 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-132.692195	-1.988817	7.02E-17	-2.08E-15	1.35E-15	-6.374593
0.50000	-128.959794	1.191579	-3.15E-16	-2.08E-15	1.38E-15	-6.275959
1.00000	-125.319755	4.293273	-6.91E-16	-2.08E-15	1.50E-15	-6.967532

COMB COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-132.666221	-2.020433	7.44E-17	-2.09E-15	1.47E-15	-7.360483
0.50000	-128.933820	1.159963	-3.11E-16	-2.09E-15	1.50E-15	-7.253895
1.00000	-125.293781	4.261656	-6.86E-16	-2.09E-15	1.63E-15	-7.937515

COMB COMB6 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-132.666221	-2.020433	7.44E-17	-2.09E-15	1.47E-15	-7.360483
0.50000	-128.933820	1.159963	-3.11E-16	-2.09E-15	1.50E-15	-7.253895
1.00000	-125.293781	4.261656	-6.86E-16	-2.09E-15	1.63E-15	-7.937515

COMB COMB7 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-131.347991	-3.956572	3.87E-16	-1.72E-15	1.02E-15	-1.755576
0.50000	-128.046776	-0.270151	-5.99E-17	-1.72E-15	9.81E-16	-1.225193
1.00000	-124.853459	3.355799	-4.99E-16	-1.72E-15	1.05E-15	-1.614615

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB7 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-131.347991	-3.956572	3.87E-16	-1.72E-15	1.02E-15	-1.755576
0.50000	-128.046776	-0.270151	-5.99E-17	-1.72E-15	9.81E-16	-1.225193
1.00000	-124.853459	3.355799	-4.99E-16	-1.72E-15	1.05E-15	-1.614615

COMB COMB8 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-129.639207	-5.957359	6.51E-16	-1.34E-15	1.40E-15	-6.187239
0.50000	-126.337992	-2.270938	2.04E-16	-1.34E-15	1.29E-15	-5.153533
1.00000	-123.144675	1.355013	-2.35E-16	-1.34E-15	1.29E-15	-5.039632

COMB COMB8 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-129.639207	-5.957359	6.51E-16	-1.34E-15	1.40E-15	-6.187239
0.50000	-126.337992	-2.270938	2.04E-16	-1.34E-15	1.29E-15	-5.153533
1.00000	-123.144675	1.355013	-2.35E-16	-1.34E-15	1.29E-15	-5.039632

ELEM 13 ========== LENGTH = 0.503127

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-223.617076	-7.226572	5.71E-16	-3.62E-15	2.93E-15	-12.483892
0.50000	-217.641581	-1.407800	-1.33E-16	-3.62E-15	2.88E-15	-11.400843
1.00000	-211.813460	4.267464	-8.21E-16	-3.62E-15	3.00E-15	-11.763603

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-223.617076	-7.226572	5.71E-16	-3.62E-15	2.93E-15	-12.483892
0.50000	-217.641581	-1.407800	-1.33E-16	-3.62E-15	2.88E-15	-11.400843
1.00000	-211.813460	4.267464	-8.21E-16	-3.62E-15	3.00E-15	-11.763603

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-223.575054	-7.271307	5.77E-16	-3.63E-15	3.12E-15	-13.938867
0.50000	-217.599559	-1.452535	-1.27E-16	-3.63E-15	3.06E-15	-12.844564
1.00000	-211.771438	4.222728	-8.15E-16	-3.63E-15	3.18E-15	-13.196070

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-223.575054	-7.271307	5.77E-16	-3.63E-15	3.12E-15	-13.938867
0.50000	-217.599559	-1.452535	-1.27E-16	-3.63E-15	3.06E-15	-12.844564
1.00000	-211.771438	4.222728	-8.15E-16	-3.63E-15	3.18E-15	-13.196070

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-219.713557	-11.881290	1.31E-15	-2.36E-15	2.41E-15	-8.253988
0.50000	-214.632391	-5.144101	4.95E-16	-2.36E-15	2.19E-15	-6.114890
1.00000	-209.726935	1.478079	-3.07E-16	-2.36E-15	2.16E-15	-5.656314

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-219.713557	-11.881290	1.31E-15	-2.36E-15	2.41E-15	-8.253988
0.50000	-214.632391	-5.144101	4.95E-16	-2.36E-15	2.19E-15	-6.114890
1.00000	-209.726935	1.478079	-3.07E-16	-2.36E-15	2.16E-15	-5.656314

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-125.328471	-4.030641	3.17E-16	-2.03E-15	1.64E-15	-6.967532
0.50000	-121.985973	-0.776008	-7.67E-17	-2.03E-15	1.61E-15	-6.364583
1.00000	-118.725348	2.399097	-4.61E-16	-2.03E-15	1.68E-15	-6.570442

COMB COMB5 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-125.328471	-4.030641	3.17E-16	-2.03E-15	1.64E-15	-6.967532
0.50000	-121.985973	-0.776008	-7.67E-17	-2.03E-15	1.61E-15	-6.364583
1.00000	-118.725348	2.399097	-4.61E-16	-2.03E-15	1.68E-15	-6.570442

COMB COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-125.306456	-4.060665	3.21E-16	-2.04E-15	1.76E-15	-7.937515
0.50000	-121.957958	-0.805832	-7.27E-17	-2.04E-15	1.73E-15	-7.327064
1.00000	-118.697334	2.369274	-4.57E-16	-2.04E-15	1.80E-15	-7.525420

COMB COMB6 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-125.306456	-4.060665	3.21E-16	-2.04E-15	1.76E-15	-7.937515

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
0.50000	-121.957958	-0.805832	-7.27E-17	-2.04E-15	1.73E-15	-7.327064
1.00000	-118.697334	2.369274	-4.57E-16	-2.04E-15	1.80E-15	-7.525420

COMB COMB7 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-124.801003	-4.935311	5.05E-16	-1.66E-15	1.16E-15	-1.614615
0.50000	-121.955354	-1.170247	4.91E-17	-1.66E-15	1.05E-15	-0.647973
1.00000	-119.207321	2.531257	-3.95E-16	-1.66E-15	1.14E-15	-1.020533

COMB COMB7 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-124.801003	-4.935311	5.05E-16	-1.66E-15	1.16E-15	-1.614615
0.50000	-121.955354	-1.170247	4.91E-17	-1.66E-15	1.05E-15	-0.647973
1.00000	-119.207321	2.531257	-3.95E-16	-1.66E-15	1.14E-15	-1.020533

COMB COMB8 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-122.963237	-6.818516	7.55E-16	-1.29E-15	1.38E-15	-5.039632
0.50000	-120.117588	-3.053251	2.99E-16	-1.29E-15	1.25E-15	-3.799284
1.00000	-117.369556	0.648252	-1.49E-16	-1.29E-15	1.23E-15	-3.496159

COMB COMB8 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-122.963237	-6.818516	7.55E-16	-1.29E-15	1.38E-15	-5.039632
0.50000	-120.117588	-3.053251	2.99E-16	-1.29E-15	1.25E-15	-3.799284
1.00000	-117.369556	0.648252	-1.49E-16	-1.29E-15	1.23E-15	-3.496159

ELEM 14 ========== LENGTH = 0.503126

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-211.629891	-9.795014	8.82E-16	-3.51E-15	3.23E-15	-11.763603
0.50000	-206.322992	-3.892231	1.68E-16	-3.51E-15	3.10E-15	-10.044981
1.00000	-201.144360	1.867882	-5.30E-16	-3.51E-15	3.15E-15	-9.793405

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-211.629891	-9.795014	8.82E-16	-3.51E-15	3.23E-15	-11.763603
0.50000	-206.322992	-3.892231	1.68E-16	-3.51E-15	3.10E-15	-10.044981
1.00000	-201.144360	1.867882	-5.30E-16	-3.51E-15	3.15E-15	-9.793405

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-211.584994	-9.836863	8.88E-16	-3.52E-15	3.42E-15	-13.196070
0.50000	-206.278095	-3.934080	1.73E-16	-3.52E-15	3.28E-15	-11.466920

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
1.00000	-201.099463	1.826033	-5.24E-16	-3.52E-15	3.33E-15	-11.204817

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-211.584994	-9.836863	8.88E-16	-3.52E-15	3.42E-15	-13.196070
0.50000	-206.278095	-3.934080	1.73E-16	-3.52E-15	3.28E-15	-11.466920
1.00000	-201.099463	1.826033	-5.24E-16	-3.52E-15	3.33E-15	-11.204817

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-212.300909	-9.803831	1.03E-15	-2.78E-15	2.21E-15	-1.939875
0.50000	-208.006985	-2.990333	2.01E-16	-2.78E-15	2.06E-15	-0.333049
1.00000	-203.869676	3.705982	-6.10E-16	-2.78E-15	2.11E-15	-0.425591

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-212.300909	-9.803831	1.03E-15	-2.78E-15	2.21E-15	-1.939875
0.50000	-208.006985	-2.990333	2.01E-16	-2.78E-15	2.06E-15	-0.333049
1.00000	-203.869676	3.705982	-6.10E-16	-2.78E-15	2.11E-15	-0.425591

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-209.362937	-12.439221	1.38E-15	-2.25E-15	2.32E-15	-5.656314
0.50000	-205.069014	-5.625722	5.53E-16	-2.25E-15	2.07E-15	-3.386522
1.00000	-200.931704	1.070592	-2.58E-16	-2.25E-15	2.04E-15	-2.816097

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-209.362937	-12.439221	1.38E-15	-2.25E-15	2.32E-15	-5.656314
0.50000	-205.069014	-5.625722	5.53E-16	-2.25E-15	2.07E-15	-3.386522
1.00000	-200.931704	1.070592	-2.58E-16	-2.25E-15	2.04E-15	-2.816097

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-118.622926	-5.483196	4.93E-16	-1.97E-15	1.81E-15	-6.570442
0.50000	-115.653392	-2.180229	9.34E-17	-1.97E-15	1.74E-15	-5.608180
1.00000	-112.755117	1.043478	-2.97E-16	-1.97E-15	1.76E-15	-5.466893

COMB COMB5 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-118.622926	-5.483196	4.93E-16	-1.97E-15	1.81E-15	-6.570442
0.50000	-115.653392	-2.180229	9.34E-17	-1.97E-15	1.74E-15	-5.608180
1.00000	-112.755117	1.043478	-2.97E-16	-1.97E-15	1.76E-15	-5.466893

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-118.592994	-5.511095	4.97E-16	-1.98E-15	1.93E-15	-7.525420
0.50000	-115.623460	-2.208128	9.71E-17	-1.98E-15	1.86E-15	-6.556140
1.00000	-112.725185	1.015579	-2.93E-16	-1.98E-15	1.88E-15	-6.407834

COMB COMB6 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-118.592994	-5.511095	4.97E-16	-1.98E-15	1.93E-15	-7.525420
0.50000	-115.623460	-2.208128	9.71E-17	-1.98E-15	1.86E-15	-6.556140
1.00000	-112.725185	1.015579	-2.93E-16	-1.98E-15	1.88E-15	-6.407834

COMB COMB7 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-119.112605	-5.383305	5.59E-16	-1.58E-15	1.25E-15	-1.020533
0.50000	-116.705835	-1.574384	9.80E-17	-1.58E-15	1.16E-15	-0.146742
1.00000	-114.386073	2.169434	-3.55E-16	-1.58E-15	1.20E-15	-0.222992

COMB COMB7 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-119.112605	-5.383305	5.59E-16	-1.58E-15	1.25E-15	-1.020533
0.50000	-116.705835	-1.574384	9.80E-17	-1.58E-15	1.16E-15	-0.146742
1.00000	-114.386073	2.169434	-3.55E-16	-1.58E-15	1.20E-15	-0.222992

COMB COMB8 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-117.153958	-7.140232	7.94E-16	-1.24E-15	1.32E-15	-3.498159
0.50000	-114.747188	-3.331310	3.33E-16	-1.24E-15	1.17E-15	-2.182391
1.00000	-112.427425	0.412508	-1.21E-16	-1.24E-15	1.15E-15	-1.816663

COMB COMB8 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-117.153958	-7.140232	7.94E-16	-1.24E-15	1.32E-15	-3.498159
0.50000	-114.747188	-3.331310	3.33E-16	-1.24E-15	1.17E-15	-2.182391
1.00000	-112.427425	0.412508	-1.21E-16	-1.24E-15	1.15E-15	-1.816663

ELEM 15 ========== LENGTH = 0.503125

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-200.825087	-11.481600	1.09E-15	-3.37E-15	3.38E-15	-9.793405
0.50000	-196.153135	-5.534561	3.66E-16	-3.37E-15	3.19E-15	-7.656001
1.00000	-191.590727	0.273037	-3.37E-16	-3.37E-15	3.19E-15	-6.997182

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB1 ---- -- ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-200.825087	-11.481600	1.09E-15	-3.37E-15	3.38E-15	-9.799405
0.50000	-198.153135	-5.534561	3.66E-16	-3.37E-15	3.19E-15	-7.656801
1.00000	-191.540727	0.273037	-3.37E-16	-3.37E-15	3.19E-15	-6.997182

COMB COMB2 -------- -- --------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-200.777512	-11.520378	1.09E-15	-3.38E-15	3.56E-15	-11.204817
0.50000	-198.105160	-5.573339	3.72E-16	-3.38E-15	3.37E-15	-9.057657
1.00000	-191.543152	0.234259	-3.32E-16	-3.38E-15	3.37E-15	-8.399083

COMB COMB3 ---- -- ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-200.777512	-11.520378	1.09E-15	-3.38E-15	3.56E-15	-11.204817
0.50000	-198.105160	-5.573339	3.72E-16	-3.38E-15	3.37E-15	-9.057657
1.00000	-191.543152	0.234259	-3.32E-16	-3.38E-15	3.37E-15	-8.399083

COMB COMB3 -------- -- --------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-203.666350	-9.828368	1.03E-15	-2.64E-15	2.29E-15	-0.425591
0.50000	-200.124495	-2.993532	2.02E-16	-2.64E-15	2.13E-15	1.184706
1.00000	-196.719660	3.723447	-6.12E-16	-2.64E-15	2.19E-15	1.090359

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-203.666350	-9.828368	1.03E-15	-2.64E-15	2.29E-15	-0.425591
0.50000	-200.124495	-2.993532	2.02E-16	-2.64E-15	2.13E-15	1.184706
1.00000	-196.719660	3.723447	-6.12E-16	-2.64E-15	2.19E-15	1.090359

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-200.560002	-12.263024	1.36E-15	-2.14E-15	2.18E-15	-2.816097
0.50000	-197.018146	-5.428189	5.29E-16	-2.14E-15	1.95E-15	-0.593330
1.00000	-193.613312	1.288791	-2.84E-16	-2.14E-15	1.92E-15	-0.075211

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-200.560002	-12.263024	1.36E-15	-2.14E-15	2.18E-15	-2.816097
0.50000	-197.018146	-5.428189	5.29E-16	-2.14E-15	1.95E-15	-0.593330
1.00000	-193.613312	1.288791	-2.84E-16	-2.14E-15	1.92E-15	-0.075211

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-112.575904	-6.439808	6.09E-16	-1.89E-15	1.89E-15	-5.466893

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
0.50000	-109.960733	-3.110895	2.06E-16	-1.89E-15	1.79E-15	-4.267210
1.00000	-107.406420	0.140551	-1.88E-16	-1.89E-15	1.79E-15	-3.895253

COMB COMB5 --- ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-112.575904	-6.439808	6.09E-16	-1.89E-15	1.89E-15	-5.466893
0.50000	-109.960733	-3.110895	2.06E-16	-1.89E-15	1.79E-15	-4.267210
1.00000	-107.406420	0.140551	-1.88E-16	-1.89E-15	1.79E-15	-3.895253

COMB COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-112.544187	-6.465660	6.13E-16	-1.90E-15	2.01E-15	-6.407834
0.50000	-109.929016	-3.136747	2.10E-16	-1.90E-15	1.91E-15	-5.201645
1.00000	-107.374704	0.114699	-1.84E-16	-1.90E-15	1.91E-15	-4.823187

COMB COMB6 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-112.544187	-6.465660	6.13E-16	-1.90E-15	2.01E-15	-6.407834
0.50000	-109.929016	-3.136747	2.10E-16	-1.90E-15	1.91E-15	-5.201645
1.00000	-107.374704	0.114699	-1.84E-16	-1.90E-15	1.91E-15	-4.823187

COMB COMB7 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-114.277970	-5.424542	5.64E-16	-1.50E-15	1.30E-15	-0.222992
0.50000	-112.290631	-1.602409	1.01E-16	-1.50E-15	1.21E-15	0.659503
1.00000	-110.379415	2.154248	-3.54E-16	-1.50E-15	1.25E-15	0.588680

COMB COMB7 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-114.277970	-5.424542	5.64E-16	-1.50E-15	1.30E-15	-0.222992
0.50000	-112.290631	-1.602409	1.01E-16	-1.50E-15	1.21E-15	0.659503
1.00000	-110.379415	2.154248	-3.54E-16	-1.50E-15	1.25E-15	0.588680

COMB COMB8 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-112.207071	-7.047646	7.83E-16	-1.17E-15	1.23E-15	-1.816663
0.50000	-110.219732	-3.225513	3.20E-16	-1.17E-15	1.09E-15	-0.525856
1.00000	-108.308516	0.531144	-1.35E-16	-1.17E-15	1.07E-15	-0.188366

COMB COMB8 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-112.207071	-7.047646	7.83E-16	-1.17E-15	1.23E-15	-1.816663
0.50000	-110.219732	-3.225513	3.20E-16	-1.17E-15	1.09E-15	-0.525856
1.00000	-108.308516	0.531144	-1.35E-16	-1.17E-15	1.07E-15	-0.188366

F R A M E E L E M E N T I N T E R N A L F O R C E S

ELEM 16 ========== LENGTH = 0.503126

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-191.186662	-12.439513	1.20E-15	-3.21E-15	3.41E-15	-6.997182
0.50000	-187.114583	-6.480930	4.81E-16	-3.21E-15	3.20E-15	-4.620134
1.00000	-183.133978	-0.656197	-2.24E-16	-3.21E-15	3.17E-15	-3.725280

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-191.186662	-12.439513	1.20E-15	-3.21E-15	3.41E-15	-6.997182
0.50000	-187.114583	-6.480930	4.81E-16	-3.21E-15	3.20E-15	-4.620134
1.00000	-183.133978	-0.656197	-2.24E-16	-3.21E-15	3.17E-15	-3.725280

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-191.136619	-12.475049	1.21E-15	-3.21E-15	3.59E-15	-8.389083
0.50000	-187.064540	-6.516466	4.86E-16	-3.21E-15	3.38E-15	-6.003096
1.00000	-183.083935	-0.691733	-2.20E-16	-3.21E-15	3.34E-15	-5.099303

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-191.136619	-12.475049	1.21E-15	-3.21E-15	3.59E-15	-8.389083
0.50000	-187.064540	-6.516466	4.86E-16	-3.21E-15	3.38E-15	-6.003096
1.00000	-183.083935	-0.691733	-2.20E-16	-3.21E-15	3.34E-15	-5.099303

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-196.533226	-9.337008	9.70E-16	-2.48E-15	2.36E-15	1.090359
0.50000	-193.704393	-2.528795	1.45E-16	-2.48E-15	2.22E-15	2.580444
1.00000	-190.993445	4.163618	-6.65E-16	-2.48E-15	2.28E-15	2.372317

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-196.533226	-9.337008	9.70E-16	-2.48E-15	2.36E-15	1.090359
0.50000	-193.704393	-2.528795	1.45E-16	-2.48E-15	2.22E-15	2.580444
1.00000	-190.993445	4.163618	-6.65E-16	-2.48E-15	2.28E-15	2.372317

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-193.272185	-11.560195	1.27E-15	-2.01E-15	2.05E-15	-0.075211
0.50000	-190.443351	-4.751982	4.47E-16	-2.01E-15	1.84E-15	1.974146
1.00000	-187.732404	1.940431	-3.63E-16	-2.01E-15	1.83E-15	2.325291

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-193.272185	-11.560195	1.27E-15	-2.01E-15	2.05E-15	-0.075211
0.50000	-190.443351	-4.751982	4.47E-16	-2.01E-15	1.84E-15	1.974146
1.00000	-187.732404	1.940431	-3.63E-16	-2.01E-15	1.83E-15	2.325291

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-107.179070	-6.986121	6.75E-16	-1.80E-15	1.91E-15	-3.895253
0.50000	-104.898865	-3.649547	2.71E-16	-1.80E-15	1.79E-15	-2.559035
1.00000	-102.669478	-0.387334	-1.24E-16	-1.80E-15	1.77E-15	-2.052862

COMB COMB5 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-107.179070	-6.986121	6.75E-16	-1.80E-15	1.91E-15	-3.895253
0.50000	-104.898865	-3.649547	2.71E-16	-1.80E-15	1.79E-15	-2.559035
1.00000	-102.669478	-0.387334	-1.24E-16	-1.80E-15	1.77E-15	-2.052862

COMB COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-107.145708	-7.009812	6.79E-16	-1.81E-15	2.03E-15	-4.823187
0.50000	-104.865503	-3.673237	2.75E-16	-1.81E-15	1.91E-15	-3.481009
1.00000	-102.636116	-0.411024	-1.21E-16	-1.81E-15	1.89E-15	-2.968877

COMB COMB6 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-107.145708	-7.009812	6.79E-16	-1.81E-15	2.03E-15	-4.823187
0.50000	-104.865503	-3.673237	2.75E-16	-1.81E-15	1.91E-15	-3.481009
1.00000	-102.636116	-0.411024	-1.21E-16	-1.81E-15	1.89E-15	-2.968877

COMB COMB7 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-110.279121	-5.174117	5.34E-16	-1.41E-15	1.34E-15	0.588680
0.50000	-108.689607	-1.365526	7.27E-17	-1.41E-15	1.27E-15	1.409906
1.00000	-107.165586	2.378732	-3.81E-16	-1.41E-15	1.31E-15	1.281076

COMB COMB7 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-110.279121	-5.174117	5.34E-16	-1.41E-15	1.34E-15	0.588680
0.50000	-108.689607	-1.365526	7.27E-17	-1.41E-15	1.27E-15	1.409906
1.00000	-107.165586	2.378732	-3.81E-16	-1.41E-15	1.31E-15	1.281076

COMB COMB8 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-108.105093	-6.656242	7.35E-16	-1.10E-15	1.14E-15	-0.188366

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
1.00000	-186.633861	4.855320	-7.49E-16	-2.30E-15	2.41E-15	3.274863

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-187.447567	-10.519163	1.15E-15	-1.86E-15	1.96E-15	2.325291
0.50000	-185.290552	-3.777430	3.29E-16	-1.86E-15	1.77E-15	4.121227
1.00000	-183.232504	2.853389	-4.74E-16	-1.86E-15	1.79E-15	4.235061

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-102.417565	-7.198203	7.01E-16	-1.70E-15	1.89E-15	-2.052862
0.50000	-100.452605	-3.868272	2.98E-16	-1.70E-15	1.76E-15	-0.662359
1.00000	-98.528806	-0.608095	-9.70E-17	-1.70E-15	1.74E-15	-0.100810

COMB COMB5 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-102.417565	-7.198203	7.01E-16	-1.70E-15	1.89E-15	-2.052862
0.50000	-100.452605	-3.868272	2.98E-16	-1.70E-15	1.76E-15	-0.662359
1.00000	-98.528806	-0.608095	-9.70E-17	-1.70E-15	1.74E-15	-0.100810

COMB COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-102.382704	-7.219628	7.04E-16	-1.70E-15	2.01E-15	-2.968877
0.50000	-100.417744	-3.889696	3.01E-16	-1.70E-15	1.88E-15	-1.572984
1.00000	-98.493946	-0.629520	-9.41E-17	-1.70E-15	1.85E-15	-1.006046

COMB COMB6 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-102.382704	-7.219628	7.04E-16	-1.70E-15	2.01E-15	-2.968877
0.50000	-100.417744	-3.889696	3.01E-16	-1.70E-15	1.88E-15	-1.572984
1.00000	-98.493946	-0.629520	-9.41E-17	-1.70E-15	1.85E-15	-1.006046

COMB COMB7 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-107.087284	-4.736532	4.81E-16	-1.31E-15	1.40E-15	1.281076
0.50000	-105.872817	-0.963742	2.41E-17	-1.31E-15	1.33E-15	1.996781
1.00000	-104.713299	2.747429	-4.25E-16	-1.31E-15	1.38E-15	1.771097

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
1.00000	-186.633861	4.855320	-7.49E-16	-2.30E-15	2.41E-15	3.274863

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-187.447567	-10.519163	1.15E-15	-1.86E-15	1.96E-15	2.325291
0.50000	-185.290552	-3.777430	3.29E-16	-1.86E-15	1.77E-15	4.121227
1.00000	-183.232504	2.853389	-4.74E-16	-1.86E-15	1.79E-15	4.235061

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-187.447567	-10.519163	1.15E-15	-1.86E-15	1.96E-15	2.325291
0.50000	-185.290552	-3.777430	3.29E-16	-1.86E-15	1.77E-15	4.121227
1.00000	-183.232504	2.853389	-4.74E-16	-1.86E-15	1.79E-15	4.235061

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-102.417565	-7.198203	7.01E-16	-1.70E-15	1.89E-15	-2.052862
0.50000	-100.452605	-3.868272	2.98E-16	-1.70E-15	1.76E-15	-0.662359
1.00000	-98.528806	-0.608095	-9.70E-17	-1.70E-15	1.74E-15	-0.100810

COMB COMB5 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-102.417565	-7.198203	7.01E-16	-1.70E-15	1.89E-15	-2.052862
0.50000	-100.452605	-3.868272	2.98E-16	-1.70E-15	1.76E-15	-0.662359
1.00000	-98.528806	-0.608095	-9.70E-17	-1.70E-15	1.74E-15	-0.100810

COMB COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-102.382704	-7.219628	7.04E-16	-1.70E-15	2.01E-15	-2.968877
0.50000	-100.417744	-3.889696	3.01E-16	-1.70E-15	1.88E-15	-1.572984
1.00000	-98.493946	-0.629520	-9.41E-17	-1.70E-15	1.85E-15	-1.006046

COMB COMB6 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-102.382704	-7.219628	7.04E-16	-1.70E-15	2.01E-15	-2.968877
0.50000	-100.417744	-3.889696	3.01E-16	-1.70E-15	1.88E-15	-1.572984
1.00000	-98.493946	-0.629520	-9.41E-17	-1.70E-15	1.85E-15	-1.006046

COMB COMB7 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-107.087284	-4.736532	4.81E-16	-1.31E-15	1.40E-15	1.281076
0.50000	-105.872817	-0.963742	2.41E-17	-1.31E-15	1.33E-15	1.996781
1.00000	-104.713299	2.747429	-4.25E-16	-1.31E-15	1.38E-15	1.771097

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB7 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-107.087284	-4.736532	4.81E-16	-1.31E-15	1.40E-15	1.281076
0.50000	-105.872817	-0.963742	2.41E-17	-1.31E-15	1.33E-15	1.996781
1.00000	-104.713299	2.747429	-4.25E-16	-1.31E-15	1.38E-15	1.771097

COMB COMB8 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-104.819713	-6.071152	6.64E-16	-1.02E-15	1.07E-15	1.249726
0.50000	-103.605247	-2.298362	2.08E-16	-1.02E-15	9.64E-16	2.301172
1.00000	-102.445729	1.412809	-2.42E-16	-1.02E-15	9.68E-16	2.411229

COMB COMB8 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-104.819713	-6.071152	6.64E-16	-1.02E-15	1.07E-15	1.249726
0.50000	-103.605247	-2.298362	2.08E-16	-1.02E-15	9.64E-16	2.301172
1.00000	-102.445729	1.412809	-2.42E-16	-1.02E-15	9.68E-16	2.411229

ELEM 18 ========== LENGTH = 0.503126

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-175.288993	-12.699550	1.23E-15	-2.81E-15	3.30E-15	-0.263155
0.50000	-172.310175	-6.787153	5.18E-16	-2.81E-15	3.08E-15	2.185505
1.00000	-169.389505	-0.990170	-1.84E-16	-2.81E-15	3.04E-15	3.161270

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-175.288993	-12.699550	1.23E-15	-2.81E-15	3.30E-15	-0.263155
0.50000	-172.310175	-6.787153	5.18E-16	-2.81E-15	3.08E-15	2.185505
1.00000	-169.389505	-0.990170	-1.84E-16	-2.81E-15	3.04E-15	3.161270

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-175.234685	-12.728147	1.24E-15	-2.82E-15	3.48E-15	-1.621008
0.50000	-172.255867	-6.815750	5.22E-16	-2.82E-15	3.25E-15	0.834846
1.00000	-169.335198	-1.018767	-1.80E-16	-2.82E-15	3.21E-15	1.817805

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-175.234685	-12.728147	1.24E-15	-2.82E-15	3.48E-15	-1.621008
0.50000	-172.255867	-6.815750	5.22E-16	-2.82E-15	3.25E-15	0.834846
1.00000	-169.335198	-1.018767	-1.80E-16	-2.82E-15	3.21E-15	1.817805

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-186.544756	-7.538296	7.52E-16	-2.11E-15	2.56E-15	3.274863
0.50000	-185.016984	-0.894825	5.27E-17	-2.11E-15	2.47E-15	4.333427
1.00000	-183.570056	5.644667	-8.45E-16	-2.11E-15	2.58E-15	3.733738

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-186.544756	-7.538296	7.52E-16	-2.11E-15	2.56E-15	3.274863
0.50000	-185.016984	-0.894825	5.27E-17	-2.11E-15	2.47E-15	4.333427
1.00000	-183.570056	5.644667	-8.45E-16	-2.11E-15	2.58E-15	3.733738

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-183.018070	-9.310141	9.99E-16	-1.70E-15	1.91E-15	4.235061
0.50000	-181.490297	-2.666670	1.95E-16	-1.70E-15	1.76E-15	5.739356
1.00000	-180.043369	3.872823	-5.97E-16	-1.70E-15	1.81E-15	5.585397

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-183.018070	-9.310141	9.99E-16	-1.70E-15	1.91E-15	4.235061
0.50000	-181.490297	-2.666670	1.95E-16	-1.70E-15	1.76E-15	5.739356
1.00000	-180.043369	3.872823	-5.97E-16	-1.70E-15	1.81E-15	5.585397

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-98.271352	-7.144015	6.95E-16	-1.58E-15	1.85E-15	-0.100810
0.50000	-96.602147	-3.830956	2.93E-16	-1.58E-15	1.72E-15	1.278301
1.00000	-94.965247	-0.582015	-1.00E-16	-1.58E-15	1.70E-15	1.831995

COMB COMB5 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-98.271352	-7.144015	6.95E-16	-1.58E-15	1.85E-15	-0.100810
0.50000	-96.602147	-3.830956	2.93E-16	-1.58E-15	1.72E-15	1.278301
1.00000	-94.965247	-0.582015	-1.00E-16	-1.58E-15	1.70E-15	1.831995

COMB COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-98.235147	-7.163080	6.97E-16	-1.58E-15	1.96E-15	-1.006046
0.50000	-96.565942	-3.850020	2.96E-16	-1.58E-15	1.84E-15	0.377861
1.00000	-94.929042	-0.601080	-9.75E-17	-1.58E-15	1.81E-15	0.936351

COMB COMB6 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-98.235147	-7.163080	6.97E-16	-1.58E-15	1.96E-15	-1.006046

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
0.50000	-64.555541	-3.850120	2.96E-16	-1.58E-15	1.84E-15	0.377861
1.00000	-64.504043	-0.601080	-9.75E-17	-1.58E-15	1.81E-15	0.936351

COMB COMB7 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-164.664852	-4.206218	4.17E-16	-1.20E-15	1.47E-15	1.771097
0.50000	-163.901783	-0.487006	-3.37E-17	-1.20E-15	1.42E-15	2.360214
1.00000	-163.969629	3.174440	-4.77E-16	-1.20E-15	1.48E-15	2.020936

COMB COMB7 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-164.664852	-4.206218	4.17E-16	-1.20E-15	1.47E-15	1.771097
0.50000	-163.901783	-0.487006	-3.37E-17	-1.20E-15	1.42E-15	2.360214
1.00000	-163.969629	3.174440	-4.77E-16	-1.20E-15	1.48E-15	2.020936

COMB COMB8 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-102.313727	-5.387447	5.82E-16	-9.35E-16	1.03E-15	2.411229
0.50000	-101.450659	-1.668236	1.31E-16	-9.35E-16	9.44E-16	3.297500
1.00000	-100.632504	1.993210	-3.12E-16	-9.35E-16	9.66E-16	3.255376

COMB COMB8 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-102.313727	-5.387447	5.82E-16	-9.35E-16	1.03E-15	2.411229
0.50000	-101.450659	-1.668236	1.31E-16	-9.35E-16	9.44E-16	3.297500
1.00000	-100.632504	1.993210	-3.12E-16	-9.35E-16	9.66E-16	3.255376

ELEM 19 ========== LENGTH = 0.503127

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-168.950571	-12.226585	1.18E-15	-2.58E-15	3.22E-15	3.161270
0.50000	-166.467511	-6.358619	4.66E-16	-2.58E-15	3.01E-15	5.496793
1.00000	-164.026186	-0.594010	-2.32E-16	-2.58E-15	2.98E-15	6.369080

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-168.950571	-12.226585	1.18E-15	-2.58E-15	3.22E-15	3.161270
0.50000	-166.467511	-6.358619	4.66E-16	-2.58E-15	3.01E-15	5.496793
1.00000	-164.026186	-0.594010	-2.32E-16	-2.58E-15	2.98E-15	6.369080

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-168.894486	-12.251515	1.18E-15	-2.58E-15	3.39E-15	1.817805
0.50000	-166.411425	-6.383549	4.70E-16	-2.58E-15	3.18E-15	4.159598

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
1.00000	-163.972101	-0.618940	-2.28E-16	-2.58E-15	3.15E-15	5.038158

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-168.894486	-12.251515	1.18E-15	-2.58E-15	3.39E-15	1.817805
0.50000	-166.411425	-6.383549	4.70E-16	-2.58E-15	3.18E-15	4.159598
1.00000	-163.972101	-0.618940	-2.28E-16	-2.58E-15	3.15E-15	5.038158

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-183.540082	-6.547213	6.32E-16	-1.90E-15	2.72E-15	3.733738
0.50000	-182.598935	-0.026779	-1.58E-16	-1.90E-15	2.66E-15	4.558652
1.00000	-181.721796	6.398878	-9.36E-16	-1.90E-15	2.80E-15	3.755106

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-183.540082	-6.547213	6.32E-16	-1.90E-15	2.72E-15	3.733738
0.50000	-182.598935	-0.026779	-1.58E-16	-1.90E-15	2.66E-15	4.558652
1.00000	-181.721796	6.398878	-9.36E-16	-1.90E-15	2.80E-15	3.755106

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-179.903609	-8.081166	8.50E-16	-1.54E-15	1.92E-15	5.585397
0.50000	-178.962461	-1.560731	6.07E-17	-1.54E-15	1.80E-15	6.796197
1.00000	-178.085322	4.864925	-7.17E-16	-1.54E-15	1.88E-15	6.378538

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-179.903609	-8.081166	8.50E-16	-1.54E-15	1.92E-15	5.585397
0.50000	-178.962461	-1.560731	6.07E-17	-1.54E-15	1.80E-15	6.796197
1.00000	-178.085322	4.864925	-7.17E-16	-1.54E-15	1.88E-15	6.378538

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-94.717382	-6.881454	6.63E-16	-1.45E-15	1.80E-15	1.831995
0.50000	-93.325513	-3.592192	2.64E-16	-1.45E-15	1.68E-15	3.148190
1.00000	-91.957942	-0.360350	-1.27E-16	-1.45E-15	1.67E-15	3.644110

COMB COMB5 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-94.717382	-6.881454	6.63E-16	-1.45E-15	1.80E-15	1.831995
0.50000	-93.325513	-3.592192	2.64E-16	-1.45E-15	1.68E-15	3.148190
1.00000	-91.957942	-0.360350	-1.27E-16	-1.45E-15	1.67E-15	3.644110

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-94.679992	-6.898075	6.65E-16	-1.45E-15	1.91E-15	0.936351
0.50000	-93.288123	-3.608812	2.67E-16	-1.45E-15	1.80E-15	2.256727
1.00000	-91.920552	-0.376971	-1.25E-16	-1.45E-15	1.78E-15	2.756829

COMB COMB6 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-94.679992	-6.898075	6.65E-16	-1.45E-15	1.91E-15	0.936351
0.50000	-93.288123	-3.608812	2.67E-16	-1.45E-15	1.80E-15	2.256727
1.00000	-91.920552	-0.376971	-1.25E-16	-1.45E-15	1.78E-15	2.756829

COMB COMB7 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-102.967328	-3.665277	3.51E-16	-1.09E-15	1.56E-15	2.020936
0.50000	-102.432078	-0.013532	-9.10E-17	-1.09E-15	1.53E-15	2.482566
1.00000	-101.932388	3.585558	-5.27E-16	-1.09E-15	1.61E-15	2.032131

COMB COMB7 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-102.967328	-3.665277	3.51E-16	-1.09E-15	1.56E-15	2.020936
0.50000	-102.432078	-0.013532	-9.10E-17	-1.09E-15	1.53E-15	2.482566
1.00000	-101.932388	3.585558	-5.27E-16	-1.09E-15	1.61E-15	2.032131

COMB COMB8 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-100.543012	-4.687912	4.97E-16	-8.43E-16	1.03E-15	3.255376
0.50000	-100.007762	-1.036167	5.47E-17	-8.43E-16	9.56E-16	3.974263
1.00000	-99.508072	2.562923	-3.81E-16	-8.43E-16	9.98E-16	3.781085

COMB COMB8 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-100.543012	-4.687912	4.97E-16	-8.43E-16	1.03E-15	3.255376
0.50000	-100.007762	-1.036167	5.47E-17	-8.43E-16	9.56E-16	3.974263
1.00000	-99.508072	2.562923	-3.81E-16	-8.43E-16	9.98E-16	3.781085

ELEM 20 ========== LENGTH = 0.503126

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-163.627360	-11.475441	1.09E-15	-2.32E-15	3.15E-15	6.369080
0.50000	-161.609326	-5.658126	3.81E-16	-2.32E-15	2.96E-15	8.522309
1.00000	-159.622206	0.070075	-3.12E-16	-2.32E-15	2.95E-15	9.223256

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-163.627360	-11.475441	1.09E-15	-2.32E-15	3.15E-15	6.369080
0.50000	-161.609326	-5.658126	3.81E-16	-2.32E-15	2.96E-15	8.522309
1.00000	-159.622206	0.070075	-3.12E-16	-2.32E-15	2.95E-15	9.223256

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-163.569744	-11.496595	1.09E-15	-2.33E-15	3.32E-15	5.038158
0.50000	-161.551710	-5.679281	3.85E-16	-2.33E-15	3.13E-15	7.196708
1.00000	-159.564590	0.048920	-3.09E-16	-2.33E-15	3.12E-15	7.902977

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-163.569744	-11.496595	1.09E-15	-2.33E-15	3.32E-15	5.038158
0.50000	-161.551710	-5.679281	3.85E-16	-2.33E-15	3.13E-15	7.196708
1.00000	-159.564590	0.048920	-3.09E-16	-2.33E-15	3.12E-15	7.902977

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-181.745940	-5.671875	5.26E-16	-1.68E-15	2.92E-15	3.755106
0.50000	-181.350030	0.708156	-2.47E-16	-1.68E-15	2.88E-15	4.377723
1.00000	-181.002618	7.005174	-1.01E-15	-1.68E-15	3.04E-15	3.405724

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-181.745940	-5.671875	5.26E-16	-1.68E-15	2.92E-15	3.755106
0.50000	-181.350030	0.708156	-2.47E-16	-1.68E-15	2.88E-15	4.377723
1.00000	-181.002618	7.005174	-1.01E-15	-1.68E-15	3.04E-15	3.405724

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-178.015706	-6.961180	7.15E-16	-1.36E-15	1.98E-15	6.378538
0.50000	-177.619796	-0.581148	-5.79E-17	-1.36E-15	1.90E-15	7.325495
1.00000	-177.272384	5.715869	-8.21E-16	-1.36E-15	2.01E-15	6.677838

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-178.015706	-6.961180	7.15E-16	-1.36E-15	1.98E-15	6.378538
0.50000	-177.619796	-0.581148	-5.79E-17	-1.36E-15	1.90E-15	7.325495
1.00000	-177.272384	5.715869	-8.21E-16	-1.36E-15	2.01E-15	6.677838

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-91.731416	-6.460668	6.12E-16	-1.30E-15	1.76E-15	3.644110

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
0.00000	-91.763410	-6.460668	6.12E-16	-1.30E-15	1.77E-15	3.044110
0.50000	-90.956866	-3.198788	2.17E-16	-1.30E-15	1.65E-15	4.858060
1.00000	-89.485490	0.013584	-1.72E-16	-1.30E-15	1.65E-15	5.257629

COMB COMB5 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-91.763410	-6.460668	6.12E-16	-1.30E-15	1.77E-15	3.044110
0.50000	-90.956866	-3.198788	2.17E-16	-1.30E-15	1.65E-15	4.858060
1.00000	-89.485490	0.013584	-1.72E-16	-1.30E-15	1.65E-15	5.257629

COMB COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-91.693096	-6.474771	6.14E-16	-1.31E-15	1.87E-15	2.756829
0.50000	-90.561456	-3.212891	2.19E-16	-1.31E-15	1.77E-15	3.974326
1.00000	-89.447079	-0.000519	-1.70E-16	-1.31E-15	1.76E-15	4.377443

COMB COMB6 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-91.693096	-6.474771	6.14E-16	-1.31E-15	1.87E-15	2.756829
0.50000	-90.561456	-3.212891	2.19E-16	-1.31E-15	1.77E-15	3.974326
1.00000	-89.447079	-0.000519	-1.70E-16	-1.31E-15	1.76E-15	4.377443

COMB COMB7 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-101.945683	-3.185227	2.93E-16	-9.62E-16	1.67E-15	2.032131
0.50000	-101.715312	0.389274	-1.40E-16	-9.62E-16	1.65E-15	2.382850
1.00000	-101.511885	3.917656	-5.67E-16	-9.62E-16	1.74E-15	1.840116

COMB COMB7 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-101.945683	-3.185227	2.93E-16	-9.62E-16	1.67E-15	2.032131
0.50000	-101.715312	0.389274	-1.40E-16	-9.62E-16	1.65E-15	2.382850
1.00000	-101.511885	3.917656	-5.67E-16	-9.62E-16	1.74E-15	1.840116

COMB COMB8 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-99.458860	-4.044763	4.19E-16	-7.45E-16	1.05E-15	3.781085
0.50000	-99.228490	-0.470263	-1.39E-17	-7.45E-16	9.99E-16	4.348032
1.00000	-99.025063	3.058119	-4.41E-16	-7.45E-16	1.06E-15	4.021525

COMB COMB8 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-99.458860	-4.044763	4.19E-16	-7.45E-16	1.05E-15	3.781085
0.50000	-99.228490	-0.470263	-1.39E-17	-7.45E-16	9.99E-16	4.348032
1.00000	-99.025063	3.058119	-4.41E-16	-7.45E-16	1.06E-15	4.021525

F R A M E E L E M E N T I N T E R N A L F O R C E S

ELEM 21 ========== LENGTH = 0.503126

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-159.275115	-10.520994	9.70E-16	-2.05E-15	3.10E-15	9.223259
0.50000	-157.694637	-4.754559	2.72E-16	-2.05E-15	2.94E-15	11.143112
1.00000	-156.134239	0.938611	-4.18E-16	-2.05E-15	2.99E-15	11.621493

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-159.275115	-10.520994	9.70E-16	-2.05E-15	3.10E-15	9.223259
0.50000	-157.694637	-4.754559	2.72E-16	-2.05E-15	2.94E-15	11.143112
1.00000	-156.134239	0.938611	-4.18E-16	-2.05E-15	2.99E-15	11.621493

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-159.216222	-10.538279	9.73E-16	-2.05E-15	3.27E-15	7.902977
0.50000	-157.635744	-4.771844	2.75E-16	-2.05E-15	3.11E-15	9.827181
1.00000	-156.075347	0.921326	-4.15E-16	-2.05E-15	3.13E-15	10.309911

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-159.216222	-10.538279	9.73E-16	-2.05E-15	3.27E-15	7.902977
0.50000	-157.635744	-4.771844	2.75E-16	-2.05E-15	3.11E-15	9.827181
1.00000	-156.075347	0.921326	-4.15E-16	-2.05E-15	3.13E-15	10.309911

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-181.068557	-5.019764	4.47E-16	-1.45E-15	3.14E-15	3.405724
0.50000	-181.178353	1.209945	-3.68E-16	-1.45E-15	3.13E-15	3.883487
1.00000	-181.322466	7.370291	-1.05E-15	-1.45E-15	3.30E-15	2.802736

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-181.068557	-5.019764	4.47E-16	-1.45E-15	3.14E-15	3.405724
0.50000	-181.178353	1.209945	-3.68E-16	-1.45E-15	3.13E-15	3.883487
1.00000	-181.322466	7.370291	-1.05E-15	-1.45E-15	3.30E-15	2.802736

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-177.260997	-6.058727	6.05E-16	-1.17E-15	2.09E-15	6.677838
0.50000	-177.370794	0.170982	-1.49E-16	-1.17E-15	2.04E-15	7.416965
1.00000	-177.514906	6.331328	-8.95E-16	-1.17E-15	2.17E-15	6.597579

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-177.260997	-6.058727	6.05E-16	-1.17E-15	2.09E-15	6.677838
0.50000	-177.370794	0.170982	-1.49E-16	-1.17E-15	2.04E-15	7.416965
1.00000	-177.514906	6.331328	-8.95E-16	-1.17E-15	2.17E-15	6.597579

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-89.289203	-5.923797	5.47E-16	-1.15E-15	1.73E-15	5.257629
0.50000	-88.402755	-2.689558	1.55E-16	-1.15E-15	1.64E-15	6.340182
1.00000	-87.527463	0.503978	-2.32E-16	-1.15E-15	1.65E-15	6.614202

COMB COMB5 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-89.289203	-5.923797	5.47E-16	-1.15E-15	1.73E-15	5.257629
0.50000	-88.402755	-2.689558	1.55E-16	-1.15E-15	1.64E-15	6.340182
1.00000	-87.527463	0.503978	-2.32E-16	-1.15E-15	1.65E-15	6.614202

COMB COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-89.249941	-5.935321	5.49E-16	-1.15E-15	1.84E-15	4.377443
0.50000	-88.363493	-2.701082	1.57E-16	-1.15E-15	1.75E-15	5.462895
1.00000	-87.488201	0.492454	-2.30E-16	-1.15E-15	1.76E-15	5.739614

COMB COMB6 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-89.249941	-5.935321	5.49E-16	-1.15E-15	1.84E-15	4.377443
0.50000	-88.363493	-2.701082	1.57E-16	-1.15E-15	1.75E-15	5.462895
1.00000	-87.488201	0.492454	-2.30E-16	-1.15E-15	1.76E-15	5.739814

COMB COMB7 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-101.548132	-2.826279	2.50E-16	-8.29E-16	1.80E-15	1.840116
0.50000	-101.600725	0.665335	-1.73E-16	-8.29E-16	1.79E-15	2.111122
1.00000	-101.672383	4.118413	-5.91E-16	-8.29E-16	1.89E-15	1.508573

COMB COMB7 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-101.548132	-2.826279	2.50E-16	-8.29E-16	1.80E-15	1.840116
0.50000	-101.600725	0.665335	-1.73E-16	-8.29E-16	1.79E-15	2.111122
1.00000	-101.672383	4.118413	-5.91E-16	-8.29E-16	1.89E-15	1.508573

COMB COMB8 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-99.009759	-3.518921	3.55E-16	-6.41E-16	1.10E-15	4.021525

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
0.50000	-99.062352	-0.027307	-6.75E-17	-6.41E-16	1.07E-15	4.466774
1.00000	-99.134011	3.425771	-4.86E-16	-6.41E-16	1.14E-15	4.038468

COMB COMB8 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-99.009759	-3.518921	3.55E-16	-6.41E-16	1.10E-15	4.021525
0.50000	-99.062352	-0.027307	-6.75E-17	-6.41E-16	1.07E-15	4.466774
1.00000	-99.134011	3.425771	-4.86E-16	-6.41E-16	1.14E-15	4.038468

ELEM 22 ========== LENGTH = 0.503126

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-155.852498	-9.422345	8.37E-16	-1.75E-15	3.09E-15	11.621493
0.50000	-154.686393	-3.702624	1.45E-16	-1.75E-15	2.96E-15	13.271195
1.00000	-153.531843	1.960421	-5.41E-16	-1.75E-15	3.01E-15	13.489086

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-155.852498	-9.422345	8.37E-16	-1.75E-15	3.09E-15	11.621493
0.50000	-154.686393	-3.702624	1.45E-16	-1.75E-15	2.96E-15	13.271195
1.00000	-153.531843	1.960421	-5.41E-16	-1.75E-15	3.01E-15	13.489086

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-155.792588	-9.435685	8.39E-16	-1.76E-15	3.25E-15	10.309911
0.50000	-154.626484	-3.715964	1.47E-16	-1.76E-15	3.13E-15	11.962969
1.00000	-153.471934	1.947081	-5.39E-16	-1.76E-15	3.18E-15	12.184216

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-155.792588	-9.435685	8.39E-16	-1.76E-15	3.25E-15	10.309911
0.50000	-154.626484	-3.715964	1.47E-16	-1.76E-15	3.13E-15	11.962969
1.00000	-153.471934	1.947081	-5.39E-16	-1.76E-15	3.18E-15	12.184216

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-181.411943	-4.675975	4.05E-16	-1.21E-15	3.38E-15	2.802736
0.50000	-181.990636	1.399466	-3.31E-16	-1.21E-15	3.38E-15	3.213732
1.00000	-182.591795	7.420454	-1.06E-15	-1.21E-15	3.55E-15	2.103146

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-181.411943	-4.675975	4.05E-16	-1.21E-15	3.38E-15	2.802736
0.50000	-181.990636	1.399466	-3.31E-16	-1.21E-15	3.38E-15	3.213732

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
1.00000	[illegible]	[illegible]	-1.09E-15	-1.21E-15	3.55E-15	2.103146

COMB COMB4 ----------------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	[illegible]	-5.460032	5.33E-16	-9.67E-16	2.24E-15	6.597579
0.50000	[illegible]	0.615408	-2.03E-16	-9.67E-16	2.20E-15	7.205814
1.00000	[illegible]	[illegible]	-9.32E-16	-9.67E-16	2.34E-15	6.292468

COMB COMB4 ----------------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	[illegible]	-5.460032	5.33E-16	-9.67E-16	2.24E-15	6.597579
0.50000	[illegible]	0.615408	-2.03E-16	-9.67E-16	2.20E-15	7.205814
1.00000	[illegible]	6.836357	-9.32E-16	-9.67E-16	2.34E-15	6.292468

COMB COMB5 ----------------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	[illegible]	-5.304233	4.72E-16	-9.85E-16	1.72E-15	6.614202
0.50000	[illegible]	-2.095456	8.31E-17	-9.85E-16	1.65E-15	7.544293
1.00000	[illegible]	1.081834	-3.02E-16	-9.85E-16	1.68E-15	7.671096

COMB COMB5 ----------------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	[illegible]	-5.304233	4.72E-16	-9.85E-16	1.72E-15	6.614202
0.50000	[illegible]	-2.095456	8.31E-17	-9.85E-16	1.65E-15	7.544293
1.00000	-86.066093	1.081834	-3.02E-16	-9.85E-16	1.68E-15	7.671096

COMB COMB6 ----------------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-87.328109	-5.313126	4.73E-16	-9.86E-16	1.83E-15	5.739814
0.50000	-86.673921	-2.104350	8.46E-17	-9.86E-16	1.76E-15	6.672142
1.00000	-86.026153	1.072940	-3.00E-16	-9.86E-16	1.79E-15	6.801182

COMB COMB6 ----------------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-87.328109	-5.313126	4.73E-16	-9.86E-16	1.83E-15	5.739814
0.50000	-86.673921	-2.104350	8.46E-17	-9.86E-16	1.76E-15	6.672142
1.00000	-86.026153	1.072940	-3.00E-16	-9.86E-16	1.79E-15	6.801182

COMB COMB7 ----------------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-101.721606	-2.636221	2.27E-16	-6.90E-16	1.94E-15	1.508573
0.50000	-102.036751	0.770178	-1.86E-16	-6.90E-16	1.93E-15	1.742659
1.00000	-102.364377	4.146326	-5.95E-16	-6.90E-16	2.03E-15	1.123585

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB7 ----------------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-101.721606	-2.636221	2.27E-16	-6.90E-16	1.94E-15	1.508573
0.50000	-102.036751	0.770178	-1.86E-16	-6.90E-16	1.93E-15	1.742659
1.00000	-102.364377	4.146326	-5.95E-16	-6.90E-16	2.03E-15	1.123585

COMB COMB8 ----------------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-99.142872	-3.158926	3.12E-16	-5.31E-16	1.18E-15	4.038468
0.50000	-99.458017	0.247473	-1.01E-16	-5.31E-16	1.15E-15	4.404047
1.00000	-99.785643	3.623621	-5.10E-16	-5.31E-16	1.23E-15	3.916467

COMB COMB8 ----------------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-99.142872	-3.158926	3.12E-16	-5.31E-16	1.18E-15	4.038468
0.50000	-99.458017	0.247473	-1.01E-16	-5.31E-16	1.15E-15	4.404047
1.00000	-99.785643	3.623621	-5.10E-16	-5.31E-16	1.23E-15	3.916467

ELEM 23 ================= LENGTH = 0.503126

COMB COMB1 ----------------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-153.323614	-8.230401	6.93E-16	-1.44E-15	3.12E-15	13.489086
0.50000	-152.553681	-2.550019	4.97E-18	-1.44E-15	3.03E-15	14.844268
1.00000	-151.788961	3.091898	-6.78E-16	-1.44E-15	3.12E-15	14.775246

COMB COMB1 ----------------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-153.323614	-8.230401	6.93E-16	-1.44E-15	3.12E-15	13.489086
0.50000	-152.553681	-2.550019	4.97E-18	-1.44E-15	3.03E-15	14.844268
1.00000	-151.788961	3.091898	-6.78E-16	-1.44E-15	3.12E-15	14.775246

COMB COMB2 ----------------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-153.262952	-8.239736	6.95E-16	-1.44E-15	3.29E-15	12.184216
0.50000	-152.493018	-2.559355	6.67E-18	-1.44E-15	3.20E-15	13.541746
1.00000	-151.728299	3.082563	-6.77E-16	-1.44E-15	3.28E-15	13.475073

COMB COMB2 ----------------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-153.262952	-8.239736	6.95E-16	-1.44E-15	3.29E-15	12.184216
0.50000	-152.493018	-2.559355	6.67E-18	-1.44E-15	3.20E-15	13.541746
1.00000	-151.728299	3.082563	-6.77E-16	-1.44E-15	3.28E-15	13.475073

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB3 ----------------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-182.681795	-4.710462	4.09E-16	-9.50E-16	3.62E-15	2.103146
0.50000	-183.697054	1.211889	-3.08E-16	-9.50E-16	3.61E-15	2.542428
1.00000	-184.724971	7.096785	-1.02E-15	-9.50E-16	3.78E-15	1.496506

COMB COMB3 ----------------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	182.681795	-4.710462	4.09E-16	-9.50E-16	3.62E-15	2.103146
0.50000	-183.697054	1.211889	-3.08E-16	-9.50E-16	3.61E-15	2.542428
1.00000	-184.724971	7.096785	-1.02E-15	-9.50E-16	3.78E-15	1.496506

COMB COMB4 ----------------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-178.770196	-5.236152	5.06E-16	-7.60E-16	2.40E-15	6.292468
0.50000	-179.785456	0.686199	-2.11E-16	-7.60E-16	2.36E-15	6.863994
1.00000	-180.813372	6.571095	-9.24E-16	-7.60E-16	2.50E-15	5.950317

COMB COMB4 ----------------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-178.770196	-5.236152	5.06E-16	-7.60E-16	2.40E-15	6.292468
0.50000	-179.785456	0.686199	-2.11E-16	-7.60E-16	2.36E-15	6.863994
1.00000	-180.813372	6.571095	-9.24E-16	-7.60E-16	2.50E-15	5.950317

COMB COMB5 ----------------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-85.948228	-4.630847	3.90E-16	-8.10E-16	1.74E-15	7.671096
0.50000	-85.516217	-1.443573	4.15E-18	-8.10E-16	1.69E-15	8.434703
1.00000	-85.087102	1.722332	-3.79E-16	-8.10E-16	1.74E-15	8.399161

COMB COMB5 ----------------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-85.948228	-4.630847	3.90E-16	-8.10E-16	1.74E-15	7.671096
0.50000	-85.516217	-1.443573	4.15E-18	-8.10E-16	1.69E-15	8.434703
1.00000	-85.087102	1.722332	-3.79E-16	-8.10E-16	1.74E-15	8.399161

COMB COMB6 ----------------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-85.907787	-4.637071	3.91E-16	-8.11E-16	1.85E-15	6.801182
0.50000	-85.475776	-1.449797	5.29E-18	-8.11E-16	1.80E-15	7.566355
1.00000	-85.046661	1.716109	-3.78E-16	-8.11E-16	1.85E-15	7.532378

COMB COMB6 ----------------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-85.907787	-4.637071	3.91E-16	-8.11E-16	1.85E-15	6.801182

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
0.50000	-85.475776	-1.449797	5.29E-18	-8.11E-16	1.80E-15	7.566355
1.00000	-85.046661	1.716109	-3.78E-16	-8.11E-16	1.85E-15	7.532378

COMB COMB7 ----------------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-102.413922	-2.654463	2.29E-16	-5.44E-16	2.07E-15	1.123585
0.50000	-102.973685	0.667239	-1.73E-16	-5.44E-16	2.07E-15	1.373112
1.00000	-103.540479	3.968132	-5.73E-16	-5.44E-16	2.16E-15	0.789599

COMB COMB7 ----------------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-102.413922	-2.654463	2.29E-16	-5.44E-16	2.07E-15	1.123585
0.50000	-102.973685	0.667239	-1.73E-16	-5.44E-16	2.07E-15	1.373112
1.00000	-103.540479	3.968132	-5.73E-16	-5.44E-16	2.16E-15	0.789599

COMB COMB8 ----------------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-99.806190	-3.004923	2.93E-16	-4.17E-16	1.26E-15	3.916467
0.50000	-100.365952	0.316779	-1.09E-16	-4.17E-16	1.23E-15	4.254156
1.00000	-100.932747	3.617672	-5.09E-16	-4.17E-16	1.31E-15	3.758806

COMB COMB8 ----------------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-99.806190	-3.004923	2.93E-16	-4.17E-16	1.26E-15	3.916467
0.50000	-100.365952	0.316779	-1.09E-16	-4.17E-16	1.23E-15	4.254156
1.00000	-100.932747	3.617672	-5.09E-16	-4.17E-16	1.31E-15	3.758806

ELEM 24 ================= LENGTH = 0.503126

COMB COMB1 ----------------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-151.659653	-6.985572	5.42E-16	-1.11E-15	3.20E-15	14.775246
0.50000	-151.272880	-1.333705	-1.42E-16	-1.11E-15	3.15E-15	15.821245
1.00000	-150.887489	4.297963	-8.24E-16	-1.11E-15	3.27E-15	15.447916

COMB COMB1 ----------------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-151.659653	-6.985572	5.42E-16	-1.11E-15	3.20E-15	14.775246
0.50000	-151.272880	-1.333705	-1.42E-16	-1.11E-15	3.15E-15	15.821245
1.00000	-150.887489	4.297963	-8.24E-16	-1.11E-15	3.27E-15	15.447916

COMB COMB2 ----------------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-151.598505	-6.990862	5.43E-16	-1.11E-15	3.37E-15	13.475073
0.50000	-151.211731	-1.338996	-1.41E-16	-1.11E-15	3.32E-15	14.522403

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-84.512889	-3.212451	2.19E-16	-4.32E-16	1.97E-15	7.914950
0.25000	-84.509837	-1.631129	2.72E-17	-4.32E-16	1.95E-15	8.219566
0.50000	-84.506785	-0.049807	-1.64E-16	-4.32E-16	1.96E-15	8.325282
0.75000	-84.503733	1.531515	-3.56E-16	-4.32E-16	2.00E-15	8.232096
1.00000	-84.500682	3.112533	-5.47E-16	-4.32E-16	2.05E-15	7.940009

COMB COMB6 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-84.512889	-3.212451	2.19E-16	-4.32E-16	1.97E-15	7.914950
0.25000	-84.509837	-1.631129	2.72E-17	-4.32E-16	1.95E-15	8.219566
0.50000	-84.506785	-0.049807	-1.64E-16	-4.32E-16	1.96E-15	8.325282
0.75000	-84.503733	1.531515	-3.56E-16	-4.32E-16	2.00E-15	8.232096
1.00000	-84.500682	3.112533	-5.47E-16	-4.32E-16	2.05E-15	7.940009

COMB COMB7 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-103.575614	-2.910154	2.60E-16	-3.93E-16	2.19E-15	0.789599
0.50000	-104.364544	0.330334	-1.33E-16	-3.93E-16	2.18E-15	1.113866
1.00000	-105.156271	3.559740	-5.24E-16	-3.93E-16	2.26E-15	0.624302

COMB COMB7 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-103.575614	-2.910154	2.60E-16	-3.93E-16	2.19E-15	0.789599
0.50000	-104.364544	0.330334	-1.33E-16	-3.93E-16	2.18E-15	1.113866
1.00000	-105.156271	3.559740	-5.24E-16	-3.93E-16	2.26E-15	0.624302

COMB COMB8 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-100.950376	-3.086827	3.03E-16	-2.99E-16	1.34E-15	3.758806
0.50000	-101.739306	0.153661	-8.94E-17	-2.99E-16	1.31E-15	4.127518
1.00000	-102.531033	3.383066	-4.81E-16	-2.99E-16	1.38E-15	3.682398

COMB COMB8 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-100.950376	-3.086827	3.03E-16	-2.99E-16	1.34E-15	3.758806
0.50000	-101.739306	0.153661	-8.94E-17	-2.99E-16	1.31E-15	4.127518
1.00000	-102.531033	3.383066	-4.81E-16	-2.99E-16	1.38E-15	3.682398

ELEM 25 ========== LENGTH = 0.563126

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-150.840178	-5.722531	3.89E-16	-7.69E-16	3.34E-15	15.447916
0.25000	-150.834740	-2.904766	4.79E-17	-7.69E-16	3.31E-15	15.990493
0.50000	-150.829302	-0.087002	-2.93E-16	-7.69E-16	3.32E-15	16.178648
0.75000	-150.823864	2.730762	-6.35E-16	-7.69E-16	3.38E-15	16.012380
1.00000	-150.818427	5.547979	-9.76E-16	-7.69E-16	3.48E-15	15.491689

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-84.973131	-3.930216	3.06E-16	-6.26E-16	1.89E-15	7.532378
0.50000	-84.756086	-0.758570	-7.84E-17	-6.26E-16	1.87E-15	8.121912
1.00000	-84.539809	2.401655	-4.61E-16	-6.26E-16	1.93E-15	7.914950

COMB COMB6 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-84.973131	-3.930216	3.06E-16	-6.26E-16	1.89E-15	7.532378
0.50000	-84.756086	-0.758570	-7.84E-17	-6.26E-16	1.87E-15	8.121912
1.00000	-84.539809	2.401655	-4.61E-16	-6.26E-16	1.93E-15	7.914950

COMB COMB7 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-103.575614	-2.910154	2.60E-16	-3.93E-16	2.19E-15	0.789599
0.50000	-104.364544	0.330334	-1.33E-16	-3.93E-16	2.18E-15	1.113866
1.00000	-105.156271	3.559740	-5.24E-16	-3.93E-16	2.26E-15	0.624302

COMB COMB7 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-103.575614	-2.910154	2.60E-16	-3.93E-16	2.19E-15	0.789599
0.50000	-104.364544	0.330334	-1.33E-16	-3.93E-16	2.18E-15	1.113866
1.00000	-105.156271	3.559740	-5.24E-16	-3.93E-16	2.26E-15	0.624302

COMB COMB8 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-100.950376	-3.086827	3.03E-16	-2.99E-16	1.34E-15	3.758806
0.50000	-101.739306	0.153661	-8.94E-17	-2.99E-16	1.31E-15	4.127518
1.00000	-102.531033	3.383066	-4.81E-16	-2.99E-16	1.38E-15	3.682398

COMB COMB8 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-100.950376	-3.086827	3.03E-16	-2.99E-16	1.34E-15	3.758806
0.50000	-101.739306	0.153661	-8.94E-17	-2.99E-16	1.31E-15	4.127518
1.00000	-102.531033	3.383066	-4.81E-16	-2.99E-16	1.38E-15	3.682398

ELEM 25 ========== LENGTH = 0.563126

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-150.840178	-5.722531	3.89E-16	-7.69E-16	3.34E-15	15.447916
0.25000	-150.834740	-2.904766	4.79E-17	-7.69E-16	3.31E-15	15.990493
0.50000	-150.829302	-0.087002	-2.93E-16	-7.69E-16	3.32E-15	16.178648
0.75000	-150.823864	2.730762	-6.35E-16	-7.69E-16	3.38E-15	16.012380
1.00000	-150.818427	5.547979	-9.76E-16	-7.69E-16	3.48E-15	15.491689

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-150.840178	-5.722531	3.89E-16	-7.69E-16	3.34E-15	15.447916
0.25000	-150.834740	-2.904766	4.79E-17	-7.69E-16	3.31E-15	15.990493
0.50000	-150.829302	-0.087002	-2.93E-16	-7.69E-16	3.32E-15	16.178648
0.75000	-150.823864	2.730762	-6.35E-16	-7.69E-16	3.38E-15	16.012380
1.00000	-150.818427	5.547979	-9.76E-16	-7.69E-16	3.48E-15	15.491689

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-150.778814	-5.723752	3.90E-16	-7.69E-16	3.50E-15	14.150404
0.25000	-150.773376	-2.905988	4.87E-17	-7.69E-16	3.47E-15	14.693135
0.50000	-150.767937	-0.088224	-2.93E-16	-7.69E-16	3.49E-15	14.881443
0.75000	-150.762499	2.729540	-6.34E-16	-7.69E-16	3.55E-15	14.715329
1.00000	-150.757062	5.546758	-9.75E-16	-7.69E-16	3.65E-15	14.194792

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-150.778814	-5.723752	3.90E-16	-7.69E-16	3.50E-15	14.150404
0.25000	-150.773376	-2.905988	4.87E-17	-7.69E-16	3.47E-15	14.693135
0.50000	-150.767937	-0.088224	-2.93E-16	-7.69E-16	3.49E-15	14.881443
0.75000	-150.762499	2.729540	-6.34E-16	-7.69E-16	3.55E-15	14.715329
1.00000	-150.757062	5.546758	-9.75E-16	-7.69E-16	3.65E-15	14.194792

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-187.650111	-6.106673	5.79E-16	-4.12E-16	3.98E-15	1.195711
0.25000	-187.644672	-3.288909	2.37E-16	-4.12E-16	3.93E-15	1.786606
0.50000	-187.639234	-0.471144	-1.04E-16	-4.12E-16	3.93E-15	2.023079
0.75000	-187.633796	2.346620	-4.45E-16	-4.12E-16	3.96E-15	1.905129
1.00000	-187.628359	5.163837	-7.86E-16	-4.12E-16	4.04E-15	1.432756

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-187.650111	-6.106673	5.79E-16	-4.12E-16	3.98E-15	1.195711
0.25000	-187.644672	-3.288909	2.37E-16	-4.12E-16	3.93E-15	1.786606
0.50000	-187.639234	-0.471144	-1.04E-16	-4.12E-16	3.93E-15	2.023079
0.75000	-187.633796	2.346620	-4.45E-16	-4.12E-16	3.96E-15	1.905129
1.00000	-187.628359	5.163837	-7.86E-16	-4.12E-16	4.04E-15	1.432756

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-183.703347	-6.109832	6.12E-16	-3.22E-16	2.66E-15	5.782855
0.25000	-183.697909	-3.292068	2.70E-16	-3.22E-16	2.60E-15	6.374147
0.50000	-183.692471	-0.474304	-7.09E-17	-3.22E-16	2.59E-15	6.611017
0.75000	-183.687033	2.343460	-4.12E-16	-3.22E-16	2.62E-15	6.493465
1.00000	-183.681596	5.160678	-7.53E-16	-3.22E-16	2.70E-15	6.021489

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-183.703347	-6.109832	6.12E-16	-3.22E-16	2.66E-15	5.782855
0.25000	-183.697909	-3.292068	2.70E-16	-3.22E-16	2.60E-15	6.374147
0.50000	-183.692471	-0.474304	-7.09E-17	-3.22E-16	2.59E-15	6.611017
0.75000	-183.687033	2.343460	-4.12E-16	-3.22E-16	2.62E-15	6.493465
1.00000	-183.681596	5.160678	-7.53E-16	-3.22E-16	2.70E-15	6.021489

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-84.553798	-3.211636	2.18E-16	-4.32E-16	1.86E-15	8.779958
0.25000	-84.550747	-1.630314	2.68E-17	-4.32E-16	1.84E-15	9.084472
0.50000	-84.547695	-0.048992	-1.65E-16	-4.32E-16	1.85E-15	9.190084
0.75000	-84.544643	1.532330	-3.56E-16	-4.32E-16	1.88E-15	9.096796
1.00000	-84.541592	3.113348	-5.48E-16	-4.32E-16	1.94E-15	8.804607

COMB COMB5 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-84.553798	-3.211636	2.18E-16	-4.32E-16	1.86E-15	8.779958
0.25000	-84.550747	-1.630314	2.68E-17	-4.32E-16	1.84E-15	9.084472
0.50000	-84.547695	-0.048992	-1.65E-16	-4.32E-16	1.85E-15	9.190084
0.75000	-84.544643	1.532330	-3.56E-16	-4.32E-16	1.88E-15	9.096796
1.00000	-84.541592	3.113348	-5.48E-16	-4.32E-16	1.94E-15	8.804607

COMB COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-84.512889	-3.212451	2.19E-16	-4.32E-16	1.97E-15	7.914950
0.25000	-84.509837	-1.631129	2.72E-17	-4.32E-16	1.95E-15	8.219566
0.50000	-84.506785	-0.049807	-1.64E-16	-4.32E-16	1.96E-15	8.325282
0.75000	-84.503733	1.531515	-3.56E-16	-4.32E-16	2.00E-15	8.232096
1.00000	-84.500682	3.112533	-5.47E-16	-4.32E-16	2.05E-15	7.940009

COMB COMB6 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-84.512889	-3.212451	2.19E-16	-4.32E-16	1.97E-15	7.914950
0.25000	-84.509837	-1.631129	2.72E-17	-4.32E-16	1.95E-15	8.219566
0.50000	-84.506785	-0.049807	-1.64E-16	-4.32E-16	1.96E-15	8.325282
0.75000	-84.503733	1.531515	-3.56E-16	-4.32E-16	2.00E-15	8.232096
1.00000	-84.500682	3.112533	-5.47E-16	-4.32E-16	2.05E-15	7.940009

COMB COMB7 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-105.160747	-3.424970	3.22E-16	-2.37E-16	2.28E-15	0.624302
0.25000	-105.157695	-1.843648	1.31E-16	-2.37E-16	2.25E-15	0.955650
0.50000	-105.154643	-0.262326	-6.09E-17	-2.37E-16	2.25E-15	1.088096
0.75000	-105.151591	1.318996	-2.52E-16	-2.37E-16	2.27E-15	1.021641
1.00000	-105.148540	2.900014	-4.44E-16	-2.37E-16	2.31E-15	0.756285

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB7 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-105.109256	-4.082882	4.02E-16	-7.76E-17	2.32E-15	0.756285
0.50000	-104.247407	-0.853032	1.07E-17	-7.76E-17	2.27E-15	1.377337
1.00000	-103.388296	2.386293	-3.82E-16	-7.76E-17	2.32E-15	1.184647

COMB COMB8 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-102.483738	-3.910408	4.03E-16	-5.23E-17	1.42E-15	3.815441
0.50000	-101.621889	-0.680557	1.16E-17	-5.23E-17	1.37E-15	4.393105
1.00000	-100.762778	2.558768	-3.81E-16	-5.23E-17	1.42E-15	4.157026

COMB COMB8 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-102.483738	-3.910408	4.03E-16	-5.23E-17	1.42E-15	3.815441
0.50000	-101.621889	-0.680557	1.16E-17	-5.23E-17	1.37E-15	4.393105
1.00000	-100.762778	2.558768	-3.81E-16	-5.23E-17	1.42E-15	4.157026

ELEM 27 ========== LENGTH = 0.503126

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-151.700534	-3.260424	9.10E-17	-4.30E-17	3.76E-15	14.905635
0.50000	-152.443034	2.380910	-5.92E-16	-4.30E-17	3.82E-15	15.017038
1.00000	-153.190335	8.058731	-1.28E-15	-4.30E-17	4.06E-15	13.704632

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-151.700534	-3.260424	9.10E-17	-4.30E-17	3.76E-15	14.905635
0.50000	-152.443034	2.380910	-5.92E-16	-4.30E-17	3.82E-15	15.017038

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-150.792887	-4.468053	2.38E-16	-4.12E-16	3.69E-15	14.194792
0.50000	-151.156523	1.164703	-4.44E-16	-4.12E-16	3.71E-15	14.610666
1.00000	-151.521276	6.814760	-1.13E-15	-4.12E-16	3.91E-15	13.607303

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-167.557531	-7.296505	7.23E-16	-1.32E-16	4.06E-15	1.432756
0.50000	-166.002516	-1.539886	2.55E-17	-1.32E-16	3.96E-15	2.544579
1.00000	-164.452430	4.233788	-6.74E-16	-1.32E-16	4.04E-15	2.206035

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-187.557531	-7.296505	7.23E-16	-1.32E-16	4.06E-15	1.432756
0.50000	-186.002516	-1.539886	2.55E-17	-1.32E-16	3.96E-15	2.544579
1.00000	-184.452430	4.233788	-6.74E-16	-1.32E-16	4.04E-15	2.206035

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-183.619255	-7.037793	7.24E-16	-9.40E-17	2.71E-15	6.021489
0.50000	-182.064239	-1.281174	2.68E-17	-9.40E-17	2.61E-15	7.068231
1.00000	-180.514153	4.492500	-6.72E-16	-9.40E-17	2.70E-15	6.664604

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-183.619255	-7.037793	7.24E-16	-9.40E-17	2.71E-15	6.021489
0.50000	-182.064239	-1.281174	2.68E-17	-9.40E-17	2.61E-15	7.068231
1.00000	-180.514153	4.492500	-6.72E-16	-9.40E-17	2.70E-15	6.664604

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-84.561870	-2.502767	1.32E-16	-2.32E-16	1.96E-15	8.804607
0.50000	-84.765936	0.658271	-2.50E-16	-2.32E-16	1.98E-15	9.036818
1.00000	-84.970627	3.828920	-6.34E-16	-2.32E-16	2.09E-15	8.472582

COMB COMB5 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-84.561870	-2.502767	1.32E-16	-2.32E-16	1.96E-15	8.804607
0.50000	-84.765936	0.658271	-2.50E-16	-2.32E-16	1.98E-15	9.036818
1.00000	-84.970627	3.828920	-6.34E-16	-2.32E-16	2.09E-15	8.472582

COMB COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-84.520996	-2.500865	1.33E-16	-2.31E-16	2.07E-15	7.940009

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
0.50000	-84.725064	0.660172	-2.50E-16	-2.31E-16	2.09E-15	8.171742
1.00000	-84.929753	3.830821	-6.34E-16	-2.31E-16	2.20E-15	7.607028

COMB COMB6 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-84.520996	-2.500865	1.33E-16	-2.31E-16	2.07E-15	7.940009
0.50000	-84.725064	0.660172	-2.50E-16	-2.31E-16	2.09E-15	8.171742
1.00000	-84.929753	3.830821	-6.34E-16	-2.31E-16	2.20E-15	7.607028

COMB COMB7 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-105.109256	-4.082882	4.02E-16	-7.76E-17	2.32E-15	0.756285
0.50000	-104.247407	-0.853032	1.07E-17	-7.76E-17	2.27E-15	1.377337
1.00000	-103.388296	2.386293	-3.82E-16	-7.76E-17	2.32E-15	1.184647

COMB COMB7 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-105.109256	-4.082882	4.02E-16	-7.76E-17	2.32E-15	0.756285
0.50000	-104.247407	-0.853032	1.07E-17	-7.76E-17	2.27E-15	1.377337
1.00000	-103.388296	2.386293	-3.82E-16	-7.76E-17	2.32E-15	1.184647

COMB COMB8 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-102.483738	-3.910408	4.03E-16	-5.23E-17	1.42E-15	3.815441
0.50000	-101.621889	-0.680557	1.16E-17	-5.23E-17	1.37E-15	4.393105
1.00000	-100.762778	2.558768	-3.81E-16	-5.23E-17	1.42E-15	4.157026

COMB COMB8 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-102.483738	-3.910408	4.03E-16	-5.23E-17	1.42E-15	3.815441
0.50000	-101.621889	-0.680557	1.16E-17	-5.23E-17	1.37E-15	4.393105
1.00000	-100.762778	2.558768	-3.81E-16	-5.23E-17	1.42E-15	4.157026

ELEM 27 ========== LENGTH = 0.503126

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-151.700534	-3.260424	9.10E-17	-4.30E-17	3.76E-15	14.905635
0.50000	-152.443034	2.380910	-5.92E-16	-4.30E-17	3.82E-15	15.017038
1.00000	-153.190335	8.058731	-1.28E-15	-4.30E-17	4.06E-15	13.704632

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-151.700534	-3.260424	9.10E-17	-4.30E-17	3.76E-15	14.905635
0.50000	-152.443034	2.380910	-5.92E-16	-4.30E-17	3.82E-15	15.017038

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
1.00000	-153.190335	8.058731	-1.28E-15	-4.30E-17	4.06E-15	13.704632

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-151.639548	-3.253510	9.07E-17	-4.19E-17	3.93E-15	13.607303
0.50000	-152.382048	2.387824	-5.92E-16	-4.19E-17	3.99E-15	13.716967
1.00000	-153.129349	8.065645	-1.28E-15	-4.19E-17	4.22E-15	12.402821

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-151.639548	-3.253510	9.07E-17	-4.19E-17	3.93E-15	13.607303
0.50000	-152.382048	2.387824	-5.92E-16	-4.19E-17	3.99E-15	13.716967
1.00000	-153.129349	8.065645	-1.28E-15	-4.19E-17	4.22E-15	12.402821

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-184.326894	-8.013737	8.09E-16	1.54E-16	4.04E-15	2.206035
0.50000	-183.172280	-2.122709	9.60E-17	1.54E-16	3.93E-15	3.481768
1.00000	-182.030071	3.803804	-6.22E-16	1.54E-16	3.99E-15	3.271000

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-184.326894	-8.013737	8.09E-16	1.54E-16	4.04E-15	2.206035
0.50000	-183.172280	-2.122709	9.60E-17	1.54E-16	3.93E-15	3.481768
1.00000	-182.030071	3.803804	-6.22E-16	1.54E-16	3.99E-15	3.271000

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-180.414461	-7.494296	7.79E-16	1.39E-16	2.69E-15	6.664604
0.50000	-179.259847	-1.603268	6.58E-17	1.39E-16	2.59E-15	7.809664
1.00000	-178.117638	4.323246	-6.52E-16	1.39E-16	2.66E-15	7.468225

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-180.414461	-7.494296	7.79E-16	1.39E-16	2.69E-15	6.664604
0.50000	-179.259847	-1.603268	6.58E-17	1.39E-16	2.59E-15	7.809664
1.00000	-178.117638	4.323246	-6.52E-16	1.39E-16	2.66E-15	7.468225

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-85.037437	-1.817216	4.94E-17	-2.46E-17	2.10E-15	8.472582
0.50000	-85.454086	1.348382	-3.34E-16	-2.46E-17	2.13E-15	8.531984
1.00000	-85.873402	4.534249	-7.20E-16	-2.46E-17	2.27E-15	7.792451

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB5 ---------- ------ MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-85.965026	-1.173037	-2.86E-17	1.88E-16	2.26E-15	7.792451
0.50000	-86.619937	2.003767	-4.13E-16	1.88E-16	2.32E-15	7.688602
1.00000	-87.260900	5.210851	-8.02E-16	1.88E-16	2.47E-15	6.781739

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-85.965026	-1.173037	-2.86E-17	1.88E-16	2.26E-15	7.792451
0.50000	-86.619937	2.003767	-4.13E-16	1.88E-16	2.32E-15	7.688602
1.00000	-87.260900	5.210851	-8.02E-16	1.88E-16	2.47E-15	6.781739

COMB COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-85.944764	-1.165740	-2.91E-17	1.90E-16	2.37E-15	6.924578
0.50000	-86.579675	2.011064	-4.14E-16	1.90E-16	2.43E-15	6.818893
1.00000	-87.220638	5.218147	-8.02E-16	1.90E-16	2.58E-15	5.910194

COMB COMB6 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-85.944764	-1.165740	-2.91E-17	1.90E-16	2.37E-15	6.924578
0.50000	-86.579675	2.011064	-4.14E-16	1.90E-16	2.43E-15	6.818893
1.00000	-87.220638	5.218147	-8.02E-16	1.90E-16	2.58E-15	5.910194

COMB COMB7 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-101.968867	-4.625653	4.68E-16	2.52E-16	2.28E-15	1.773806
0.50000	-101.570479	-1.242335	5.78E-17	2.52E-16	2.21E-15	2.512507
1.00000	-101.184292	2.170033	-3.55E-16	2.52E-16	2.25E-15	2.396394

COMB COMB7 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-101.968867	-4.625653	4.68E-16	2.52E-16	2.28E-15	1.773806
0.50000	-101.570479	-1.242335	5.78E-17	2.52E-16	2.21E-15	2.512507
1.00000	-101.184292	2.170033	-3.55E-16	2.52E-16	2.25E-15	2.396394

COMB COMB8 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-99.389300	-4.107074	4.27E-16	2.05E-16	1.39E-15	4.571956

F R A M E E L E M E N T I N T E R N A L F O R C E S

ELEM 26 ========== LENGTH = 0.503126

COMB COMB1 ---------- ------ MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-153.387473	-2.122482	-4.68E-17	3.37E-16	4.05E-15	13.704632
0.50000	-154.519096	3.539544	-7.33E-16	3.37E-16	4.15E-15	13.527534
1.00000	-155.661615	9.256274	-1.42E-15	3.37E-16	4.42E-15	11.919128

COMB COMB1 ---------- ------ MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-153.387473	-2.122482	-4.68E-17	3.37E-16	4.05E-15	13.704632
0.50000	-154.519096	3.539544	-7.33E-16	3.37E-16	4.15E-15	13.527534
1.00000	-155.661615	9.256274	-1.42E-15	3.37E-16	4.42E-15	11.919128

COMB COMB2 ---------- ------ MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-153.327980	-2.111538	-4.76E-17	3.38E-16	4.21E-15	12.402821
0.50000	-154.458705	3.550568	-7.33E-16	3.38E-16	4.31E-15	12.222970
1.00000	-155.601222	9.267219	-1.43E-15	3.38E-16	4.58E-15	10.611811

COMB COMB2 ---------- ------ MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-153.327980	-2.111538	-4.76E-17	3.38E-16	4.21E-15	12.402821
0.50000	-154.458705	3.550568	-7.33E-16	3.38E-16	4.31E-15	12.222970
1.00000	-155.601222	9.267219	-1.43E-15	3.38E-16	4.58E-15	10.611811

COMB COMB3 ---------- ------ MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-181.881373	-8.281415	8.42E-16	4.45E-16	3.97E-15	3.271000
0.50000	-181.153058	-2.247564	1.11E-16	4.45E-16	3.85E-15	4.596460
1.00000	-180.446706	3.838578	-6.26E-16	4.45E-16	3.92E-15	4.397373

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-181.881373	-8.281415	8.42E-16	4.45E-16	3.97E-15	3.271000
0.50000	-181.153058	-2.247564	1.11E-16	4.45E-16	3.85E-15	4.596460
1.00000	-180.446706	3.838578	-6.26E-16	4.45E-16	3.92E-15	4.397373

COMB COMB4 ---------- ------ MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-178.012022	-7.503546	7.80E-16	3.75E-16	2.64E-15	7.468225
0.50000	-177.283707	-1.469696	4.97E-17	3.75E-16	2.54E-15	8.598001
1.00000	-176.577355	4.616447	-6.87E-16	3.75E-16	2.62E-15	8.203232

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-178.012022	-7.503546	7.80E-16	3.75E-16	2.64E-15	7.468225
0.50000	-177.283707	-1.469696	4.97E-17	3.75E-16	2.54E-15	8.598001
1.00000	-176.577355	4.616447	-6.87E-16	3.75E-16	2.62E-15	8.203232

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-85.965026	-1.173037	-2.86E-17	1.88E-16	2.26E-15	7.792451
0.50000	-86.619937	2.003767	-4.13E-16	1.88E-16	2.32E-15	7.688602
1.00000	-87.260900	5.210851	-8.02E-16	1.88E-16	2.47E-15	6.781739

COMB COMB5 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-85.965026	-1.173037	-2.86E-17	1.88E-16	2.26E-15	7.792451
0.50000	-86.619937	2.003767	-4.13E-16	1.88E-16	2.32E-15	7.688602
1.00000	-87.260900	5.210851	-8.02E-16	1.88E-16	2.47E-15	6.781739

COMB COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-85.944764	-1.165740	-2.91E-17	1.90E-16	2.37E-15	6.924578
0.50000	-86.579675	2.011064	-4.14E-16	1.90E-16	2.43E-15	6.818893
1.00000	-87.220638	5.218147	-8.02E-16	1.90E-16	2.58E-15	5.910194

COMB COMB6 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-85.944764	-1.165740	-2.91E-17	1.90E-16	2.37E-15	6.924578
0.50000	-86.579675	2.011064	-4.14E-16	1.90E-16	2.43E-15	6.818893
1.00000	-87.220638	5.218147	-8.02E-16	1.90E-16	2.58E-15	5.910194

COMB COMB7 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-101.968867	-4.625653	4.68E-16	2.52E-16	2.28E-15	1.773806
0.50000	-101.570479	-1.242335	5.78E-17	2.52E-16	2.21E-15	2.512507
1.00000	-101.184292	2.170033	-3.55E-16	2.52E-16	2.25E-15	2.396394

COMB COMB7 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-101.968867	-4.625653	4.68E-16	2.52E-16	2.28E-15	1.773806
0.50000	-101.570479	-1.242335	5.78E-17	2.52E-16	2.21E-15	2.512507
1.00000	-101.184292	2.170033	-3.55E-16	2.52E-16	2.25E-15	2.396394

COMB COMB8 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-99.389300	-4.107074	4.27E-16	2.05E-16	1.39E-15	4.571956
0.50000	-98.990912	-0.723756	1.68E-17	2.05E-16	1.34E-15	5.180201
1.00000	-98.604725	2.688612	-3.96E-16	2.05E-16	1.38E-15	4.933633

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
0.50000	-98.990912	-0.723756	1.68E-17	2.05E-16	1.34E-15	5.180201
1.00000	-98.604725	2.688612	-3.96E-16	2.05E-16	1.38E-15	4.933633

COMB COMB8 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-99.389300	-4.107074	4.27E-16	2.05E-16	1.39E-15	4.571956
0.50000	-98.990912	-0.723756	1.68E-17	2.05E-16	1.34E-15	5.180201
1.00000	-98.604725	2.688612	-3.96E-16	2.05E-16	1.38E-15	4.933633

ELEM 29 ========== LENGTH = 0.503126

COMB COMB1 ---------- ------ MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-155.932756	-1.092002	-1.72E-16	7.25E-16	4.38E-15	11.919128
0.50000	-157.469216	4.599841	-8.61E-16	7.25E-16	4.51E-15	11.479414
1.00000	-159.024937	10.363036	-1.56E-15	7.25E-16	4.82E-15	9.598797

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-155.932756	-1.092002	-1.72E-16	7.25E-16	4.38E-15	11.919128
0.50000	-157.469216	4.599841	-8.61E-16	7.25E-16	4.51E-15	11.479414
1.00000	-159.024937	10.363036	-1.56E-15	7.25E-16	4.82E-15	9.598797

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-155.873223	-1.077074	-1.73E-16	7.27E-16	4.55E-15	10.611811
0.50000	-157.409683	4.614769	-8.62E-16	7.27E-16	4.68E-15	10.168342
1.00000	-158.965404	10.377964	-1.56E-15	7.27E-16	4.98E-15	8.283969

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-155.873223	-1.077074	-1.73E-16	7.27E-16	4.55E-15	10.611811
0.50000	-157.409683	4.614769	-8.62E-16	7.27E-16	4.68E-15	10.168342
1.00000	-158.965404	10.377964	-1.56E-15	7.27E-16	4.98E-15	8.283969

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-180.303779	-8.142207	8.25E-16	7.40E-16	3.88E-15	4.397373
0.50000	-180.032339	-1.962339	7.66E-17	7.40E-16	3.77E-15	5.669765
1.00000	-179.794772	4.284937	-6.80E-16	7.40E-16	3.84E-15	5.378974

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-180.303779	-8.142207	8.25E-16	7.40E-16	3.88E-15	4.397373
0.50000	-180.032339	-1.962339	7.66E-17	7.40E-16	3.77E-15	5.669765

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
1.00000	-179.794779	4.284937	-6.80E-16	7.40E-16	3.64E-15	5.276473

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-176.494565	-7.109328	7.33E-16	6.14E-16	2.59E-15	8.203232
0.50000	-176.223125	-0.929460	-1.58E-17	6.14E-16	2.50E-15	9.215789
1.00000	-175.955558	5.317817	-7.72E-16	6.14E-16	2.60E-15	8.661164

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-176.494565	-7.109328	7.33E-16	6.14E-16	2.59E-15	8.203232
0.50000	-176.223125	-0.929460	-1.58E-17	6.14E-16	2.50E-15	9.215789
1.00000	-175.955558	5.317817	-7.72E-16	6.14E-16	2.60E-15	8.661164

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-87.414354	-0.550241	-9.92E-17	4.06E-16	2.45E-15	6.781739
0.50000	-88.276229	2.602589	-4.86E-16	4.06E-16	2.52E-15	6.529466
1.00000	-89.148804	5.835061	-8.77E-16	4.06E-16	2.89E-15	5.468958

COMB COMB5 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-87.414354	-0.550241	-9.92E-17	4.06E-16	2.45E-15	6.781739
0.50000	-88.276229	2.602589	-4.86E-16	4.06E-16	2.52E-15	6.529466
1.00000	-89.148804	5.835061	-8.77E-16	4.06E-16	2.89E-15	5.468958

COMB COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-87.374665	-0.580289	-1.00E-16	4.08E-16	2.56E-15	5.910194
0.50000	-88.236540	2.612541	-4.87E-16	4.08E-16	2.63E-15	5.655412
1.00000	-89.109115	5.845012	-8.78E-16	4.08E-16	2.81E-15	4.592406

COMB COMB6 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-87.374665	-0.580289	-1.00E-16	4.08E-16	2.56E-15	5.910194
0.50000	-88.236540	2.612541	-4.87E-16	4.08E-16	2.63E-15	5.655412
1.00000	-89.109115	5.845012	-8.78E-16	4.08E-16	2.81E-15	4.592406

COMB COMB7 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-101.105313	-4.548152	4.58E-16	4.20E-16	2.23E-15	2.396394
0.50000	-100.962799	-1.084195	3.87E-17	4.20E-16	2.17E-15	3.105631
1.00000	-100.839104	2.417210	-3.85E-16	4.20E-16	2.21E-15	2.938712

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB7 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-101.105313	-4.548152	4.58E-16	4.20E-16	2.23E-15	2.396394
0.50000	-100.962799	-1.084195	3.87E-17	4.20E-16	2.17E-15	3.105631
1.00000	-100.839104	2.417210	-3.85E-16	4.20E-16	2.21E-15	2.938712

COMB COMB8 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-98.565637	-3.859565	3.97E-16	3.36E-16	1.37E-15	4.933633
0.50000	-98.423323	-0.395609	-2.29E-17	3.38E-16	1.32E-15	5.469548
1.00000	-98.299628	3.105796	-4.47E-16	3.36E-16	1.38E-15	5.129505

COMB COMB8 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-98.565637	-3.859565	3.97E-16	3.36E-16	1.37E-15	4.933633
0.50000	-98.423323	-0.395609	-2.29E-17	3.38E-16	1.32E-15	5.469548
1.00000	-98.299628	3.105796	-4.47E-16	3.36E-16	1.38E-15	5.129505

ELEM 30 ========== LENGTH = 0.503126

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-159.362099	-0.210805	-2.78E-16	1.12E-15	4.76E-15	9.598797
0.50000	-161.324034	5.516056	-9.72E-16	1.12E-15	4.91E-15	8.933331
1.00000	-163.315786	11.329953	-1.68E-15	1.12E-15	5.25E-15	6.816178

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-159.362099	-0.210805	-2.78E-16	1.12E-15	4.76E-15	9.598797
0.50000	-161.324034	5.516056	-9.72E-16	1.12E-15	4.91E-15	8.933331
1.00000	-163.315786	11.329953	-1.68E-15	1.12E-15	5.25E-15	6.816178

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-159.303687	-0.191961	-2.80E-16	1.12E-15	4.92E-15	8.283969
0.50000	-161.265622	5.534901	-9.74E-16	1.12E-15	5.08E-15	7.613762
1.00000	-163.257374	11.348797	-1.68E-15	1.12E-15	5.41E-15	5.491869

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-159.303687	-0.191961	-2.80E-16	1.12E-15	4.92E-15	8.283969
0.50000	-161.265622	5.534901	-9.74E-16	1.12E-15	5.08E-15	7.613762
1.00000	-163.257374	11.348797	-1.68E-15	1.12E-15	5.41E-15	5.491869

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-179.682898	-7.653551	7.66E-16	1.04E-15	3.78E-15	5.378974
0.50000	-179.903176	-1.330024	4.26E-20	1.04E-15	3.69E-15	6.510554
1.00000	-180.170797	5.074533	-7.76E-16	1.04E-15	3.78E-15	6.041296

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-179.682898	-7.653551	7.66E-16	1.04E-15	3.78E-15	5.378974
0.50000	-179.903176	-1.330024	4.26E-20	1.04E-15	3.69E-15	6.510554
1.00000	-180.170797	5.074533	-7.76E-16	1.04E-15	3.78E-15	6.041296

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-175.950607	-6.370213	6.43E-16	8.54E-16	2.55E-15	8.665164
0.50000	-176.170885	-0.046687	-1.23E-16	8.54E-16	2.48E-15	9.474003
1.00000	-176.438506	6.357870	-8.98E-16	8.54E-16	2.61E-15	8.661805

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-175.950607	-6.370213	6.43E-16	8.54E-16	2.55E-15	8.665164
0.50000	-176.170885	-0.046687	-1.23E-16	8.54E-16	2.48E-15	9.474003
1.00000	-176.438506	6.357870	-8.98E-16	8.54E-16	2.61E-15	8.661805

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-89.339514	-0.092653	-1.59E-16	6.28E-16	2.66E-15	5.468958
0.50000	-90.439782	3.119015	-5.48E-16	6.28E-16	2.75E-15	5.089317
1.00000	-91.556615	6.379037	-9.43E-16	6.28E-16	2.94E-15	3.895618

COMB COMB5 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-89.339514	-0.092653	-1.59E-16	6.28E-16	2.66E-15	5.468958
0.50000	-90.439782	3.119015	-5.48E-16	6.28E-16	2.75E-15	5.089317
1.00000	-91.556615	6.379037	-9.43E-16	6.28E-16	2.94E-15	3.895618

COMB COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-89.300572	-0.080090	-1.61E-16	6.30E-16	2.77E-15	4.592406
0.50000	-90.400840	3.131579	-5.50E-16	6.30E-16	2.86E-15	4.209605
1.00000	-91.517673	6.391600	-9.44E-16	6.30E-16	3.05E-15	3.012745

COMB COMB6 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-89.300572	-0.080090	-1.61E-16	6.30E-16	2.77E-15	4.592406

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
0.50000	-90.400840	3.131579	-5.50E-16	6.30E-16	2.86E-15	4.209605
1.00000	-91.517673	6.391600	-9.44E-16	6.30E-16	3.05E-15	3.012745

COMB COMB7 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-100.777286	-4.278602	4.26E-16	5.89E-16	2.18E-15	2.938712
0.50000	-100.909967	-0.735453	-3.56E-18	5.89E-16	2.12E-15	3.570339
1.00000	-101.068950	2.852713	-4.38E-16	5.89E-16	2.18E-15	3.304933

COMB COMB7 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-100.777286	-4.278602	4.26E-16	5.89E-16	2.18E-15	2.938712
0.50000	-100.909967	-0.735453	-3.56E-18	5.89E-16	2.12E-15	3.570339
1.00000	-101.068950	2.852713	-4.38E-16	5.89E-16	2.18E-15	3.304933

COMB COMB8 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-98.289092	-3.423044	3.44E-16	4.68E-16	1.35E-15	5.129505
0.50000	-98.421773	0.120105	-8.54E-17	4.68E-16	1.32E-15	5.545905
1.00000	-98.580756	3.708271	-5.20E-16	4.68E-16	1.40E-15	5.065273

COMB COMB8 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-98.289092	-3.423044	3.44E-16	4.68E-16	1.35E-15	5.129505
0.50000	-98.421773	0.120105	-8.54E-17	4.68E-16	1.32E-15	5.545905
1.00000	-98.580756	3.708271	-5.20E-16	4.68E-16	1.40E-15	5.065273

ELEM 31 ========== LENGTH = 0.503125

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-163.707645	0.469656	-3.61E-16	1.52E-15	5.16E-15	6.816178
0.50000	-166.120174	6.232808	-1.06E-15	1.52E-15	5.34E-15	5.975270
1.00000	-168.575126	12.097303	-1.77E-15	1.52E-15	5.69E-15	3.671749

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-163.707645	0.469656	-3.61E-16	1.52E-15	5.16E-15	6.816178
0.50000	-166.120174	6.232808	-1.06E-15	1.52E-15	5.34E-15	5.975270
1.00000	-168.575126	12.097303	-1.77E-15	1.52E-15	5.69E-15	3.671749

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-163.650612	0.492335	-3.63E-16	1.52E-15	5.33E-15	5.491869
0.50000	-166.063141	6.255486	-1.06E-15	1.52E-15	5.50E-15	4.645256

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
1.00000	-169.518093	12.119982	-1.77E-15	1.52E-15	5.86E-15	2.336029

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-169.650612	0.492335	-3.63E-16	1.52E-15	5.33E-15	5.491869
0.50000	-169.083141	6.255486	-1.06E-15	1.52E-15	5.50E-15	4.645256
1.00000	-168.518093	12.119982	-1.77E-15	1.52E-15	5.86E-15	2.336029

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-180.110499	-6.890242	6.73E-16	1.33E-15	3.70E-15	6.041296
0.50000	-180.860301	-0.431053	-1.09E-16	1.33E-15	3.63E-15	6.964137
1.00000	-181.672955	6.120930	-9.02E-16	1.33E-15	3.76E-15	6.250334

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-180.110499	-6.890242	6.73E-16	1.33E-15	3.70E-15	6.041296
0.50000	-180.860301	-0.431053	-1.09E-16	1.33E-15	3.63E-15	6.964137
1.00000	-181.672955	6.120930	-9.02E-16	1.33E-15	3.76E-15	6.250334

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-176.471575	-5.362110	5.21E-16	1.10E-15	2.54E-15	8.681805
0.50000	-177.221378	1.097080	-2.61E-16	1.10E-15	2.51E-15	9.220225
1.00000	-178.034031	7.649062	-1.05E-15	1.10E-15	2.68E-15	8.122001

COMB COMB5 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-176.471575	-5.362110	5.21E-16	1.10E-15	2.54E-15	8.681805
0.50000	-177.221378	1.097080	-2.61E-16	1.10E-15	2.51E-15	9.220225
1.00000	-178.034031	7.649062	-1.05E-15	1.10E-15	2.68E-15	8.122001

COMB COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-91.778110	0.290575	-2.06E-16	8.53E-16	2.89E-15	3.895618
0.50000	-93.130681	3.521655	-5.97E-16	8.53E-16	2.99E-15	3.417298
1.00000	-94.506820	6.809037	-9.95E-16	8.53E-16	3.19E-15	2.119037

COMB COMB5 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-91.778110	0.290575	-2.06E-16	8.53E-16	2.89E-15	3.895618
0.50000	-93.130681	3.521655	-5.97E-16	8.53E-16	2.99E-15	3.417298
1.00000	-94.506820	6.809037	-9.95E-16	8.53E-16	3.19E-15	2.119037

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-91.778110	0.290575	-2.06E-16	8.53E-16	2.89E-15	3.895618
0.50000	-93.130681	3.521655	-5.97E-16	8.53E-16	2.99E-15	3.417298
1.00000	-94.506820	6.809037	-9.95E-16	8.53E-16	3.19E-15	2.119037

COMB COMB7 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-91.778110	0.290575	-2.06E-16	8.53E-16	2.89E-15	3.895618
0.50000	-93.130681	3.521655	-5.97E-16	8.53E-16	2.99E-15	3.417298
1.00000	-94.506820	6.809037	-9.95E-16	8.53E-16	3.19E-15	2.119037

COMB COMB8 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-98.609580	-2.840329	2.73E-16	6.00E-16	1.36E-15	5.065273
0.50000	-99.038414	0.777439	-1.65E-16	6.00E-16	1.35E-15	5.325834
1.00000	-99.502166	4.446758	-6.09E-16	6.00E-16	1.44E-15	4.669771

COMB COMB8 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-98.609580	-2.840329	2.73E-16	6.00E-16	1.36E-15	5.065273
0.50000	-99.038414	0.777439	-1.65E-16	6.00E-16	1.35E-15	5.325834
1.00000	-99.502166	4.446758	-6.09E-16	6.00E-16	1.44E-15	4.669771

ELEM 32 FRAME LENGTH = 0.503126

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-169.006311	0.885868	-4.11E-16	1.92E-15	5.58E-15	3.671749
0.50000	-171.898413	6.681685	-1.11E-15	1.92E-15	5.77E-15	2.722286
1.00000	-174.847241	12.591181	-1.83E-15	1.92E-15	6.14E-15	0.300437

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-169.006311	0.885868	-4.11E-16	1.92E-15	5.58E-15	3.671749
0.50000	-171.898413	6.681685	-1.11E-15	1.92E-15	5.77E-15	2.722286
1.00000	-174.847241	12.591181	-1.83E-15	1.92E-15	6.14E-15	0.300437

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-168.950908	0.912281	-4.14E-16	1.93E-15	5.75E-15	2.336029
0.50000	-171.843010	6.708097	-1.12E-15	1.93E-15	5.94E-15	1.379922
1.00000	-174.791838	12.617594	-1.83E-15	1.93E-15	6.31E-15	-1.048572

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-168.950908	0.912281	-4.14E-16	1.93E-15	5.75E-15	2.336029
0.50000	-171.843010	6.708097	-1.12E-15	1.93E-15	5.94E-15	1.379922
1.00000	-174.791838	12.617594	-1.83E-15	1.93E-15	6.31E-15	-1.048572

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-181.678752	-5.946363	5.59E-16	1.63E-15	3.66E-15	6.250334
0.50000	-182.998893	0.633860	-2.38E-16	1.63E-15	3.62E-15	6.920705
1.00000	-184.398811	7.316259	-1.05E-15	1.63E-15	3.78E-15	5.922799

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-181.678752	-5.946363	5.59E-16	1.63E-15	3.66E-15	6.250334
0.50000	-182.998893	0.633860	-2.38E-16	1.63E-15	3.62E-15	6.920705
1.00000	-184.398811	7.316259	-1.05E-15	1.63E-15	3.78E-15	5.922799

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-178.149237	-4.180159	3.78E-16	1.34E-15	2.60E-15	8.122001
0.50000	-179.469378	2.400063	-4.19E-16	1.34E-15	2.60E-15	8.348061
1.00000	-180.869296	9.082463	-1.23E-15	1.34E-15	2.81E-15	6.905843

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-178.149237	-4.180159	3.78E-16	1.34E-15	2.60E-15	8.122001
0.50000	-179.469378	2.400063	-4.19E-16	1.34E-15	2.60E-15	8.348061
1.00000	-180.869296	9.082463	-1.23E-15	1.34E-15	2.81E-15	6.905843

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-94.750345	0.523607	-2.34E-16	1.08E-15	3.12E-15	2.119037

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
0.50000	-96.371265	3.771954	-6.27E-16	1.08E-15	3.23E-15	1.580065
1.00000	-98.023699	7.083457	-1.03E-15	1.08E-15	3.44E-15	0.215944

COMB COMB5 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-94.750345	0.523607	-2.34E-16	1.08E-15	3.12E-15	2.119037
0.50000	-96.371265	3.771954	-6.27E-16	1.08E-15	3.23E-15	1.580065
1.00000	-98.023699	7.083457	-1.03E-15	1.08E-15	3.44E-15	0.215944

COMB COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-94.713410	0.541215	-2.36E-16	1.08E-15	3.24E-15	1.228557
0.50000	-96.334330	3.789563	-6.29E-16	1.08E-15	3.34E-15	0.685156
1.00000	-97.986764	7.101066	-1.03E-15	1.08E-15	3.55E-15	-0.683394

COMB COMB6 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-94.713410	0.541215	-2.36E-16	1.08E-15	3.24E-15	1.228557
0.50000	-96.334330	3.789563	-6.29E-16	1.08E-15	3.34E-15	0.685156
1.00000	-97.986764	7.101066	-1.03E-15	1.08E-15	3.55E-15	-0.683394

COMB COMB7 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-101.930959	-3.342371	3.12E-16	9.28E-16	2.11E-15	3.421993
0.50000	-102.678566	0.341757	-1.34E-16	9.28E-16	2.09E-15	3.800612
1.00000	-103.470495	4.082651	-5.87E-16	9.28E-16	2.18E-15	3.245255

COMB COMB7 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-101.930959	-3.342371	3.12E-16	9.28E-16	2.11E-15	3.421993
0.50000	-102.678566	0.341757	-1.34E-16	9.28E-16	2.09E-15	3.800612
1.00000	-103.470495	4.082651	-5.87E-16	9.28E-16	2.18E-15	3.245255

COMB COMB8 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-99.577948	-2.164902	1.91E-16	7.32E-16	1.40E-15	4.669771
0.50000	-100.325556	1.519226	-2.55E-16	7.32E-16	1.41E-15	4.752183
1.00000	-101.117485	5.260120	-7.08E-16	7.32E-16	1.53E-15	3.900617

COMB COMB8 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-99.577948	-2.164902	1.91E-16	7.32E-16	1.40E-15	4.669771
0.50000	-100.325556	1.519226	-2.55E-16	7.32E-16	1.41E-15	4.752183
1.00000	-101.117485	5.260120	-7.08E-16	7.32E-16	1.53E-15	3.900617

F R A M E E L E M E N T I N T E R N A L F O R C E S

ELEM 33 ========== LENGTH = 0.503126

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-175.297372	0.962675	-4.20E-16	2.33E-15	6.06E-15	0.304437
0.50000	-178.700752	6.781412	-1.13E-15	2.33E-15	6.19E-15	-0.671016
1.00000	-182.176605	12.724056	-1.84E-15	2.33E-15	6.56E-15	-3.121906

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-175.297372	0.962675	-4.20E-16	2.33E-15	6.06E-15	0.304437
0.50000	-178.700752	6.781412	-1.13E-15	2.33E-15	6.19E-15	-0.671016
1.00000	-182.176605	12.724056	-1.84E-15	2.33E-15	6.56E-15	-3.121906

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-175.243844	0.992706	-4.24E-16	2.33E-15	6.17E-15	-1.048572
0.50000	-178.647224	6.811442	-1.13E-15	2.33E-15	6.36E-15	-2.027579
1.00000	-182.123076	12.754086	-1.85E-15	2.33E-15	6.74E-15	-4.486023

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-175.243844	0.992706	-4.24E-16	2.33E-15	6.17E-15	-1.048572
0.50000	-178.647224	6.811442	-1.13E-15	2.33E-15	6.36E-15	-2.027579
1.00000	-182.123076	12.754086	-1.85E-15	2.33E-15	6.74E-15	-4.486023

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-184.477916	-4.934351	4.37E-16	1.93E-15	3.66E-15	5.922799
0.50000	-186.410378	1.744725	-3.72E-16	1.93E-15	3.66E-15	6.326300
1.00000	-188.440283	8.533104	-1.19E-15	1.93E-15	3.85E-15	5.035761

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-184.477916	-4.934351	4.37E-16	1.93E-15	3.66E-15	5.922799
0.50000	-186.410378	1.744725	-3.72E-16	1.93E-15	3.66E-15	6.326300
1.00000	-188.440283	8.533104	-1.19E-15	1.93E-15	3.85E-15	5.035761

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-181.073362	-2.937863	2.27E-16	1.57E-15	2.71E-15	6.905843
0.50000	-183.005824	3.741213	-5.81E-16	1.57E-15	2.76E-15	6.807102
1.00000	-185.035729	10.529592	-1.40E-15	1.57E-15	3.01E-15	5.014320

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-181.073362	-2.937863	2.27E-16	1.57E-15	2.71E-15	6.905843
0.50000	-183.005824	3.741213	-5.81E-16	1.57E-15	2.76E-15	6.807102
1.00000	-185.035729	10.529592	-1.40E-15	1.57E-15	3.01E-15	5.014320

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-98.277681	0.564175	-2.39E-16	1.31E-15	3.36E-15	0.215944
0.50000	-100.184500	3.824051	-6.34E-16	1.31E-15	3.47E-15	-0.334588
1.00000	-102.151582	7.153165	-1.04E-15	1.31E-15	3.68E-15	-1.713935

COMB COMB5 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-98.277681	0.564175	-2.39E-16	1.31E-15	3.36E-15	0.215944
0.50000	-100.184500	3.824051	-6.34E-16	1.31E-15	3.47E-15	-0.334588
1.00000	-102.151582	7.153165	-1.04E-15	1.31E-15	3.68E-15	-1.713935

COMB COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-98.241996	0.584195	-2.41E-16	1.31E-15	3.47E-15	-0.683394
0.50000	-100.148814	3.844271	-6.36E-16	1.31E-15	3.58E-15	-1.238963
1.00000	-102.095896	7.173185	-1.04E-15	1.31E-15	3.79E-15	-2.623346

COMB COMB6 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-98.241996	0.584195	-2.41E-16	1.31E-15	3.47E-15	-0.683394
0.50000	-100.148814	3.844271	-6.36E-16	1.31E-15	3.58E-15	-1.238963
1.00000	-102.095896	7.173185	-1.04E-15	1.31E-15	3.79E-15	-2.623346

COMB COMB7 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-103.513378	-2.791404	2.45E-16	1.10E-15	2.11E-15	3.245255
0.50000	-104.603021	0.946639	-2.07E-16	1.10E-15	2.11E-15	3.478573
1.00000	-105.746798	4.745406	-6.67E-16	1.10E-15	2.22E-15	2.763853

COMB COMB7 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-103.513378	-2.791404	2.45E-16	1.10E-15	2.11E-15	3.245255
0.50000	-104.603021	0.946639	-2.07E-16	1.10E-15	2.11E-15	3.478573
1.00000	-105.746798	4.745406	-6.67E-16	1.10E-15	2.22E-15	2.763853

COMB COMB8 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-101.243675	-1.460412	1.06E-16	8.63E-16	1.48E-15	3.900617

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
0.50000	-102.333318	2.277631	-3.47E-16	8.63E-16	1.51E-15	3.799107
1.00000	-103.477095	6.076398	-8.07E-16	8.63E-16	1.65E-15	2.749559

COMB COMB8 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-101.243675	-1.460412	1.06E-16	8.63E-16	1.48E-15	3.900617
0.50000	-102.333318	2.277631	-3.47E-16	8.63E-16	1.51E-15	3.799107
1.00000	-103.477095	6.076398	-8.07E-16	8.63E-16	1.65E-15	2.749559

ELEM 34 ========== LENGTH = 0.503126

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-182.619402	0.609000	-3.78E-16	2.73E-15	6.40E-15	-3.121906
0.50000	-186.567747	6.434632	-1.08E-15	2.73E-15	6.58E-15	-4.005080
1.00000	-190.605755	12.392557	-1.80E-15	2.73E-15	6.94E-15	-6.370482

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-182.619402	0.609000	-3.78E-16	2.73E-15	6.40E-15	-3.121906
0.50000	-186.567747	6.434632	-1.08E-15	2.73E-15	6.58E-15	-4.005080
1.00000	-190.605755	12.392557	-1.80E-15	2.73E-15	6.94E-15	-6.370482

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-182.567984	0.642516	-3.81E-16	2.74E-15	6.57E-15	-4.486023
0.50000	-186.516329	6.466148	-1.09E-15	2.74E-15	6.75E-15	-5.377628
1.00000	-190.554337	12.426073	-1.81E-15	2.74E-15	7.11E-15	-7.751462

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-182.567984	0.642516	-3.81E-16	2.74E-15	6.57E-15	-4.486023
0.50000	-186.516329	6.466148	-1.09E-15	2.74E-15	6.75E-15	-5.377628
1.00000	-190.554337	12.426073	-1.81E-15	2.74E-15	7.11E-15	-7.751462

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-188.591218	-3.988298	3.22E-16	2.22E-15	3.72E-15	5.035761
0.50000	-191.177883	2.760218	-4.95E-16	2.22E-15	3.74E-15	5.192641
1.00000	-193.880774	9.623024	-1.33E-15	2.22E-15	3.97E-15	3.637381

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-188.591218	-3.988298	3.22E-16	2.22E-15	3.72E-15	5.035761
0.50000	-191.177883	2.760218	-4.95E-16	2.22E-15	3.74E-15	5.192641

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
1.00000	-193.880774	9.623024	-1.33E-15	2.22E-15	3.97E-15	3.637381

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-185.326628	-1.770325	8.61E-17	1.81E-15	2.89E-15	5.014320
0.50000	-187.913294	4.978192	-7.31E-16	1.81E-15	2.97E-15	4.613240
1.00000	-190.616184	11.840997	-1.56E-15	1.81E-15	3.26E-15	2.500019

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-185.326628	-1.770325	8.61E-17	1.81E-15	2.89E-15	5.014320
0.50000	-187.913294	4.978192	-7.31E-16	1.81E-15	2.97E-15	4.613240
1.00000	-190.616184	11.840997	-1.56E-15	1.81E-15	3.26E-15	2.500019

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-102.381137	0.361196	-2.14E-16	1.53E-15	3.59E-15	-1.713935
0.50000	-104.592501	3.623978	-6.10E-16	1.53E-15	3.69E-15	-2.213649
1.00000	-106.853676	6.960256	-1.01E-15	1.53E-15	3.89E-15	-3.543444

COMB COMB5 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-102.381137	0.361196	-2.14E-16	1.53E-15	3.59E-15	-1.713935
0.50000	-104.592501	3.623978	-6.10E-16	1.53E-15	3.69E-15	-2.213649
1.00000	-106.853676	6.960256	-1.01E-15	1.53E-15	3.89E-15	-3.543444

COMB COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-102.346859	0.383540	-2.17E-16	1.54E-15	3.70E-15	-2.623346
0.50000	-104.558222	3.646322	-6.12E-16	1.54E-15	3.80E-15	-3.128681
1.00000	-106.819398	6.982600	-1.02E-15	1.54E-15	4.01E-15	-4.464098

COMB COMB6 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-102.346859	0.383540	-2.17E-16	1.54E-15	3.70E-15	-2.623346
0.50000	-104.558222	3.646322	-6.12E-16	1.54E-15	3.80E-15	-3.128681
1.00000	-106.819398	6.982600	-1.02E-15	1.54E-15	4.01E-15	-4.464098

COMB COMB7 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-105.828638	-2.281119	1.84E-16	1.26E-15	2.14E-15	2.763853
0.50000	-107.283512	1.494376	-2.74E-16	1.26E-15	2.15E-15	2.864150
1.00000	-108.802957	5.333365	-7.39E-16	1.26E-15	2.28E-15	2.006637

F R A M E   E L E M E N T   I N T E R N A L   F O R C E S

COMB COMB7 ------------------ MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-105.825638	-2.281119	1.64E-16	1.20E-15	2.14E-15	2.763853
0.50000	-107.283512	1.494376	-2.74E-16	1.26E-15	2.15E-15	2.864150
1.00000	-108.802957	5.333365	-7.39E-16	1.26E-15	2.28E-15	2.006637

COMB COMB8 ------------------ MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-103.652245	-0.802470	2.64E-17	9.93E-16	1.59E-15	2.749559
0.50000	-105.107119	2.973025	-4.31E-16	9.93E-16	1.64E-15	2.477882
1.00000	-106.626563	6.812014	-8.96E-16	9.93E-16	1.81E-15	1.248396

COMB COMB8 ------------------ MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-103.652245	-0.802470	2.64E-17	9.93E-16	1.59E-15	2.749559
0.50000	-105.107119	2.973025	-4.31E-16	9.93E-16	1.64E-15	2.477882
1.00000	-106.626563	6.812014	-8.96E-16	9.93E-16	1.81E-15	1.248396

ELEM 35 ================== LENGTH = 0.503126

COMB COMB1 ------------------ MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-191.007985	-0.280820	-2.70E-16	3.14E-15	6.75E-15	-6.370482
0.50000	-195.536154	5.529214	-9.73E-16	3.14E-15	6.90E-15	-7.027728
1.00000	-200.171867	11.477238	-1.69E-15	3.14E-15	7.24E-15	-9.163993

COMB COMB1 ------------------ MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-191.007985	-0.280820	-2.70E-16	3.14E-15	6.75E-15	-6.370482
0.50000	-195.536154	5.529214	-9.73E-16	3.14E-15	6.90E-15	-7.027728
1.00000	-200.171867	11.477238	-1.69E-15	3.14E-15	7.24E-15	-9.163993

COMB COMB2 ------------------ MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-190.958904	-0.243967	-2.74E-16	3.14E-15	6.92E-15	-7.751462
0.50000	-195.487073	5.566068	-9.77E-16	3.14E-15	7.08E-15	-8.417979
1.00000	-200.122786	11.514091	-1.70E-15	3.14E-15	7.41E-15	-10.563515

COMB COMB2 ------------------ MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-190.958904	-0.243967	-2.74E-16	3.14E-15	6.92E-15	-7.751462
0.50000	-195.487073	5.566068	-9.77E-16	3.14E-15	7.08E-15	-8.417979
1.00000	-200.122786	11.514091	-1.70E-15	3.14E-15	7.41E-15	-10.563515

F R A M E   E L E M E N T   I N T E R N A L   F O R C E S

COMB COMB3 ------------------ MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-194.092039	-3.261536	2.34E-16	2.50E-15	3.81E-15	3.637381
0.50000	-197.374279	3.519536	-5.87E-16	2.50E-15	3.85E-15	3.607385
1.00000	-200.791690	10.417068	-1.42E-15	2.50E-15	4.11E-15	1.856788

COMB COMB3 ------------------ MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-194.092039	-3.261536	2.34E-16	2.50E-15	3.81E-15	3.637381
0.50000	-197.374279	3.519536	-5.87E-16	2.50E-15	3.85E-15	3.607385
1.00000	-200.791690	10.417068	-1.42E-15	2.50E-15	4.11E-15	1.856788

COMB COMB4 ------------------ MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-190.981798	-0.831857	-2.76E-17	2.04E-15	3.13E-15	2.500019
0.50000	-194.264038	5.949217	-8.49E-16	2.04E-15	3.24E-15	1.858806
1.00000	-197.681449	12.846750	-1.68E-15	2.04E-15	3.56E-15	-0.503009

COMB COMB4 ------------------ MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-190.981798	-0.831857	-2.76E-17	2.04E-15	3.13E-15	2.500019
0.50000	-194.264038	5.949217	-8.49E-16	2.04E-15	3.24E-15	1.858806
1.00000	-197.681449	12.846750	-1.68E-15	2.04E-15	3.56E-15	-0.503009

COMB COMB5 ------------------ MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-107.080028	-0.144474	-1.53E-16	1.76E-15	3.78E-15	-3.543444
0.50000	-109.615222	3.108401	-5.47E-16	1.76E-15	3.87E-15	-3.914637
1.00000	-112.210164	6.437936	-9.50E-16	1.76E-15	4.06E-15	-5.113817

COMB COMB5 ------------------ MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-107.080028	-0.144474	-1.53E-16	1.76E-15	3.78E-15	-3.543444
0.50000	-109.615222	3.108401	-5.47E-16	1.76E-15	3.87E-15	-3.914637
1.00000	-112.210164	6.437936	-9.50E-16	1.76E-15	4.06E-15	-5.113817

COMB COMB6 ------------------ MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-107.047307	-0.119905	-1.56E-16	1.76E-15	3.90E-15	-4.464098
0.50000	-109.582502	3.132970	-5.50E-16	1.76E-15	3.99E-15	-4.841471
1.00000	-112.177443	6.462505	-9.53E-16	1.76E-15	4.18E-15	-6.046831

COMB COMB6 ------------------ MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-107.047307	-0.119905	-1.56E-16	1.76E-15	3.90E-15	-4.464098

F R A M E   E L E M E N T   I N T E R N A L   F O R C E S

REL DIST	P	V2	V3	T	M2	M3
0.50000	-109.582502	3.132970	-5.50E-16	1.76E-15	3.99E-15	-4.841471
1.00000	-112.177443	6.462505	-9.53E-16	1.76E-15	4.18E-15	-6.046831

COMB COMB7 ------------------ MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-108.917075	-1.897109	1.37E-16	1.43E-15	2.19E-15	2.006637
0.50000	-110.760086	1.895233	-3.22E-16	1.43E-15	2.21E-15	2.008237
1.00000	-112.678193	5.752273	-7.89E-16	1.43E-15	2.35E-15	1.047639

COMB COMB7 ------------------ MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-108.917075	-1.897109	1.37E-16	1.43E-15	2.19E-15	2.006637
0.50000	-110.760086	1.895233	-3.22E-16	1.43E-15	2.21E-15	2.008237
1.00000	-112.678193	5.752273	-7.89E-16	1.43E-15	2.35E-15	1.047639

COMB COMB8 ------------------ MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-106.843580	-0.277321	-3.72E-17	1.12E-15	1.74E-15	1.248396
0.50000	-108.686592	3.515020	-4.97E-16	1.12E-15	1.80E-15	0.842517
1.00000	-110.604699	7.372061	-9.64E-16	1.12E-15	1.99E-15	-0.525559

COMB COMB8 ------------------ MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-106.843580	-0.277321	-3.72E-17	1.12E-15	1.74E-15	1.248396
0.50000	-108.686592	3.515020	-4.97E-16	1.12E-15	1.80E-15	0.842517
1.00000	-110.604699	7.372061	-9.64E-16	1.12E-15	1.99E-15	-0.525559

ELEM 36 ================== LENGTH = 0.503126

COMB COMB1 ------------------ MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-200.492288	-1.829173	-8.23E-17	3.54E-15	7.02E-15	-9.163993
0.50000	-205.634780	3.935320	-7.80E-16	3.54E-15	7.13E-15	-9.425929
1.00000	-210.903506	9.841316	-1.50E-15	3.54E-15	7.41E-15	-11.155869

COMB COMB1 ------------------ MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-200.492288	-1.829173	-8.23E-17	3.54E-15	7.02E-15	-9.163993
0.50000	-205.634780	3.935320	-7.80E-16	3.54E-15	7.13E-15	-9.425929
1.00000	-210.903506	9.841316	-1.50E-15	3.54E-15	7.41E-15	-11.155869

COMB COMB2 ------------------ MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-200.445760	-1.789144	-8.66E-17	3.54E-15	7.19E-15	-10.563515
0.50000	-205.588252	3.975349	-7.85E-16	3.54E-15	7.30E-15	-10.835520

F R A M E   E L E M E N T   I N T E R N A L   F O R C E S

REL DIST	P	V2	V3	T	M2	M3
1.00000	-210.856979	9.881344	-1.50E-15	3.54E-15	7.59E-15	-12.575531

COMB COMB2 ------------------ MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-200.445760	-1.789144	-8.66E-17	3.54E-15	7.19E-15	-10.563515
0.50000	-205.588252	3.975349	-7.85E-16	3.54E-15	7.30E-15	-10.835520
1.00000	-210.856979	9.881344	-1.50E-15	3.54E-15	7.59E-15	-12.575531

COMB COMB3 ------------------ MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-201.040405	-2.928131	1.94E-16	2.79E-15	3.93E-15	1.856788
0.50000	-205.057360	3.840451	-6.26E-16	2.79E-15	3.98E-15	1.744483
1.00000	-209.229046	10.725114	-1.46E-15	2.79E-15	4.25E-15	-0.085233

COMB COMB3 ------------------ MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-201.040405	-2.928131	1.94E-16	2.79E-15	3.93E-15	1.856788
0.50000	-205.057360	3.840451	-6.26E-16	2.79E-15	3.98E-15	1.744483
1.00000	-209.229046	10.725114	-1.46E-15	2.79E-15	4.25E-15	-0.085233

COMB COMB4 ------------------ MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-198.098223	-0.297443	-9.23E-17	2.27E-15	3.42E-15	-0.503009
0.50000	-202.115178	6.471139	-9.12E-16	2.27E-15	3.54E-15	-1.277097
1.00000	-206.286864	13.355802	-1.75E-15	2.27E-15	3.88E-15	-3.768597

COMB COMB4 ------------------ MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-198.098223	-0.297443	-9.23E-17	2.27E-15	3.42E-15	-0.503009
0.50000	-202.115178	6.471139	-9.12E-16	2.27E-15	3.54E-15	-1.277097
1.00000	-206.286864	13.355802	-1.75E-15	2.27E-15	3.88E-15	-3.768597

COMB COMB5 ------------------ MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-112.390057	-1.021236	-4.70E-17	1.99E-15	3.94E-15	-5.113817
0.50000	-115.268163	2.204986	-4.38E-16	1.99E-15	4.00E-15	-5.261056
1.00000	-118.216399	5.509821	-8.38E-16	1.99E-15	4.16E-15	-6.229822

COMB COMB5 ------------------ MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-112.390057	-1.021236	-4.70E-17	1.99E-15	3.94E-15	-5.113817
0.50000	-115.268163	2.204986	-4.38E-16	1.99E-15	4.00E-15	-5.261056
1.00000	-118.216399	5.509821	-8.38E-16	1.99E-15	4.16E-15	-6.229822

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-112.359039	-0.994550	-4.98E-17	1.99E-15	4.05E-15	-6.046831
0.50000	-115.237144	2.231672	-4.41E-16	1.99E-15	4.11E-15	-6.200783
1.00000	-118.165380	5.536507	-8.41E-16	1.99E-15	4.27E-15	-7.176262

COMB COMB6 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-112.359039	-0.994550	-4.98E-17	1.99E-15	4.05E-15	-6.046831
0.50000	-115.237144	2.231672	-4.41E-16	1.99E-15	4.11E-15	-6.200783
1.00000	-118.165380	5.536507	-8.41E-16	1.99E-15	4.27E-15	-7.176262

COMB COMB7 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-112.811562	-1.736441	1.18E-16	1.59E-15	2.25E-15	1.047639
0.50000	115.064370	2.047606	-3.41E-16	1.59E-15	2.28E-15	1.009860
1.00000	-117.403139	5.896147	-8.07E-16	1.59E-15	2.42E-15	0.011995

COMB COMB7 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-112.811562	-1.736441	1.18E-16	1.59E-15	2.25E-15	1.047639
0.50000	115.064370	2.047606	-3.41E-16	1.59E-15	2.28E-15	1.009860
1.00000	-117.403139	5.896147	-8.07E-16	1.59E-15	2.42E-15	0.011995

COMB COMB8 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-110.850108	0.017351	-7.29E-17	1.25E-15	1.91E-15	-0.525559
0.50000	-113.102915	3.801400	-5.31E-16	1.25E-15	1.98E-15	-1.004527
1.00000	-115.441685	7.649938	-9.97E-16	1.25E-15	2.18E-15	-2.443581

COMB COMB8 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-110.850108	0.017351	-7.29E-17	1.25E-15	1.91E-15	-0.525559
0.50000	-113.102915	3.801400	-5.31E-16	1.25E-15	1.98E-15	-1.004527
1.00000	-115.441685	7.649938	-9.97E-16	1.25E-15	2.18E-15	-2.443581

ELEM 37 ========== LENGTH = 0.503126

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-211.091753	-4.172773	2.01E-16	3.93E-15	7.16E-15	-11.155869
0.50000	-216.882016	1.509329	-4.87E-16	3.93E-15	7.20E-15	-10.817862
1.00000	-222.817290	7.333732	-1.19E-15	3.93E-15	7.41E-15	-11.927233

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-211.091753	-4.172773	2.01E-16	3.93E-15	7.16E-15	-11.155869
0.50000	-216.882016	1.509329	-4.87E-16	3.93E-15	7.20E-15	-10.817862
1.00000	-222.817290	7.333732	-1.19E-15	3.93E-15	7.41E-15	-11.927233

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-211.047984	4.129746	1.97E-16	3.94E-15	7.34E-15	-12.575531
0.50000	-216.838247	1.552356	-4.91E-16	3.94E-15	7.38E-15	-12.248347
1.00000	-222.773521	7.376759	-1.20E-15	3.94E-15	7.59E-15	-13.368543

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-211.047984	-4.129746	1.97E-16	3.94E-15	7.34E-15	-12.575531
0.50000	-216.838247	1.552356	-4.91E-16	3.94E-15	7.38E-15	-12.248347
1.00000	-222.773521	7.376759	-1.20E-15	3.94E-15	7.59E-15	-13.368543

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-209.479618	-3.179830	2.24E-16	3.06E-15	4.05E-15	-0.085233
0.50000	-214.267594	3.523638	-5.68E-16	3.06E-15	4.10E-15	-0.126089
1.00000	-219.229066	10.340379	-1.41E-15	3.06E-15	4.35E-15	-1.867623

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-209.479618	-3.179830	2.24E-16	3.06E-15	4.05E-15	-0.085233
0.50000	-214.267594	3.523638	-5.68E-16	3.06E-15	4.10E-15	-0.126089
1.00000	-219.229066	10.340379	-1.41E-15	3.06E-15	4.35E-15	-1.867623

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-206.718452	-0.359739	-8.48E-17	2.49E-15	3.72E-15	-3.768597
0.50000	-211.506428	6.343729	-8.97E-16	2.49E-15	3.84E-15	-4.518883
1.00000	-216.467900	13.160470	-1.72E-15	2.49E-15	4.17E-15	-6.969847

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-206.718452	-0.359739	-8.48E-17	2.49E-15	3.72E-15	-3.768597
0.50000	-211.506428	6.343729	-8.97E-16	2.49E-15	3.84E-15	-4.518883
1.00000	-216.467900	13.160470	-1.72E-15	2.49E-15	4.17E-15	-6.969847

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-118.321487	-2.345393	1.13E-16	2.21E-15	4.02E-15	-6.229822

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
0.50000	-121.560993	0.833600	-2.72E-16	2.21E-15	4.04E-15	-6.038002
1.00000	-124.881060	4.091648	-6.66E-16	2.21E-15	4.16E-15	-6.655884

COMB COMB5 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-118.321487	-2.345393	1.13E-16	2.21E-15	4.02E-15	-6.229822
0.50000	-121.560993	0.833600	-2.72E-16	2.21E-15	4.04E-15	-6.038002
1.00000	-124.881060	4.091648	-6.66E-16	2.21E-15	4.16E-15	-6.655884

COMB COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-118.292307	-2.316708	1.10E-16	2.21E-15	4.13E-15	-7.176262
0.50000	-121.531813	0.862284	-2.75E-16	2.21E-15	4.16E-15	-6.991659
1.00000	-124.851881	4.120333	-6.69E-16	2.21E-15	4.27E-15	-7.616756

COMB COMB6 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-118.292307	-2.316708	1.10E-16	2.21E-15	4.13E-15	-7.176262
0.50000	-121.531813	0.862284	-2.75E-16	2.21E-15	4.16E-15	-6.991659
1.00000	-124.851881	4.120333	-6.69E-16	2.21E-15	4.27E-15	-7.616756

COMB COMB7 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-117.535650	-1.905963	1.38E-16	1.75E-15	2.31E-15	0.011995
0.50000	-120.218330	1.840455	-3.16E-16	1.75E-15	2.33E-15	0.021561
1.00000	-122.997396	5.649803	-7.77E-16	1.75E-15	2.47E-15	-0.919295

COMB COMB7 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-117.535650	-1.905963	1.38E-16	1.75E-15	2.31E-15	0.011995
0.50000	-120.218330	1.840455	-3.16E-16	1.75E-15	2.33E-15	0.021561
1.00000	-122.997396	5.649803	-7.77E-16	1.75E-15	2.47E-15	-0.919295

COMB COMB8 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-115.694872	-0.025902	-6.77E-17	1.37E-15	2.09E-15	-2.443581
0.50000	-118.377552	3.720516	-5.21E-16	1.37E-15	2.16E-15	-2.906968
1.00000	-121.156619	7.529864	-9.83E-16	1.37E-15	2.35E-15	-4.320778

COMB COMB8 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-115.694872	-0.025902	-6.77E-17	1.37E-15	2.09E-15	-2.443581
0.50000	-118.377552	3.720516	-5.21E-16	1.37E-15	2.16E-15	-2.906968
1.00000	-121.156619	7.529864	-9.83E-16	1.37E-15	2.35E-15	-4.320778

F R A M E E L E M E N T I N T E R N A L F O R C E S

ELEM 38 ========== LENGTH = 0.503126

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-222.812885	-7.466365	6.00E-16	4.32E-15	7.14E-15	-11.927233
0.50000	-229.281805	-1.910959	-7.24E-17	4.32E-15	7.07E-15	-10.744777
1.00000	-235.914615	3.785192	-7.62E-16	4.32E-15	7.17E-15	-10.977630

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-222.812885	-7.466365	6.00E-16	4.32E-15	7.14E-15	-11.927233
0.50000	-229.281805	-1.910959	-7.24E-17	4.32E-15	7.07E-15	-10.744777
1.00000	-235.914615	3.785192	-7.62E-16	4.32E-15	7.17E-15	-10.977630

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-222.772067	-7.420528	5.95E-16	4.32E-15	7.31E-15	-13.368543
0.50000	-229.240987	-1.865123	-7.74E-17	4.32E-15	7.25E-15	-12.197617
1.00000	-235.873797	3.831028	-7.67E-16	4.32E-15	7.35E-15	-12.442001

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-222.772067	-7.420528	5.95E-16	4.32E-15	7.31E-15	-13.368543
0.50000	-229.240987	-1.865123	-7.74E-17	4.32E-15	7.25E-15	-12.197617
1.00000	-235.873797	3.831028	-7.67E-16	4.32E-15	7.35E-15	-12.442001

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-219.432059	-4.228265	3.51E-16	3.33E-15	4.14E-15	-1.867623
0.50000	-225.022361	2.350237	-4.46E-16	3.33E-15	4.15E-15	-1.629127
1.00000	-230.804814	9.036575	-1.26E-15	3.33E-15	4.36E-15	-3.059187

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-219.432059	-4.228265	3.51E-16	3.33E-15	4.14E-15	-1.867623
0.50000	-225.022361	2.350237	-4.46E-16	3.33E-15	4.15E-15	-1.629127
1.00000	-230.804814	9.036575	-1.26E-15	3.33E-15	4.36E-15	-3.059187

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-216.864091	-1.231184	2.08E-17	2.71E-15	4.00E-15	-6.969847
0.50000	-222.454392	5.347317	-7.76E-16	2.71E-15	4.09E-15	-7.485306
1.00000	-228.236845	12.033655	-1.59E-15	2.71E-15	4.39E-15	-9.669320

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-124.850142	-1.231164	2.08E-17	2.71E-15	4.00E-15	-6.999847
0.50000	-128.468108	5.947317	-7.70E-16	2.71E-15	4.09E-15	-7.485306
1.00000	-132.177123	12.023655	-1.56E-15	2.71E-15	4.39E-15	-9.669320

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-124.877354	4.202231	3.39E-16	2.42E-15	4.00E-15	-6.655864
0.50000	-128.496320	1.064149	-3.79E-17	2.42E-15	3.99E-15	-5.967670
1.00000	-132.204355	2.089653	-4.24E-16	2.42E-15	4.02E-15	-6.110950

COMB COMB6 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-124.877354	-4.202231	3.39E-16	2.42E-15	4.00E-15	-6.655864
0.50000	-128.496320	-1.064149	-3.79E-17	2.42E-15	3.99E-15	-5.967670
1.00000	-132.204355	2.089653	-4.24E-16	2.42E-15	4.02E-15	-6.110950

COMB COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-124.850142	-4.172674	3.35E-16	2.43E-15	4.12E-15	-7.616756
0.50000	-128.468108	-1.065623	-4.12E-17	2.43E-15	4.08E-15	-6.956230
1.00000	-132.177123	2.119820	-4.27E-16	2.43E-15	4.14E-15	-7.087197

COMB COMB6 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-124.850142	-4.172674	3.35E-16	2.43E-15	4.12E-15	-7.616756
0.50000	-128.468108	-1.065623	-4.12E-17	2.43E-15	4.08E-15	-6.956230
1.00000	-132.177123	2.119820	-4.27E-16	2.43E-15	4.14E-15	-7.087197

COMB COMB7 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-123.101225	-2.523529	2.13E-16	1.90E-15	2.35E-15	-0.919295
0.50000	-125.231068	1.151909	-2.32E-16	1.90E-15	2.35E-15	-0.745507
1.00000	-129.467663	4.887256	6.85E-16	1.90E-15	2.47E-15	-1.503906

COMB COMB7 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-123.101225	-2.523529	2.13E-16	1.90E-15	2.35E-15	-0.919295
0.50000	-126.231069	1.151909	-2.32E-16	1.90E-15	2.35E-15	-0.745507
1.00000	-129.467663	4.887256	-6.85E-16	1.90E-15	2.47E-15	-1.503906

COMB COMB8 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-121.389246	-0.525475	-7.19E-18	1.49E-15	2.26E-15	-4.320778

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
0.50000	-124.519096	3.149662	-4.52E-16	1.49E-15	2.31E-15	-4.649627
1.00000	-127.755684	6.885309	-9.05E-16	1.49E-15	2.49E-15	-5.910661

COMB COMB8 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-121.389246	-0.525475	-7.19E-18	1.49E-15	2.26E-15	-4.320778
0.50000	-124.519096	3.149662	-4.52E-16	1.49E-15	2.31E-15	-4.649627
1.00000	-127.755684	6.885309	-9.05E-16	1.49E-15	2.49E-15	-5.910661

ELEM 39 ========== LENGTH = 0.503126

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-235.645926	-11.875630	1.13E-15	4.70E-15	6.87E-15	-10.977630
0.50000	-242.821101	-6.497907	4.83E-16	4.70E-15	6.67E-15	-8.663703
1.00000	-250.178706	-0.983454	-1.85E-16	4.70E-15	6.63E-15	-7.719878

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-235.645926	-11.875630	1.13E-15	4.70E-15	6.87E-15	10.977630
0.50000	-242.821101	-6.497907	4.83E-16	4.70E-15	6.67E-15	-8.663703
1.00000	-250.178706	-0.983454	-1.85E-16	4.70E-15	6.63E-15	-7.719878

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-235.608239	-11.827187	1.13E-15	4.70E-15	7.05E-15	-12.442001
0.50000	-242.783414	-6.449464	4.78E-16	4.70E-15	6.85E-15	-10.140260
1.00000	-250.141019	-0.935011	-1.90E-16	4.70E-15	6.81E-15	-9.208622

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-235.608239	-11.827187	1.13E-15	4.70E-15	7.05E-15	-12.442001
0.50000	-242.783414	-6.449464	4.78E-16	4.70E-15	6.85E-15	-10.140260
1.00000	-250.141019	-0.935011	-1.90E-16	4.70E-15	6.81E-15	-9.208622

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-230.895804	-6.296792	6.02E-16	3.59E-15	4.13E-15	-3.059187
0.50000	-237.314793	0.089863	-1.72E-16	3.59E-15	4.08E-15	-2.276360
1.00000	-243.943718	6.576552	-9.57E-16	3.59E-15	4.22E-15	-3.112842

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-230.895804	-6.296792	6.02E-16	3.59E-15	4.13E-15	-3.059187
0.50000	-237.314793	0.089863	-1.72E-16	3.59E-15	4.08E-15	-2.276360

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
1.00000	-243.943718	6.576552	-9.57E-16	3.59E-15	4.22E-15	-3.112842

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-228.532344	-3.135936	2.51E-16	2.92E-15	4.20E-15	-9.669320
0.50000	-234.951333	3.250719	-5.22E-16	2.92E-15	4.24E-15	-9.681647
1.00000	-241.580258	9.737407	-1.31E-15	2.92E-15	4.47E-15	-11.313283

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-228.532344	-3.135936	2.51E-16	2.92E-15	4.20E-15	-9.669320
0.50000	-234.951333	3.250719	-5.22E-16	2.92E-15	4.24E-15	-9.681647
1.00000	-241.580258	9.737407	-1.31E-15	2.92E-15	4.47E-15	-11.313283

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-132.051633	-6.687044	6.39E-16	2.64E-15	3.85E-15	-6.110950
0.50000	-136.063283	-3.680352	2.75E-16	2.64E-15	3.74E-15	-4.805326
1.00000	-140.176283	-0.597698	-9.83E-17	2.64E-15	3.72E-15	-4.265667

COMB COMB5 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-132.051633	-6.687044	6.39E-16	2.64E-15	3.85E-15	-6.110950
0.50000	-136.063283	-3.680352	2.75E-16	2.64E-15	3.74E-15	-4.805326
1.00000	-140.176283	-0.597698	-9.83E-17	2.64E-15	3.72E-15	-4.265667

COMB COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-132.026508	-6.654748	6.36E-16	2.64E-15	3.97E-15	-7.087197
0.50000	-136.038156	-3.648056	2.72E-16	2.64E-15	3.86E-15	-5.789697
1.00000	-140.151159	-0.565402	-1.02E-16	2.64E-15	3.84E-15	-5.258163

COMB COMB6 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-132.026508	-6.654748	6.36E-16	2.64E-15	3.97E-15	-7.087197
0.50000	-136.038156	-3.648056	2.72E-16	2.64E-15	3.86E-15	-5.789697
1.00000	-140.151159	-0.565402	-1.02E-16	2.64E-15	3.84E-15	-5.258163

COMB COMB7 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-129.506646	-3.713444	3.57E-16	2.05E-15	2.33E-15	-1.503906
0.50000	-133.098194	-0.146233	-7.49E-17	2.05E-15	2.30E-15	-1.017257
1.00000	-136.806371	3.476551	-5.14E-16	2.05E-15	2.37E-15	-1.435022

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB7 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-129.506646	-3.713444	3.57E-16	2.05E-15	2.33E-15	-1.503906
0.50000	-133.098194	-0.146233	-7.49E-17	2.05E-15	2.30E-15	-1.017257
1.00000	-136.806371	3.476551	-5.14E-16	2.05E-15	2.37E-15	-1.435022

COMB COMB8 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-127.931007	-1.606206	1.24E-16	1.60E-15	2.38E-15	-5.910661
0.50000	-131.522554	1.961004	-3.08E-16	1.60E-15	2.41E-15	-5.954115
1.00000	-135.230732	5.583788	-7.47E-16	1.60E-15	2.54E-15	-6.901983

COMB COMB8 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-127.931007	-1.606206	1.24E-16	1.60E-15	2.38E-15	-5.910661
0.50000	-131.522554	1.961004	-3.08E-16	1.60E-15	2.41E-15	-5.954115
1.00000	-135.230732	5.583788	-7.47E-16	1.60E-15	2.54E-15	-6.901983

ELEM 40 ========== LENGTH = 0.503126

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-249.562213	-17.579928	1.83E-15	5.07E-15	6.31E-15	-7.719878
0.50000	-257.466573	-12.437555	1.20E-15	5.07E-15	5.93E-15	-3.941496
1.00000	-265.570912	-7.165081	5.64E-16	5.07E-15	5.70E-15	-1.473176

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-249.562213	-17.579928	1.83E-15	5.07E-15	6.31E-15	-7.719878
0.50000	-257.466573	-12.437555	1.20E-15	5.07E-15	5.93E-15	-3.941496
1.00000	-265.570912	-7.165081	5.64E-16	5.07E-15	5.70E-15	-1.473176

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-249.527824	-17.529091	1.82E-15	5.07E-15	6.49E-15	-9.208622
0.50000	-257.432183	-12.386718	1.20E-15	5.07E-15	6.11E-15	-5.443029
1.00000	-265.536522	-7.114243	5.58E-16	5.07E-15	5.89E-15	-2.987498

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-249.527824	-17.529091	1.82E-15	5.07E-15	6.49E-15	-9.208622
0.50000	-257.432183	-12.386718	1.20E-15	5.07E-15	6.11E-15	-5.443029
1.00000	-265.536522	-7.114243	5.58E-16	5.07E-15	5.89E-15	-2.987498

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-243.842648	-9.622906	1.00E-15	3.83E-15	3.97E-15	-3.112842
0.50000	-251.182700	-3.501063	2.63E-16	2.83E-15	3.81E-15	-1.460164
1.00000	-258.522752	2.710891	-4.89E-16	3.83E-15	3.84E-15	-1.358969

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-243.842648	-9.622906	1.00E-15	3.83E-15	3.97E-15	-3.112842
0.50000	-251.182700	-3.501063	2.63E-16	3.83E-15	3.81E-15	-1.460164
1.00000	-258.522752	2.710891	-4.89E-16	3.83E-15	3.84E-15	-1.358969

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-241.884025	-6.312206	6.36E-16	3.12E-15	4.27E-15	-11.313283
0.50000	-248.961163	-0.190383	-1.05E-16	3.12E-15	4.20E-15	-10.493475
1.00000	-256.454298	6.021592	-8.58E-16	3.12E-15	4.32E-15	-11.225109

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-241.884025	-6.312206	6.36E-16	3.12E-15	4.27E-15	-11.313283
0.50000	-248.961163	-0.190383	-1.05E-16	3.12E-15	4.20E-15	-10.493475
1.00000	-256.454298	6.021592	-8.58E-16	3.12E-15	4.32E-15	-11.225109

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-139.827764	-9.896676	1.03E-15	2.84E-15	3.53E-15	-4.265667
0.50000	-144.245726	-7.022464	6.80E-16	2.84E-15	3.32E-15	-2.136031
1.00000	-148.774787	-4.075973	3.23E-16	2.84E-15	3.19E-15	-0.738569

COMB COMB5 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-139.827764	-9.896676	1.03E-15	2.84E-15	3.53E-15	-4.265667
0.50000	-144.245726	-7.022464	6.80E-16	2.84E-15	3.32E-15	-2.136031
1.00000	-148.774787	-4.075973	3.23E-16	2.84E-15	3.19E-15	-0.738569

COMB COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-139.804837	-9.862785	1.02E-15	2.85E-15	3.65E-15	-5.258163
0.50000	-144.222799	-6.988572	6.76E-16	2.85E-15	3.44E-15	-3.137053
1.00000	-148.751861	-4.042061	3.19E-16	2.85E-15	3.32E-15	-1.748117

COMB COMB6 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-139.804837	-9.862785	1.02E-15	2.85E-15	3.65E-15	-5.258163

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
0.50000	-144.222799	-6.988572	6.76E-16	2.85E-15	3.44E-15	-3.137053
1.00000	-148.751861	-4.042061	3.19E-16	2.85E-15	3.32E-15	-1.748117

COMB COMB7 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-136.735592	-5.607820	5.87E-16	2.19E-15	2.23E-15	-1.435002
0.50000	-140.799551	-2.189469	1.73E-16	2.19E-15	2.14E-15	-0.453211
1.00000	-144.989049	1.278967	-2.48E-16	2.19E-15	2.15E-15	-0.337673

COMB COMB7 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-136.735592	-5.607820	5.87E-16	2.19E-15	2.23E-15	-1.435002
0.50000	-140.799551	-2.189469	1.73E-16	2.19E-15	2.14E-15	-0.453211
1.00000	-144.989049	1.278967	-2.48E-16	2.19E-15	2.15E-15	-0.337673

COMB COMB8 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-135.303233	-3.400687	3.41E-16	1.71E-15	2.43E-15	-6.960185
0.50000	-139.367192	0.017665	-7.30E-17	1.71E-15	2.39E-15	-6.475404
1.00000	-143.556690	3.486100	-4.93E-16	1.71E-15	2.47E-15	-6.915100

COMB COMB8 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-135.303233	-3.400687	3.41E-16	1.71E-15	2.43E-15	-6.960185
0.50000	-139.367192	0.017665	-7.30E-17	1.71E-15	2.39E-15	-6.475404
1.00000	-143.556690	3.486100	-4.93E-16	1.71E-15	2.47E-15	-6.915100

ELEM 41 ========== LENGTH = 0.503083

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-265.059560	-8.364282	6.36E-15	5.44E-15	5.33E-15	-1.473176
0.50000	-273.751653	-3.547174	5.77E-15	5.44E-15	3.81E-15	0.027479
1.00000	-282.662550	1.391195	5.18E-15	5.44E-15	2.43E-15	0.301180

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-265.059560	-8.364282	6.36E-15	5.44E-15	5.33E-15	-1.473176
0.50000	-273.751653	-3.547174	5.77E-15	5.44E-15	3.81E-15	0.027479
1.00000	-282.662550	1.391195	5.18E-15	5.44E-15	2.43E-15	0.301180

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-265.031238	-8.247481	6.36E-15	5.45E-15	5.52E-15	-2.987498
0.50000	-273.723331	-3.430373	5.78E-15	5.45E-15	3.99E-15	-1.516223

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
1.00000	-282.634229	1.507996	5.18E-15	5.45E-15	2.61E-15	-1.271902

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-265.031238	-8.247481	6.36E-15	5.45E-15	5.52E-15	-2.987498
0.50000	-273.723331	-3.430373	5.78E-15	5.45E-15	3.99E-15	-1.516223
1.00000	-282.634229	1.507996	5.18E-15	5.45E-15	2.61E-15	-1.271902

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-258.564557	-4.472061	3.95E-15	4.08E-15	3.56E-15	-1.358969
0.50000	-266.736934	1.282835	3.26E-15	4.08E-15	2.66E-15	-0.956228
1.00000	-275.152256	7.115428	2.55E-15	4.08E-15	1.93E-15	-2.010856

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-258.564557	-4.472061	3.95E-15	4.08E-15	3.56E-15	-1.358969
0.50000	-266.736934	1.282835	3.26E-15	4.08E-15	2.66E-15	-0.956228
1.00000	-275.152256	7.115428	2.55E-15	4.08E-15	1.93E-15	-2.010856

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-256.486530	-5.514265	2.66E-15	3.32E-15	4.09E-15	-11.225109
0.50000	-264.658906	0.240631	1.97E-15	3.32E-15	3.51E-15	-10.560211
1.00000	-273.074229	6.073224	1.26E-15	3.32E-15	3.11E-15	-11.352681

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-256.486530	-5.514265	2.66E-15	3.32E-15	4.09E-15	-11.225109
0.50000	-264.658906	0.240631	1.97E-15	3.32E-15	3.51E-15	-10.560211
1.00000	-273.074229	6.073224	1.26E-15	3.32E-15	3.11E-15	-11.352681

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-148.485194	-4.714224	3.58E-15	3.06E-15	2.98E-15	-0.738569
0.50000	-153.343928	-2.021542	3.25E-15	3.06E-15	2.13E-15	0.110006
1.00000	-158.324220	0.738508	2.91E-15	3.06E-15	1.35E-15	0.272787

COMB COMB5 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-148.485194	-4.714224	3.58E-15	3.06E-15	2.98E-15	-0.738569
0.50000	-153.343928	-2.021542	3.25E-15	3.06E-15	2.13E-15	0.110006
1.00000	-158.324220	0.738508	2.91E-15	3.06E-15	1.35E-15	0.272787

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-148.466313	-4.636357	3.58E-15	3.06E-15	3.11E-15	-1.748117
0.50000	-153.325047	-1.943674	3.25E-15	3.06E-15	2.25E-15	-0.919128
1.00000	-158.305339	0.816375	2.92E-15	3.06E-15	1.47E-15	-0.775935

COMB COMB6 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-148.466313	-4.636357	3.58E-15	3.06E-15	3.11E-15	-1.748117
0.50000	-153.325047	-1.943674	3.25E-15	3.06E-15	2.25E-15	-0.919128
1.00000	-158.305339	0.816375	2.92E-15	3.06E-15	1.47E-15	-0.775935

COMB COMB7 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-144.959675	-2.505051	2.29E-15	2.33E-15	1.99E-15	-0.337673
0.50000	-149.529678	0.708625	1.90E-15	2.33E-15	1.46E-15	-0.110830
1.00000	-154.234651	3.965466	1.51E-15	2.33E-15	1.03E-15	-0.697789

COMB COMB7 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-144.959675	-2.505051	2.29E-15	2.33E-15	1.99E-15	-0.337673
0.50000	-149.529678	0.708625	1.90E-15	2.33E-15	1.46E-15	-0.110830
1.00000	-154.234651	3.965466	1.51E-15	2.33E-15	1.03E-15	-0.697789

COMB COMB8 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-143.574324	-3.199854	1.43E-15	1.82E-15	2.34E-15	-6.915100
0.50000	-148.144326	0.013822	1.04E-15	1.82E-15	2.03E-15	-6.513485
1.00000	-152.849299	3.270663	6.49E-16	1.82E-15	1.82E-15	-6.925673

COMB COMB8 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-143.574324	-3.199854	1.43E-15	1.82E-15	2.34E-15	-6.915100
0.50000	-148.144326	0.013822	1.04E-15	1.82E-15	2.03E-15	-6.513485
1.00000	-152.849299	3.270663	6.49E-16	1.82E-15	1.82E-15	-6.925673

ELEM 42 ========== LENGTH = 0.503070

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-282.648992	-1.911394	1.21E-14	5.63E-15	1.97E-15	0.301180
0.50000	-292.172487	2.373129	1.16E-14	5.63E-15	-1.01E-15	0.245350
1.00000	-301.933607	6.764558	1.10E-14	5.63E-15	-3.85E-15	-0.901633

F R A M E E L E M E N T I N T E R N A L F O R C E S

LOAD COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-282.648992	-1.911254	1.21E-14	5.63E-15	1.97E-15	0.301160
0.50000	-292.177467	2.373129	1.16E-14	5.63E-15	-1.01E-15	0.245350
1.00000	-301.933607	6.764558	1.10E-14	5.63E-15	-3.65E-15	-0.901633

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-282.631191	-1.775883	1.21E-14	5.63E-15	2.15E-15	-1.271902
0.50000	-292.154686	2.506640	1.16E-14	5.63E-15	-8.29E-16	-1.361818
1.00000	-301.915806	6.900069	1.10E-14	5.63E-15	-3.67E-15	-2.542886

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-282.631191	-1.775883	1.21E-14	5.63E-15	2.15E-15	-1.271902
0.50000	-292.154686	2.506640	1.16E-14	5.63E-15	-8.29E-16	-1.361818
1.00000	-301.915806	6.900069	1.10E-14	5.63E-15	-3.67E-15	-2.542886

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-275.420881	-0.813651	8.33E-15	4.21E-15	1.58E-15	-2.010856
0.50000	-284.545828	4.356751	7.71E-15	4.21E-15	-4.38E-16	-2.455217
1.00000	-293.929762	9.586575	7.07E-15	4.21E-15	-2.30E-15	-4.207588

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-275.420881	-0.813651	8.33E-15	4.21E-15	1.58E-15	-2.010856
0.50000	-284.545828	4.356751	7.71E-15	4.21E-15	-4.38E-16	-2.455217
1.00000	-293.929762	9.586575	7.07E-15	4.21E-15	-2.30E-15	-4.207588

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-273.163112	-4.061761	6.55E-15	3.45E-15	2.82E-15	-11.352681
0.50000	-282.288059	1.108642	5.92E-15	3.45E-15	1.26E-15	-10.980029
1.00000	-291.671993	6.338466	5.29E-15	3.45E-15	-1.54E-16	-11.915387

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-273.163112	-4.061761	6.55E-15	3.45E-15	2.82E-15	-11.352681
0.50000	-282.288059	1.108642	5.92E-15	3.45E-15	1.26E-15	-10.980029
1.00000	-291.671993	6.338466	5.29E-15	3.45E-15	-1.54E-16	-11.915387

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-158.314346	-1.084841	6.79E-15	3.16E-15	1.09E-15	0.272787

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
0.50000	-163.636240	1.309425	6.50E-15	3.16E-15	-5.81E-16	0.245786
1.00000	-169.090147	3.763082	6.20E-15	3.10E-15	-2.18E-15	-0.390925

COMB2 COMB5 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-158.314346	-1.084841	6.79E-15	3.16E-15	1.09E-15	0.272787
0.50000	-163.636240	1.309425	6.50E-15	3.16E-15	-5.81E-16	0.245786
1.00000	-169.090147	3.763082	6.20E-15	3.10E-15	-2.18E-15	-0.390925

COMB3 COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-158.302479	-0.994500	6.80E-15	3.16E-15	1.21E-15	-0.775935
0.50000	-163.624373	1.399766	6.51E-15	3.16E-15	-4.62E-16	-0.825659
1.00000	-169.078280	3.853423	6.21E-15	3.16E-15	-2.06E-15	-1.485094

COMB COMB6 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-158.302479	-0.994500	6.80E-15	3.16E-15	1.21E-15	-0.775935
0.50000	-163.624373	1.399766	6.51E-15	3.16E-15	-4.62E-16	-0.825659
1.00000	-169.078280	3.853423	6.21E-15	3.16E-15	-2.06E-15	-1.485094

COMB COMB7 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-154.389233	-0.338272	4.78E-15	2.40E-15	8.32E-16	-0.697789
0.50000	-159.489711	2.548149	4.43E-15	2.40E-15	-3.26E-16	-0.975028
1.00000	-164.734071	5.467582	4.08E-15	2.40E-15	-1.40E-15	-1.982454

COMB COMB7 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-154.389233	-0.338272	4.78E-15	2.40E-15	8.32E-16	-0.697789
0.50000	-159.489711	2.548149	4.43E-15	2.40E-15	-3.26E-16	-0.975028
1.00000	-164.734071	5.467582	4.08E-15	2.40E-15	-1.40E-15	-1.982454

COMB COMB8 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-152.884053	-2.503678	3.59E-15	1.90E-15	1.66E-15	-6.925673
0.50000	-157.984532	0.382743	3.24E-15	1.90E-15	8.03E-16	-6.658236
1.00000	-163.228891	3.302175	2.88E-15	1.90E-15	3.34E-17	-7.120987

COMB COMB8 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-152.884053	-2.503678	3.59E-15	1.90E-15	1.66E-15	-6.925673
0.50000	-157.984532	0.382743	3.24E-15	1.90E-15	8.03E-16	-6.658236
1.00000	-163.228891	3.302175	2.88E-15	1.90E-15	3.34E-17	-7.120987

F R A M E E L E M E N T I N T E R N A L F O R C E S

ELEM 43 ========== LENGTH = 0.503070

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-302.394473	4.188334	1.87E-14	5.28E-15	-4.31E-15	-0.901633
0.50000	-312.740028	7.832355	1.82E-14	5.28E-15	-8.95E-15	-2.411567
1.00000	-323.339889	11.565950	1.78E-14	5.28E-15	-1.35E-14	-4.849367

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-302.394473	4.188334	1.87E-14	5.28E-15	-4.31E-15	-0.901633
0.50000	-312.740028	7.832355	1.82E-14	5.28E-15	-8.95E-15	-2.411567
1.00000	-323.339889	11.565950	1.78E-14	5.28E-15	-1.35E-14	-4.849367

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-302.387086	4.300311	1.87E-14	5.28E-15	-4.13E-15	-2.542886
0.50000	-312.732641	7.944332	1.83E-14	5.28E-15	-8.78E-15	-4.080987
1.00000	-323.332502	11.677927	1.78E-14	5.28E-15	-1.33E-14	-6.546953

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-302.387086	4.300311	1.87E-14	5.28E-15	-4.13E-15	-2.542886
0.50000	-312.732641	7.944332	1.83E-14	5.28E-15	-8.78E-15	-4.080987
1.00000	-323.332502	11.677927	1.78E-14	5.28E-15	-1.33E-14	-6.546953

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-294.481611	3.528729	1.38E-14	3.96E-15	-2.64E-15	-4.207588
0.50000	-304.539302	7.990010	1.33E-14	3.96E-15	-6.05E-15	-5.655455
1.00000	-314.869123	12.490260	1.27E-14	3.96E-15	-9.32E-15	-8.230391

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-294.481611	3.528729	1.38E-14	3.96E-15	-2.64E-15	-4.207588
0.50000	-304.539302	7.990010	1.33E-14	3.96E-15	-6.05E-15	-5.655455
1.00000	-314.869123	12.490260	1.27E-14	3.96E-15	-9.32E-15	-8.230391

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-291.920757	-0.426465	1.18E-14	3.30E-15	-4.38E-16	-11.915387
0.50000	-301.978448	4.034816	1.13E-14	3.30E-15	-3.34E-15	-12.368384
1.00000	-312.308270	8.535066	1.07E-14	3.30E-15	-6.11E-15	-13.948450

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-291.920757	-0.426465	1.18E-14	3.30E-15	-4.38E-16	-11.915387
0.50000	-301.978448	4.034816	1.13E-14	3.30E-15	-3.34E-15	-12.368384
1.00000	-312.308270	8.535066	1.07E-14	3.30E-15	-6.11E-15	-13.948450

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-169.347006	2.341376	1.05E-14	2.96E-15	-2.44E-15	-0.390925
0.50000	-175.126663	4.377148	1.02E-14	2.96E-15	-5.04E-15	-1.234854
1.00000	-181.047602	6.462684	9.99E-15	2.96E-15	-7.59E-15	-2.597110

COMB COMB5 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-169.347006	2.341376	1.05E-14	2.96E-15	-2.44E-15	-0.390925
0.50000	-175.126663	4.377148	1.02E-14	2.96E-15	-5.04E-15	-1.234854
1.00000	-181.047602	6.462684	9.99E-15	2.96E-15	-7.59E-15	-2.597110

COMB COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-169.342081	2.416028	1.05E-14	2.96E-15	-2.32E-15	-1.485094
0.50000	-175.121738	4.451800	1.03E-14	2.96E-15	-4.93E-15	-2.347801
1.00000	-181.042677	6.537336	1.00E-14	2.96E-15	-7.48E-15	-3.728834

COMB COMB6 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-169.342081	2.416028	1.05E-14	2.96E-15	-2.32E-15	-1.485094
0.50000	-175.121738	4.451800	1.03E-14	2.96E-15	-4.93E-15	-2.347801
1.00000	-181.042677	6.537336	1.00E-14	2.96E-15	-7.48E-15	-3.728834

COMB COMB7 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-165.054141	2.139259	7.87E-15	2.26E-15	-1.59E-15	-1.982454
0.50000	-170.673875	4.629064	7.57E-15	2.26E-15	-3.53E-15	-2.833236
1.00000	-176.444792	7.140520	7.26E-15	2.26E-15	-5.40E-15	-4.313013

COMB COMB7 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-165.054141	2.139259	7.87E-15	2.26E-15	-1.59E-15	-1.982454
0.50000	-170.673875	4.629064	7.57E-15	2.26E-15	-3.53E-15	-2.833236
1.00000	-176.444792	7.140520	7.26E-15	2.26E-15	-5.40E-15	-4.313013

COMB COMB8 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-163.346906	-0.497537	6.54E-15	1.82E-15	-1.23E-16	-7.120987

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
0.50000	-168.9466839	1.992269	6.24E-15	1.82E-15	-1.73E-15	-7.306522
1.00000	-174.737556	4.503724	5.93E-15	1.82E-15	-3.29E-15	-8.125053

COMB COMB8 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-163.346906	0.497537	6.24E-15	1.82E-15	-1.23E-15	-7.129967
0.50000	-168.9466839	1.992269	6.24E-15	1.82E-15	-1.73E-15	-7.306522
1.00000	-174.737556	4.503724	5.93E-15	1.82E-15	-3.29E-15	-8.125053

ELEM 44 ========== LENGTH = 0.503070

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-324.223754	9.441260	2.61E-14	4.08E-15	-1.39E-14	-4.843367
0.50000	-335.364099	12.340082	2.58E-14	4.08E-15	-2.04E-14	-7.587294
1.00000	-346.772168	15.308566	2.54E-14	4.08E-15	-2.68E-14	-11.063138

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-324.223754	9.441260	2.61E-14	4.08E-15	-1.39E-14	-4.843367
0.50000	-335.364099	12.340082	2.58E-14	4.08E-15	-2.04E-14	-7.587294
1.00000	-346.772168	15.308566	2.54E-14	4.08E-15	-2.68E-14	-11.063138

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-324.223071	9.488644	2.61E-14	4.08E-15	-1.37E-14	-6.546953
0.50000	-335.363417	12.387466	2.58E-14	4.08E-15	-2.02E-14	-9.296799
1.00000	-346.771486	15.355952	2.54E-14	4.08E-15	-2.67E-14	-12.784561

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-324.223071	9.488644	2.61E-14	4.08E-15	-1.37E-14	-6.546953
0.50000	-335.363417	12.387466	2.58E-14	4.08E-15	-2.02E-14	-9.296799
1.00000	-346.771486	15.355952	2.54E-14	4.08E-15	-2.67E-14	-12.784561

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-315.724364	7.836682	2.03E-14	3.08E-15	-9.62E-15	-8.230391
0.50000	-326.673703	11.469552	1.99E-14	3.08E-15	-1.47E-14	-10.658145
1.00000	-337.904619	15.118648	1.94E-14	3.08E-15	-1.96E-14	-14.001760

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-315.724364	7.836682	2.03E-14	3.08E-15	-9.62E-15	-8.230391
0.50000	-326.673703	11.469552	1.99E-14	3.08E-15	-1.47E-14	-10.658145

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
1.00000	-337.904619	15.118648	1.94E-14	3.08E-15	-1.96E-14	-14.001760

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-312.839105	4.081361	1.83E-14	2.64E-15	-6.36E-15	-13.948450
0.50000	-323.788445	7.714231	1.79E-14	2.64E-15	-1.09E-14	-15.431609
1.00000	-335.019361	11.363527	1.74E-14	2.64E-15	-1.53E-14	-17.830628

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-312.839105	4.081361	1.83E-14	2.64E-15	-6.36E-15	-13.948450
0.50000	-323.788445	7.714231	1.79E-14	2.64E-15	-1.09E-14	-15.431609
1.00000	-335.019361	11.363527	1.74E-14	2.64E-15	-1.53E-14	-17.830628

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-181.542130	5.290967	1.47E-14	2.29E-15	-7.81E-15	-2.597110
0.50000	-187.764175	6.910001	1.45E-14	2.29E-15	-1.15E-14	-4.130785
1.00000	-194.134955	8.567738	1.43E-14	2.29E-15	-1.51E-14	-6.076572

COMB COMB5 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-181.542130	5.290967	1.47E-14	2.29E-15	-7.81E-15	-2.597110
0.50000	-187.764175	6.910001	1.45E-14	2.29E-15	-1.15E-14	-4.130785
1.00000	-194.134955	8.567738	1.43E-14	2.29E-15	-1.51E-14	-6.076572

COMB COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-181.541675	5.322556	1.47E-14	2.29E-15	-7.70E-15	-3.728834
0.50000	-187.763720	6.941591	1.45E-14	2.29E-15	-1.14E-14	-5.270455
1.00000	-194.134500	8.599327	1.43E-14	2.29E-15	-1.50E-14	-7.224188

COMB COMB6 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-181.541675	5.322556	1.47E-14	2.29E-15	-7.70E-15	-3.728834
0.50000	-187.763720	6.941591	1.45E-14	2.29E-15	-1.14E-14	-5.270455
1.00000	-194.134500	8.599327	1.43E-14	2.29E-15	-1.50E-14	-7.224188

COMB COMB7 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-176.936795	4.553179	1.15E-14	1.75E-15	-5.57E-15	-4.313013
0.50000	-183.052725	6.580018	1.13E-14	1.75E-15	-8.43E-15	-5.713017
1.00000	-189.325087	8.615982	1.10E-14	1.75E-15	-1.12E-14	-7.623951

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB7 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-176.936795	4.553179	1.15E-14	1.75E-15	-5.57E-15	-4.313013
0.50000	-183.052725	6.580018	1.13E-14	1.75E-15	-8.43E-15	-5.713017
1.00000	-189.325087	8.615982	1.10E-14	1.75E-15	-1.12E-14	-7.623991

COMB COMB8 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-175.013289	2.049632	1.02E-14	1.46E-15	-3.40E-15	-8.125053
0.50000	-181.129220	4.076470	9.92E-15	1.46E-15	-5.93E-15	-8.895327
1.00000	-187.401582	6.112435	9.68E-15	1.46E-15	-8.39E-15	-10.176570

COMB COMB8 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-175.013289	2.049632	1.02E-14	1.46E-15	-3.40E-15	-8.125053
0.50000	-181.129220	4.076470	9.92E-15	1.46E-15	-5.93E-15	-8.895327
1.00000	-187.401582	6.112435	9.68E-15	1.46E-15	-8.39E-15	-10.176570

ELEM 45 ========== LENGTH = 0.503070

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-347.954929	12.803735	3.43E-14	1.69E-15	-2.71E-14	-11.063138
0.50000	-359.847205	14.850842	3.41E-14	1.69E-15	-3.57E-14	-14.540180
1.00000	-372.017242	16.945762	3.38E-14	1.69E-15	-4.42E-14	-18.538155

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-347.954929	12.803735	3.43E-14	1.69E-15	-2.71E-14	-11.063138
0.50000	-359.847205	14.850842	3.41E-14	1.69E-15	-3.57E-14	-14.540180
1.00000	-372.017242	16.945762	3.38E-14	1.69E-15	-4.42E-14	-18.538155

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-347.953677	12.742819	3.43E-14	1.69E-15	-2.69E-14	-12.784561
0.50000	-359.845954	14.789926	3.40E-14	1.69E-15	-3.55E-14	-16.246281
1.00000	-372.015990	16.864846	3.38E-14	1.69E-15	-4.40E-14	-20.228933

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-347.953677	12.742819	3.43E-14	1.69E-15	-2.69E-14	-12.784561
0.50000	-359.845954	14.789926	3.40E-14	1.69E-15	-3.55E-14	-16.246281
1.00000	-372.015990	16.864846	3.38E-14	1.69E-15	-4.40E-14	-20.228933

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-338.996556	10.834718	2.77E-14	1.28E-15	-1.98E-14	-14.001760
0.50000	-350.778920	13.520337	2.74E-14	1.28E-15	-2.67E-14	-17.064990
1.00000	-362.848569	16.198441	2.71E-14	1.28E-15	-3.36E-14	-20.802801

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-338.996556	10.834718	2.77E-14	1.28E-15	-1.98E-14	-14.001760
0.50000	-350.778920	13.520337	2.74E-14	1.28E-15	-2.67E-14	-17.064990
1.00000	-362.848569	16.198441	2.71E-14	1.28E-15	-3.36E-14	-20.802801

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-335.823119	7.740625	2.58E-14	1.16E-15	-1.55E-14	-17.830628
0.50000	-347.605484	10.426245	2.54E-14	1.16E-15	-2.19E-14	-20.115586
1.00000	-359.675132	13.104348	2.51E-14	1.16E-15	-2.83E-14	-23.075125

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-335.823119	7.740625	2.58E-14	1.16E-15	-1.55E-14	-17.830628
0.50000	-347.605484	10.426245	2.54E-14	1.16E-15	-2.19E-14	-20.115586
1.00000	-359.675132	13.104348	2.51E-14	1.16E-15	-2.83E-14	-23.075125

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-194.797629	7.182937	1.92E-14	9.50E-16	-1.52E-14	-6.076572
0.50000	-201.438017	8.325997	1.91E-14	9.50E-16	-2.00E-14	-8.026534
1.00000	-208.232717	9.495620	1.90E-14	9.50E-16	-2.48E-14	-10.267355

COMB COMB5 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-194.797629	7.182937	1.92E-14	9.50E-16	-1.52E-14	-6.076572
0.50000	-201.438017	8.325997	1.91E-14	9.50E-16	-2.00E-14	-8.026534
1.00000	-208.232717	9.495620	1.90E-14	9.50E-16	-2.48E-14	-10.267355

COMB COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-194.796794	7.142326	1.92E-14	9.48E-16	-1.51E-14	-7.224188
0.50000	-201.437183	8.285386	1.91E-14	9.48E-16	-1.99E-14	-9.163935
1.00000	-208.231882	9.455009	1.89E-14	9.48E-16	-2.47E-14	-11.394541

COMB COMB6 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-194.796794	7.142326	1.92E-14	9.48E-16	-1.51E-14	-7.224188

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
0.50000	-201.437187	8.285386	1.91E-14	9.48E-16	-1.99E-14	-9.163535
1.00000	-206.231882	9.455009	1.89E-14	9.48E-16	-2.47E-14	-11.394541

COMB COMB7 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-189.948924	6.211591	1.57E-14	7.22E-16	-1.13E-14	-7.623961
0.50000	-196.528250	7.709380	1.55E-14	7.22E-16	-1.53E-14	-9.374885
1.00000	-203.267179	9.202994	1.53E-14	7.22E-16	-1.91E-14	11.501996

COMB COMB7 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-189.948924	6.211591	1.57E-14	7.22E-16	-1.13E-14	-7.623961
0.50000	-196.528250	7.709380	1.55E-14	7.22E-16	-1.53E-14	-9.374885
1.00000	-203.267179	9.202994	1.53E-14	7.22E-16	-1.91E-14	11.501996

COMB COMB8 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-187.833299	4.148862	1.44E-14	6.43E-16	-8.49E-15	-10.176570
0.50000	-194.412626	5.646651	1.42E-14	6.43E-16	-1.21E-14	-11.408613
1.00000	-201.151554	7.140265	1.40E-14	6.43E-16	-1.56E-14	-13.016878

COMB COMB8 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-187.833299	4.148862	1.44E-14	6.43E-16	-8.49E-15	-10.176570
0.50000	-194.412626	5.646651	1.42E-14	6.43E-16	-1.21E-14	-11.408613
1.00000	-201.151554	7.140265	1.40E-14	6.43E-16	-1.56E-14	-13.016878

ELEM 46 ========== LENGTH = 0.503070

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-373.266237	12.739067	4.30E-14	-2.22E-15	-4.42E-14	-18.538155
0.50000	-373.628037	12.770392	4.30E-14	-2.22E-15	-5.50E-14	-21.746416
1.00000	-373.989837	12.801717	4.30E-14	-2.22E-15	-6.58E-14	-24.962556

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-373.266237	12.739067	4.30E-14	-2.22E-15	-4.42E-14	-18.538155
0.50000	-373.628037	12.770392	4.30E-14	-2.22E-15	-5.50E-14	-21.746416
1.00000	-373.989837	12.801717	4.30E-14	-2.22E-15	-6.58E-14	-24.962556

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-373.253301	12.522272	4.30E-14	-2.22E-15	-4.40E-14	-20.228933
0.50000	-373.615101	12.553597	4.30E-14	-2.22E-15	-5.48E-14	-23.382663

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
1.00000	-373.976901	12.584922	4.30E-14	-2.22E-15	-6.56E-14	-26.544272

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-373.253301	12.522272	4.30E-14	2.22E-15	-4.40E-14	20.228933
0.50000	-373.615101	12.553597	4.30E-14	-2.22E-15	-5.48E-14	-23.382663
1.00000	-373.976901	12.584922	4.30E-14	-2.22E-15	-6.56E-14	-26.544272

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-363.983962	10.786413	3.58E-14	-1.79E-15	-3.36E-14	-20.802801
0.50000	-364.299590	11.351022	3.58E-14	-1.76E-15	-4.26E-14	-23.588158
1.00000	-364.620119	11.859021	3.57E-14	-1.76E-15	-5.16E-14	-26.508414

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-363.983962	10.786413	3.58E-14	-1.79E-15	-3.36E-14	-20.802801
0.50000	-364.299590	11.351022	3.58E-14	-1.76E-15	-4.26E-14	-23.588158
1.00000	-364.620119	11.859021	3.57E-14	-1.76E-15	-5.16E-14	-26.508414

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-360.584675	8.512759	3.39E-14	-1.46E-15	-2.83E-14	-23.075125
0.50000	-360.900303	9.077368	3.39E-14	-1.46E-15	-3.68E-14	-25.288578
1.00000	-361.220832	9.585367	3.38E-14	-1.46E-15	-4.53E-14	-27.636931

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-360.584675	8.512759	3.39E-14	-1.46E-15	-2.83E-14	-23.075125
0.50000	-360.900303	9.077368	3.39E-14	-1.46E-15	-3.68E-14	-25.288578
1.00000	-361.220832	9.585367	3.38E-14	-1.46E-15	-4.53E-14	-27.636931

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-208.933518	7.160285	2.41E-14	-1.24E-15	-2.48E-14	-10.267355
0.50000	-209.168453	7.180626	2.41E-14	-1.24E-15	-3.09E-14	-12.070976
1.00000	-209.403388	7.200967	2.41E-14	-1.24E-15	-3.70E-14	-13.879713

COMB COMB5 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-208.933518	7.160285	2.41E-14	-1.24E-15	-2.48E-14	-10.267355
0.50000	-209.168453	7.180626	2.41E-14	-1.24E-15	-3.09E-14	-12.070976
1.00000	-209.403388	7.200967	2.41E-14	-1.24E-15	-3.70E-14	-13.879713

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-208.924893	7.015755	2.41E-14	-1.25E-15	-2.47E-14	-11.394541
0.50000	-209.159828	7.036096	2.41E-14	-1.25E-15	-3.08E-14	-13.161808
1.00000	-209.394763	7.056437	2.41E-14	-1.25E-15	-3.68E-14	-14.934191

COMB COMB6 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-208.924893	7.015755	2.41E-14	-1.25E-15	-2.47E-14	-11.394541
0.50000	-209.159828	7.036096	2.41E-14	-1.25E-15	-3.08E-14	-13.161808
1.00000	-209.394763	7.056437	2.41E-14	-1.25E-15	-3.68E-14	-14.934191

COMB COMB7 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-203.913520	6.158583	2.02E-14	-1.00E-15	-1.91E-14	-11.501996
0.50000	-204.122804	6.475193	2.02E-14	-1.00E-15	-2.42E-14	-13.091573
1.00000	-204.334811	6.760353	2.01E-14	-1.00E-15	-2.93E-14	-14.756834

COMB COMB7 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-203.913520	6.158583	2.02E-14	-1.00E-15	-1.91E-14	-11.501996
0.50000	-204.122804	6.475193	2.02E-14	-1.00E-15	-2.42E-14	-13.091573
1.00000	-204.334811	6.760353	2.01E-14	-1.00E-15	-2.93E-14	-14.756834

COMB COMB8 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-201.647329	4.642813	1.89E-14	-8.03E-16	-1.56E-14	-13.016878
0.50000	-201.856613	4.959423	1.89E-14	-8.03E-16	-2.04E-14	-14.225187
1.00000	-202.068620	5.244583	1.89E-14	-8.03E-16	-2.51E-14	-15.509179

COMB COMB8 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-201.647329	4.642813	1.89E-14	-8.03E-16	-1.56E-14	-13.016878
0.50000	-201.856613	4.959423	1.89E-14	-8.03E-16	-2.04E-14	-14.225187
1.00000	-202.068620	5.244583	1.89E-14	-8.03E-16	-2.51E-14	-15.509179

ELEM 47 ========== LENGTH = 0.503070

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-374.826816	7.091165	5.20E-14	-7.99E-15	-6.54E-14	-24.962556
0.50000	-375.189969	7.091988	5.20E-14	-7.99E-15	-7.85E-14	-26.746337
1.00000	-375.553122	7.092812	5.20E-14	-7.99E-15	-9.16E-14	-28.530325

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-374.826816	7.091165	5.20E-14	-7.99E-15	-6.54E-14	-24.962556
0.50000	-375.189969	7.091988	5.20E-14	-7.99E-15	-7.85E-14	-26.746337
1.00000	-375.553122	7.092812	5.20E-14	-7.99E-15	-9.16E-14	-28.530325

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-374.787047	6.670220	5.19E-14	-7.99E-15	-6.52E-14	-26.544272
0.50000	-375.150200	6.671043	5.19E-14	-7.99E-15	-7.83E-14	-28.222170
1.00000	-375.513353	6.671867	5.19E-14	-7.99E-15	-9.13E-14	-29.900276

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-374.787047	6.670220	5.19E-14	-7.99E-15	-6.52E-14	-26.544272
0.50000	-375.150200	6.671043	5.19E-14	-7.99E-15	-7.83E-14	-28.222170
1.00000	-375.513353	6.671867	5.19E-14	-7.99E-15	-9.13E-14	-29.900276

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-365.345875	5.390346	4.43E-14	-6.36E-15	-5.12E-14	-26.508414
0.50000	-365.708072	5.812805	4.42E-14	-6.36E-15	-6.24E-14	-27.918598
1.00000	-366.070397	6.178441	4.42E-14	-6.36E-15	-7.35E-14	-29.427899

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-365.345875	5.390346	4.43E-14	-6.36E-15	-5.12E-14	-26.508414
0.50000	-365.708072	5.812805	4.42E-14	-6.36E-15	-6.24E-14	-27.918598
1.00000	-366.070397	6.178441	4.42E-14	-6.36E-15	-7.35E-14	-29.427899

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-361.788887	3.915771	4.24E-14	-5.54E-15	-4.50E-14	-27.636931
0.50000	-362.151083	4.338230	4.24E-14	-5.54E-15	-5.57E-14	-28.676207
1.00000	-362.513409	4.703867	4.23E-14	-5.54E-15	-6.64E-14	-29.814601

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-361.788887	3.915771	4.24E-14	-5.54E-15	-4.50E-14	-27.636931
0.50000	-362.151083	4.338230	4.24E-14	-5.54E-15	-5.57E-14	-28.676207
1.00000	-362.513409	4.703867	4.23E-14	-5.54E-15	-6.64E-14	-29.814601

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-209.875461	4.019026	2.92E-14	-4.49E-15	-3.67E-14	-13.879713

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
0.00000	-210.111275	4.019568	2.92E-14	-4.49E-15	-4.41E-14	-14.896707
1.00000	-210.347092	4.020095	2.92E-14	-4.49E-15	-5.14E-14	-15.901835

COMB COMB5 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-210.462960	-1.265864	3.46E-14	-8.95E-15	-4.06E-14	-15.901835
0.50000	-210.729322	-1.287709	3.46E-14	-8.95E-15	-4.93E-14	-15.580678
1.00000	-210.995684	-1.309554	3.46E-14	-8.95E-15	-5.80E-14	-15.254026

COMB COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-210.405999	-1.708943	3.48E-14	-8.94E-15	-3.98E-14	-16.815135
0.50000	-210.672361	-1.730788	3.48E-14	-8.94E-15	-4.86E-14	-16.382529
1.00000	-210.938723	-1.752633	3.48E-14	-8.94E-15	-5.73E-14	-15.944427

COMB COMB6 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-210.405999	-1.708943	3.48E-14	-8.94E-15	-3.98E-14	-16.815135
0.50000	-210.672361	-1.730788	3.48E-14	-8.94E-15	-4.86E-14	-16.382529
1.00000	-210.938723	-1.752633	3.48E-14	-8.94E-15	-5.73E-14	-15.944427

COMB COMB7 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-205.287192	-1.981669	3.06E-14	-7.26E-15	-3.06E-14	-16.440214
0.50000	-205.567540	-1.832980	3.05E-14	-7.26E-15	-3.82E-14	-15.961115
1.00000	-205.845307	-1.715752	3.04E-14	-7.26E-15	-4.59E-14	-15.515459

COMB COMB7 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-205.287192	-1.981669	3.06E-14	-7.26E-15	-3.06E-14	-16.440214
0.50000	-205.567540	-1.832980	3.05E-14	-7.26E-15	-3.82E-14	-15.961115
1.00000	-205.845307	-1.715752	3.04E-14	-7.26E-15	-4.59E-14	-15.515459

COMB COMB8 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-202.852463	-2.505591	2.97E-14	-6.32E-15	-2.57E-14	-16.698016

F R A M E E L E M E N T I N T E R N A L F O R C E S

ELEM 42 ========== LENGTH = 0.503070

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-375.751893	-2.368106	6.18E-14	-1.59E-14	-7.22E-14	-28.530325
0.50000	-376.162050	-2.401747	6.18E-14	-1.59E-14	-8.77E-14	-27.930432
1.00000	-376.572207	-2.435388	6.19E-14	-1.59E-14	-1.03E-13	-27.329077

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-375.751893	-2.368106	6.18E-14	1.59E-14	-7.22E-14	-28.530325
0.50000	-376.162050	-2.401747	6.18E-14	-1.59E-14	-8.77E-14	-27.930432
1.00000	-376.572207	-2.435388	6.19E-14	-1.59E-14	-1.03E-13	-27.329077

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-375.666451	-3.032724	6.21E-14	-1.59E-14	-7.10E-14	-29.900276
0.50000	-376.076648	-3.066366	6.21E-14	-1.59E-14	-8.66E-14	-29.133208
1.00000	-376.486845	-3.100007	6.21E-14	-1.59E-14	-1.02E-13	-28.357678

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-375.666451	-3.032724	6.21E-14	-1.59E-14	-7.10E-14	-29.900276
0.50000	-376.076648	-3.066366	6.21E-14	-1.59E-14	-8.66E-14	-29.133208
1.00000	-376.486845	-3.100007	6.21E-14	-1.59E-14	-1.02E-13	-28.357678

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-366.176117	-3.665374	5.45E-14	-1.28E-14	-5.37E-14	-29.427899
0.50000	-366.611489	-3.392053	5.43E-14	-1.28E-14	-6.74E-14	-28.541490
1.00000	-367.042216	-3.175365	5.41E-14	-1.28E-14	-8.10E-14	-27.716709

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-366.176117	-3.665374	5.45E-14	-1.28E-14	-5.37E-14	-29.427899
0.50000	-366.611489	-3.392053	5.43E-14	-1.28E-14	-6.74E-14	-28.541490
1.00000	-367.042216	-3.175365	5.41E-14	-1.28E-14	-8.10E-14	-27.716709

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-362.524023	-4.451258	5.32E-14	-1.14E-14	-4.64E-14	-29.814601
0.50000	-362.959395	-4.177937	5.30E-14	-1.14E-14	-5.98E-14	-28.730515
1.00000	-363.390122	-3.961249	5.28E-14	-1.14E-14	-7.31E-14	-27.708056

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-362.524023	-4.451258	5.32E-14	-1.14E-14	-4.64E-14	-29.814601
0.50000	-362.959395	-4.177937	5.30E-14	-1.14E-14	-5.98E-14	-28.730515
1.00000	-363.390122	-3.961249	5.28E-14	-1.14E-14	-7.31E-14	-27.708056

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-210.462960	-1.265864	3.46E-14	-8.95E-15	-4.06E-14	-15.901835
0.50000	-210.729322	-1.287709	3.46E-14	-8.95E-15	-4.93E-14	-15.580678
1.00000	-210.995684	-1.309554	3.46E-14	-8.95E-15	-5.80E-14	-15.254026

COMB COMB5 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-210.462960	-1.265864	3.46E-14	-8.95E-15	-4.06E-14	-15.901835
0.50000	-210.729322	-1.287709	3.46E-14	-8.95E-15	-4.93E-14	-15.580678
1.00000	-210.995684	-1.309554	3.46E-14	-8.95E-15	-5.80E-14	-15.254026

COMB COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-210.405999	-1.708943	3.48E-14	-8.94E-15	-3.98E-14	-16.815135
0.50000	-210.672361	-1.730788	3.48E-14	-8.94E-15	-4.86E-14	-16.382529
1.00000	-210.938723	-1.752633	3.48E-14	-8.94E-15	-5.73E-14	-15.944427

COMB COMB6 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-210.405999	-1.708943	3.48E-14	-8.94E-15	-3.98E-14	-16.815135
0.50000	-210.672361	-1.730788	3.48E-14	-8.94E-15	-4.86E-14	-16.382529
1.00000	-210.938723	-1.752633	3.48E-14	-8.94E-15	-5.73E-14	-15.944427

COMB COMB7 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-205.287192	-1.981669	3.06E-14	-7.26E-15	-3.06E-14	-16.440214
0.50000	-205.567540	-1.832980	3.05E-14	-7.26E-15	-3.82E-14	-15.961115
1.00000	-205.845307	-1.715752	3.04E-14	-7.26E-15	-4.59E-14	-15.515459

COMB COMB7 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-205.287192	-1.981669	3.06E-14	-7.26E-15	-3.06E-14	-16.440214
0.50000	-205.567540	-1.832980	3.05E-14	-7.26E-15	-3.82E-14	-15.961115
1.00000	-205.845307	-1.715752	3.04E-14	-7.26E-15	-4.59E-14	-15.515459

COMB COMB8 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-202.852463	-2.505591	2.97E-14	-6.32E-15	-2.57E-14	-16.698016

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
0.50000	-203.132811	-2.356902	2.96E-14	-6.32E-15	-3.32E-14	-16.087131
1.00000	-203.410578	-2.239675	2.95E-14	-6.32E-15	-4.06E-14	-15.509690

COMB COMB8 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-202.852463	-2.505591	2.97E-14	-6.32E-15	-2.57E-14	-16.698016
0.50000	-203.132811	-2.356902	2.96E-14	-6.32E-15	-3.32E-14	-16.087131
1.00000	-203.410578	-2.239675	2.95E-14	-6.32E-15	-4.06E-14	-15.509690

ELEM 49 ========== LENGTH = 0.503070

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-375.722049	-17.772115	7.88E-14	-2.63E-14	-1.02E-13	-27.322077
0.50000	-376.127970	-17.840095	7.89E-14	-2.63E-14	-1.21E-13	-22.843217
1.00000	-376.533892	-17.908074	7.89E-14	-2.63E-14	-1.41E-13	-18.347257

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-375.722049	-17.772115	7.88E-14	-2.63E-14	-1.02E-13	-27.322077
0.50000	-376.127970	-17.840095	7.89E-14	-2.63E-14	-1.21E-13	-22.843217
1.00000	-376.533892	-17.908074	7.89E-14	-2.63E-14	-1.41E-13	-18.347257

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-375.570545	-18.677596	7.92E-14	-2.63E-14	-1.00E-13	-26.357678
0.50000	-375.976466	-18.745576	7.93E-14	-2.63E-14	-1.20E-13	-23.651057
1.00000	-376.382387	-18.813556	7.93E-14	-2.63E-14	-1.40E-13	-18.927337

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-375.570545	-18.677596	7.92E-14	-2.63E-14	-1.00E-13	-26.357678
0.50000	-375.976466	-18.745576	7.93E-14	-2.63E-14	-1.20E-13	-23.651057
1.00000	-376.382387	-18.813556	7.93E-14	-2.63E-14	-1.40E-13	-18.927337

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-366.128864	-18.532178	7.08E-14	-2.13E-14	-7.96E-14	-27.716709
0.50000	-366.566942	-18.408144	7.07E-14	-2.13E-14	-9.74E-14	-23.071976
1.00000	-366.995747	-18.339481	7.07E-14	-2.13E-14	-1.15E-13	-18.451478

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-366.128864	-18.532178	7.08E-14	-2.13E-14	-7.96E-14	-27.716709
0.50000	-366.566942	-18.408144	7.07E-14	-2.13E-14	-9.74E-14	-23.071976

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
1.00000	-365.995747	-18.339481	7.07E-14	-2.13E-14	-1.15E-13	-18.451478

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-362.433936	-18.764315	6.92E-14	-1.93E-14	-7.18E-14	-27.708056
0.50000	-362.672014	-18.640280	6.91E-14	-1.93E-14	-8.92E-14	-23.004933
1.00000	-363.300819	-18.571617	6.91E-14	-1.93E-14	-1.07E-13	-18.326044

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-362.433936	-18.764315	6.92E-14	-1.93E-14	-7.18E-14	-27.708056
0.50000	-362.672014	-18.640280	6.91E-14	-1.93E-14	-8.92E-14	-23.004933
1.00000	-363.300819	-18.571617	6.91E-14	-1.93E-14	-1.07E-13	-18.326044

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-210.524350	-9.892568	4.42E-14	-1.48E-14	-5.70E-14	-15.254026
0.50000	-210.787936	-9.936711	4.42E-14	-1.48E-14	-6.81E-14	-12.760147
1.00000	-211.051521	-9.980853	4.42E-14	-1.48E-14	-7.92E-14	-10.255163

COMB COMB5 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-210.524350	-9.892568	4.42E-14	-1.48E-14	-5.70E-14	-15.254026
0.50000	-210.787936	-9.936711	4.42E-14	-1.48E-14	-6.81E-14	-12.760147
1.00000	-211.051521	-9.980853	4.42E-14	-1.48E-14	-7.92E-14	-10.255163

COMB COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-210.423348	-10.496222	4.44E-14	-1.48E-14	-5.63E-14	-15.944427
0.50000	-210.686933	-10.540365	4.44E-14	-1.48E-14	-6.75E-14	-13.298707
1.00000	-210.950518	-10.584508	4.45E-14	-1.48E-14	-7.87E-14	-10.641884

COMB COMB6 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-210.423348	-10.496222	4.44E-14	-1.48E-14	-5.63E-14	-15.944427
0.50000	-210.686933	-10.540365	4.44E-14	-1.48E-14	-6.75E-14	-13.298707
1.00000	-210.950518	-10.584508	4.45E-14	-1.48E-14	-7.87E-14	-10.641884

COMB COMB7 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-205.337972	-10.342031	3.98E-14	-1.21E-14	-4.51E-14	-15.515459
0.50000	-205.619422	-10.279500	3.97E-14	-1.21E-14	-5.51E-14	-12.922584
1.00000	-205.895720	-10.247730	3.97E-14	-1.21E-14	-6.51E-14	-10.341570

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB7 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-205.337972	-10.342031	3.98E-14	-1.21E-14	-4.51E-14	-15.515459
0.50000	-205.619422	-10.279500	3.97E-14	-1.21E-14	-5.51E-14	-12.922584
1.00000	-205.895720	-10.247730	3.97E-14	-1.21E-14	-6.51E-14	-10.341570

COMB COMB8 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-202.874687	-10.496789	3.87E-14	-1.07E-14	-3.99E-14	-15.509690
0.50000	-203.156137	-10.434257	3.87E-14	-1.07E-14	-4.99E-14	-12.877889
1.00000	-203.432435	-10.402487	3.86E-14	-1.07E-14	-5.99E-14	-10.257947

COMB COMB8 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-202.874687	-10.496789	3.87E-14	-1.07E-14	-3.99E-14	-15.509690
0.50000	-203.156137	-10.434257	3.87E-14	-1.07E-14	-4.99E-14	-12.877889
1.00000	-203.432435	-10.402487	3.86E-14	-1.07E-14	-5.99E-14	-10.257947

ELEM 50 ========== LENGTH = 0.503070

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-374.250277	-36.368743	9.79E-14	-3.93E-14	-1.38E-13	-18.347257
0.50000	-374.649054	-36.470579	9.74E-14	-3.93E-14	-1.63E-13	-9.186436
1.00000	-375.047830	-36.572415	9.75E-14	-3.93E-14	-1.87E-13	-4.13E-14

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-374.250277	-36.368743	9.79E-14	-3.93E-14	-1.38E-13	-18.347257
0.50000	-374.649054	-36.470579	9.74E-14	-3.93E-14	-1.63E-13	-9.186436
1.00000	-375.047830	-36.572415	9.75E-14	-3.93E-14	-1.87E-13	-4.13E-14

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-374.012162	-37.521824	9.78E-14	-3.92E-14	-1.38E-13	-18.927337
0.50000	-374.410938	-37.623660	9.79E-14	-3.92E-14	-1.62E-13	-9.476476
1.00000	-374.809715	-37.725496	9.79E-14	-3.92E-14	-1.87E-13	-3.95E-14

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-374.012162	-37.521824	9.78E-14	-3.92E-14	-1.38E-13	-18.927337
0.50000	-374.410938	-37.623660	9.79E-14	-3.92E-14	-1.62E-13	-9.476476
1.00000	-374.809715	-37.725496	9.79E-14	-3.92E-14	-1.87E-13	-3.95E-14

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-364.682262	-36.647273	8.87E-14	-3.21E-14	-1.13E-13	-18.451478
0.50000	-365.101540	-36.668829	8.87E-14	-3.21E-14	-1.35E-13	-9.231816
1.00000	-365.507150	-36.743906	8.88E-14	-3.21E-14	-1.58E-13	-3.76E-14

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-364.682262	-36.647273	8.87E-14	-3.21E-14	-1.13E-13	-18.451478
0.50000	-365.101540	-36.668829	8.87E-14	-3.21E-14	-1.35E-13	-9.231816
1.00000	-365.507150	-36.743906	8.88E-14	-3.21E-14	-1.58E-13	-3.76E-14

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-360.988059	-36.397936	8.68E-14	-2.93E-14	-1.05E-13	-18.326044
0.50000	-361.407336	-36.419493	8.68E-14	-2.93E-14	-1.26E-13	-9.169099
1.00000	-361.812946	-36.494569	8.68E-14	-2.93E-14	-1.48E-13	-3.84E-14

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-360.988059	-36.397936	8.68E-14	-2.93E-14	-1.05E-13	-18.326044
0.50000	-361.407336	-36.419493	8.68E-14	-2.93E-14	-1.26E-13	-9.169099
1.00000	-361.812946	-36.494569	8.68E-14	-2.93E-14	-1.48E-13	-3.84E-14

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-209.776699	-20.319032	5.45E-14	-2.20E-14	-7.77E-14	-10.255163
0.50000	-210.035645	-20.385159	5.46E-14	-2.20E-14	-9.14E-14	-5.135898
1.00000	-210.294591	-20.451286	5.46E-14	-2.20E-14	-1.05E-13	-2.32E-14

COMB COMB5 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-209.776699	-20.319032	5.45E-14	-2.20E-14	-7.77E-14	-10.255163
0.50000	-210.035645	-20.385159	5.46E-14	-2.20E-14	-9.14E-14	-5.135898
1.00000	-210.294591	-20.451286	5.46E-14	-2.20E-14	-1.05E-13	-2.32E-14

COMB COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-209.617956	-21.087752	5.48E-14	-2.20E-14	-7.71E-14	-10.641884
0.50000	-209.876902	-21.153880	5.49E-14	-2.20E-14	-9.09E-14	-5.329259
1.00000	-210.135847	-21.220007	5.49E-14	-2.20E-14	-1.05E-13	-2.20E-14

COMB COMB6 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-209.617956	-21.087752	5.48E-14	-2.20E-14	-7.71E-14	-10.641884

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
0.50000	-209.876902	-21.153880	5.49E-14	-2.20E-14	-9.09E-14	-5.329259
1.00000	-210.135847	-21.220007	5.49E-14	-2.20E-14	-1.05E-13	-2.20E-14

COMB COMB7 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-204.600776	-20.530434	4.98E-14	-1.82E-14	-6.38E-14	-10.341570
0.50000	-204.871111	-20.551961	4.99E-14	-1.82E-14	-7.63E-14	-5.175362
1.00000	-205.133853	-20.603222	4.99E-14	-1.82E-14	-8.89E-14	-2.11E-14

COMB COMB7 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-204.600776	-20.530434	4.98E-14	-1.82E-14	-6.38E-14	-10.341570
0.50000	-204.871111	-20.551961	4.99E-14	-1.82E-14	-7.63E-14	-5.175362
1.00000	-205.133853	-20.603222	4.99E-14	-1.82E-14	-8.89E-14	-2.11E-14

COMB COMB8 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-202.137973	-20.364209	4.85E-14	-1.63E-14	-5.82E-14	-10.257947
0.50000	-202.408309	-20.385737	4.86E-14	-1.63E-14	-7.04E-14	-5.133551
1.00000	-202.671051	-20.436998	4.86E-14	-1.63E-14	-8.26E-14	-2.16E-14

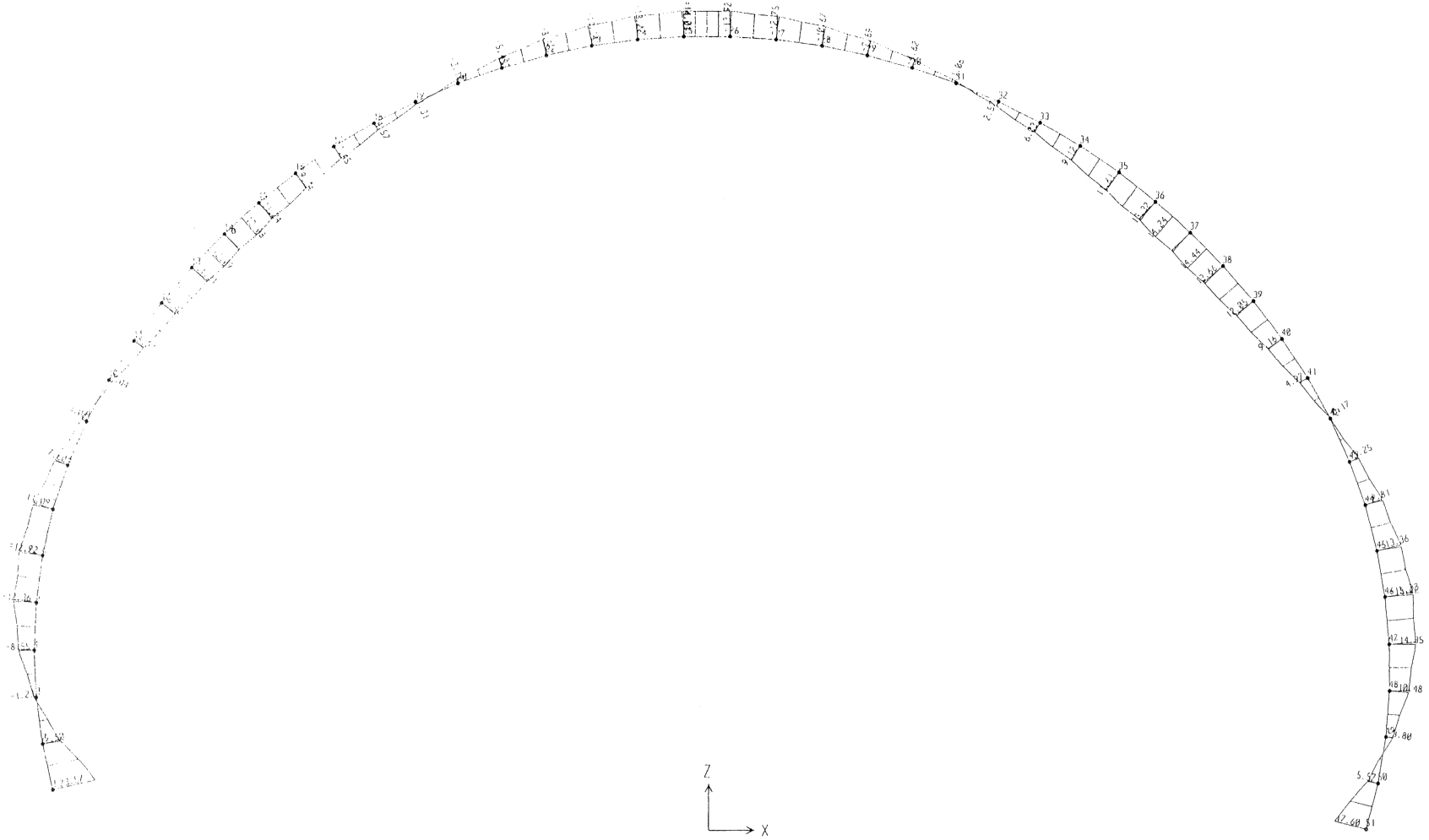
COMB COMB8 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-202.137973	-20.364209	4.85E-14	-1.63E-14	-5.82E-14	-10.257947
0.50000	-202.408309	-20.385737	4.86E-14	-1.63E-14	-7.04E-14	-5.133551
1.00000	-202.671051	-20.436998	4.86E-14	-1.63E-14	-8.26E-14	-2.16E-14

5-5. 개착터널 콘크리트 라이닝 해석결과

(토피고 = 3.0 m)

단면력도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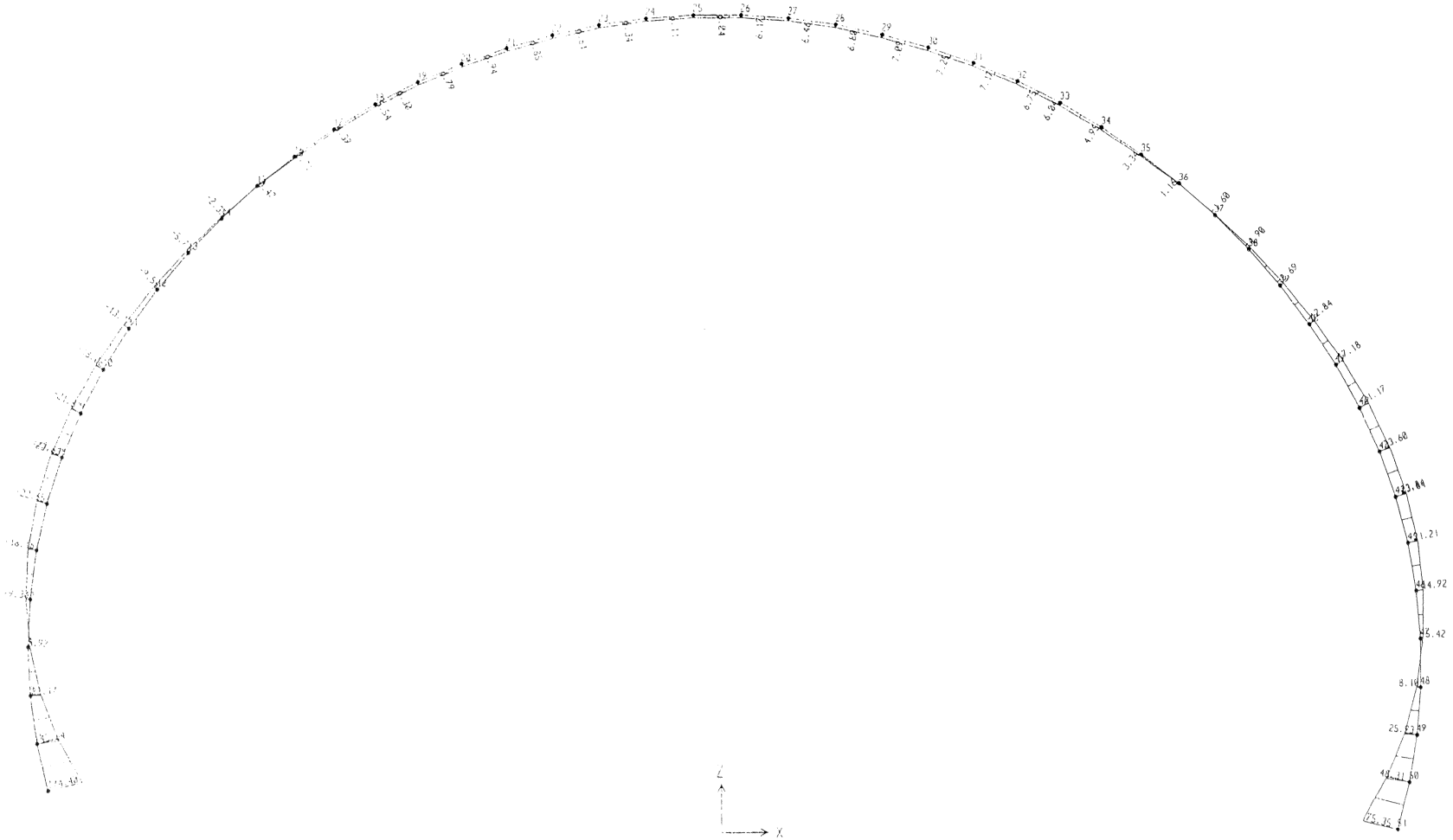

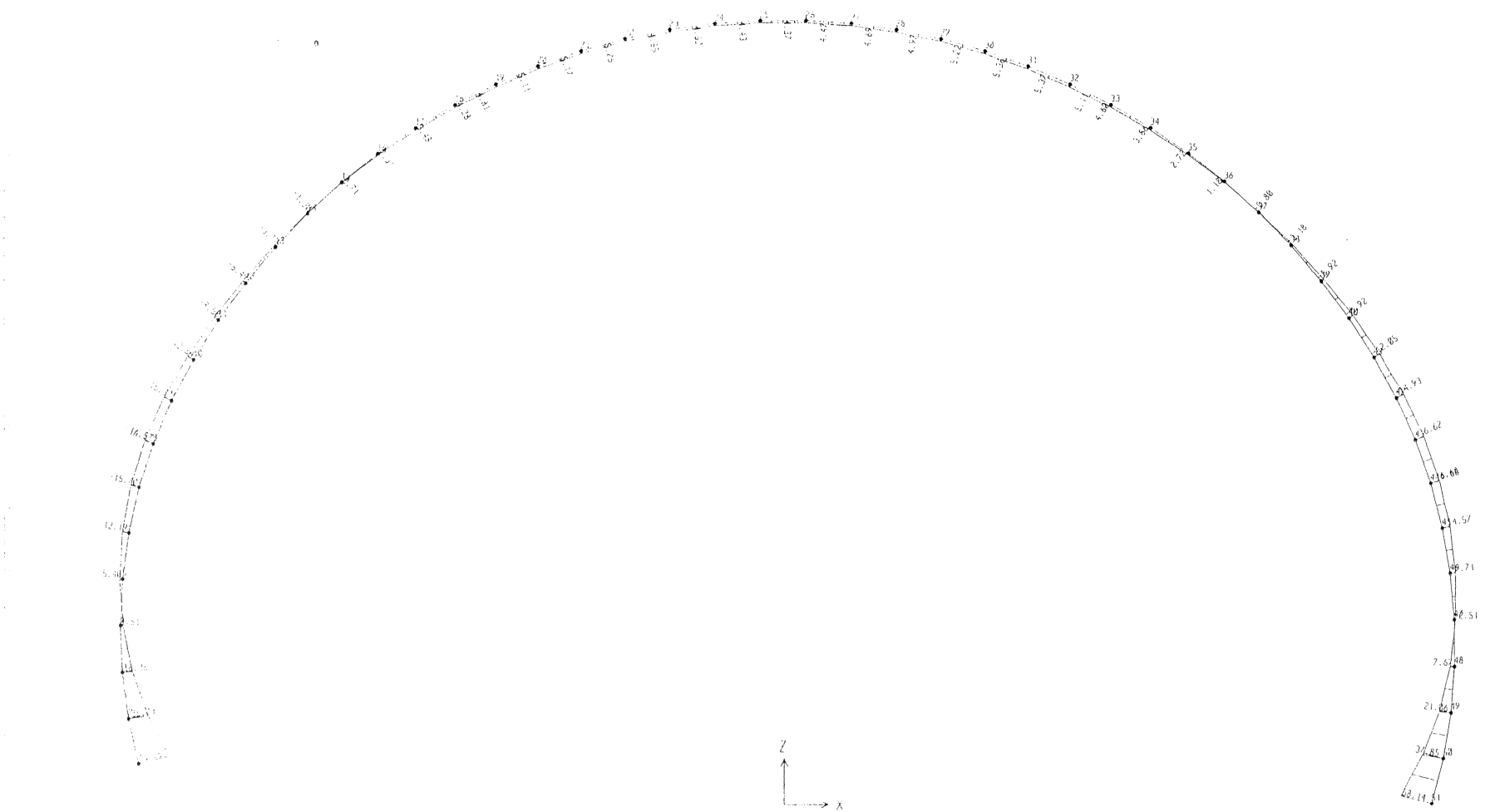
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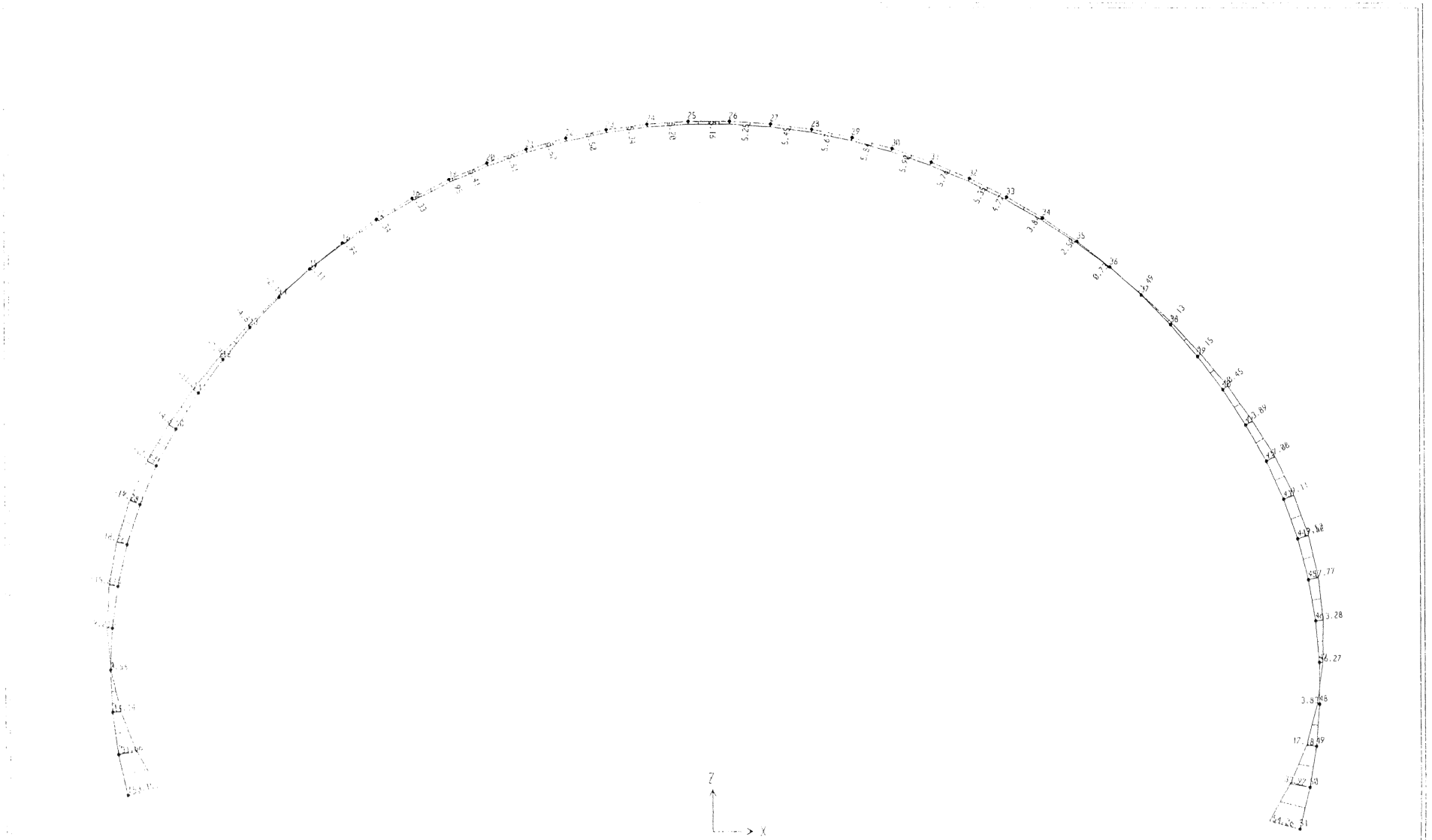

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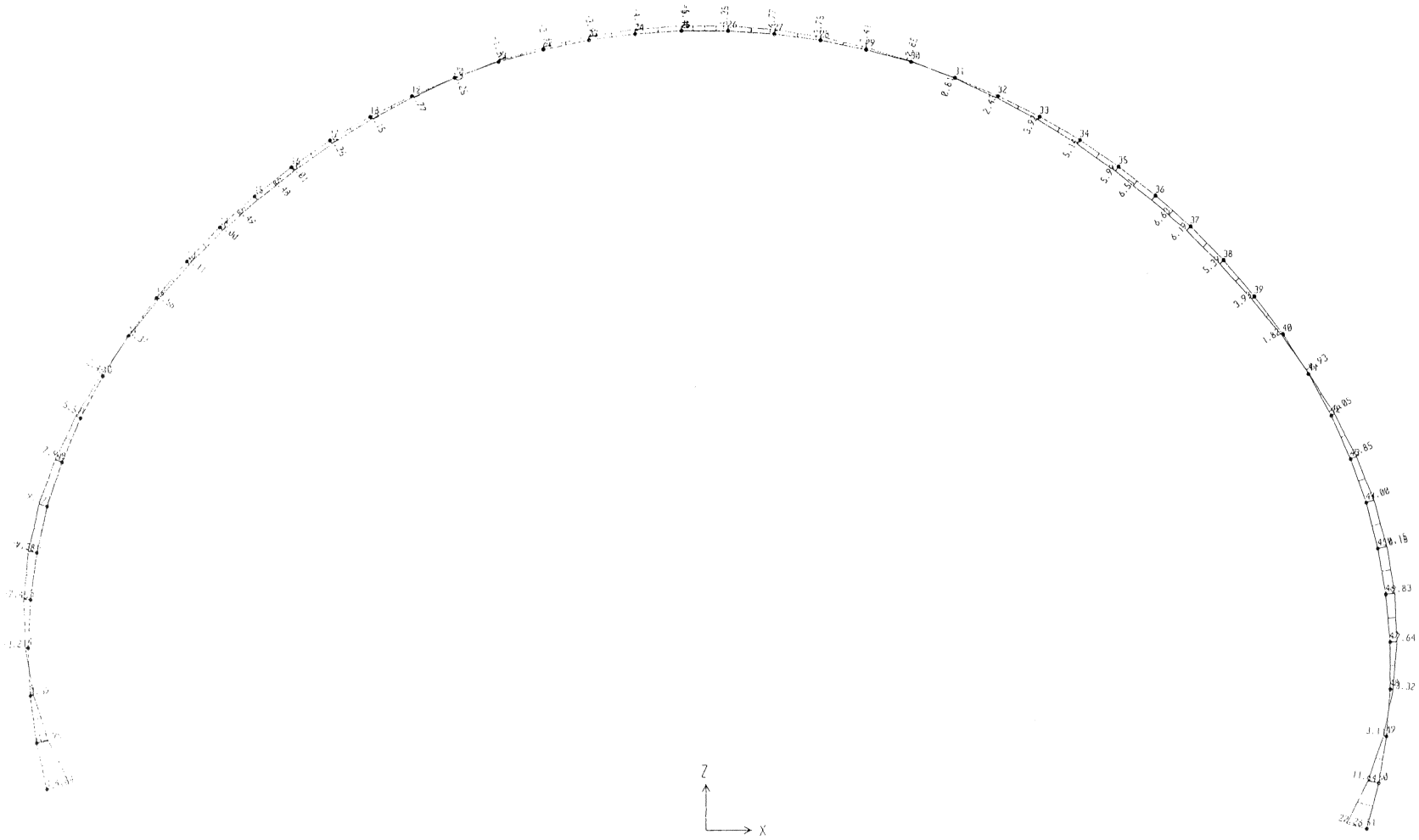

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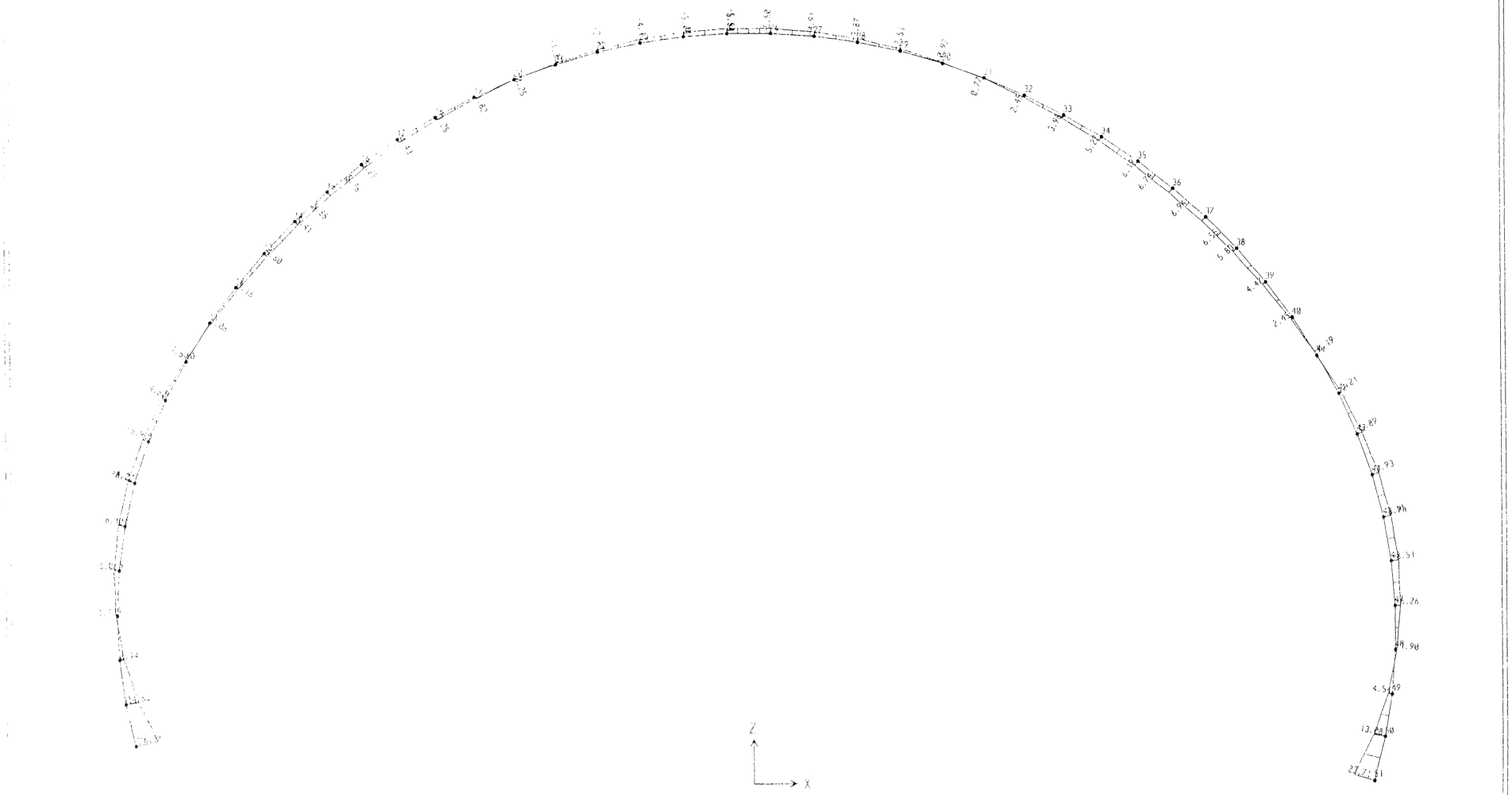

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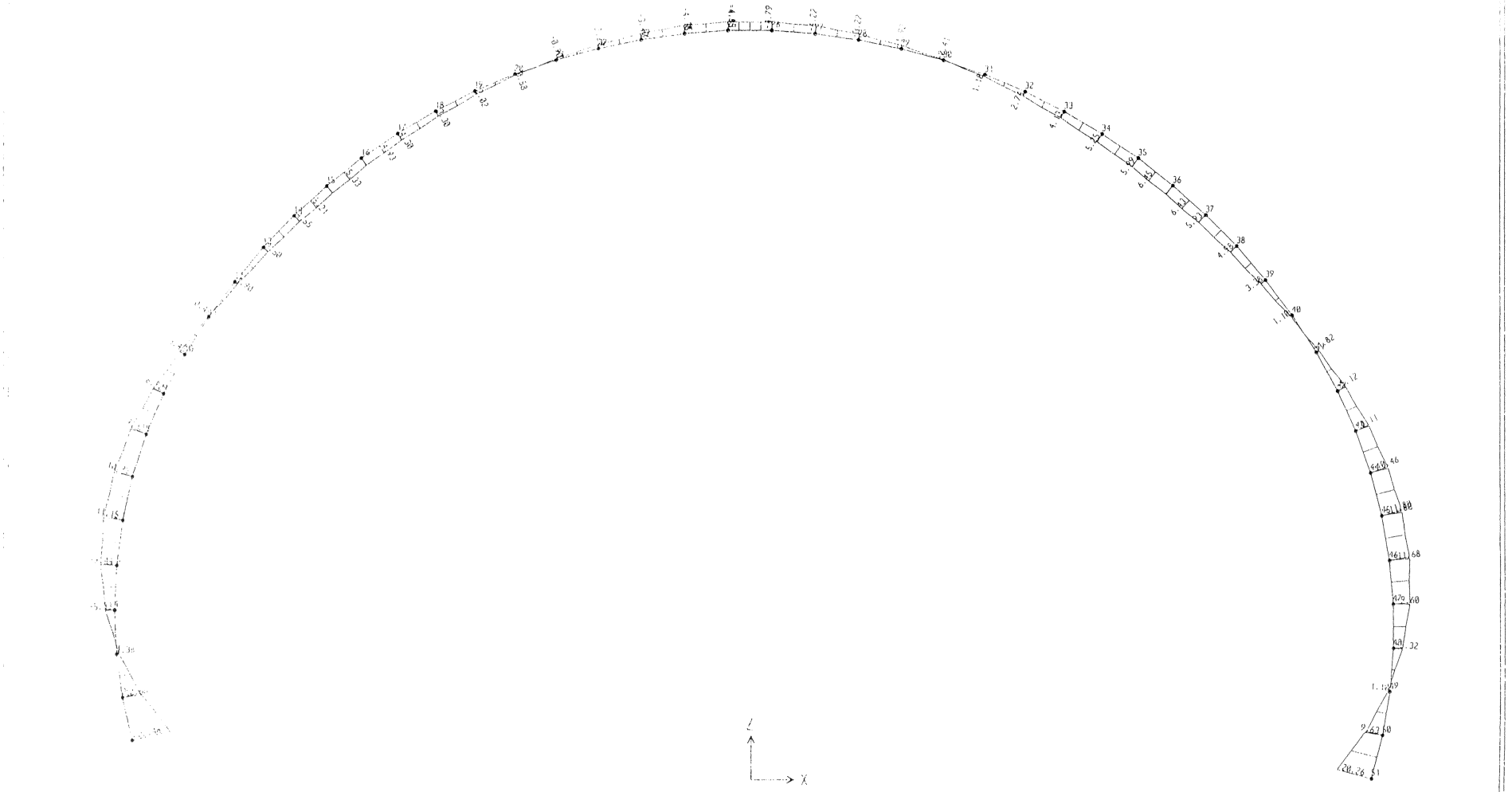

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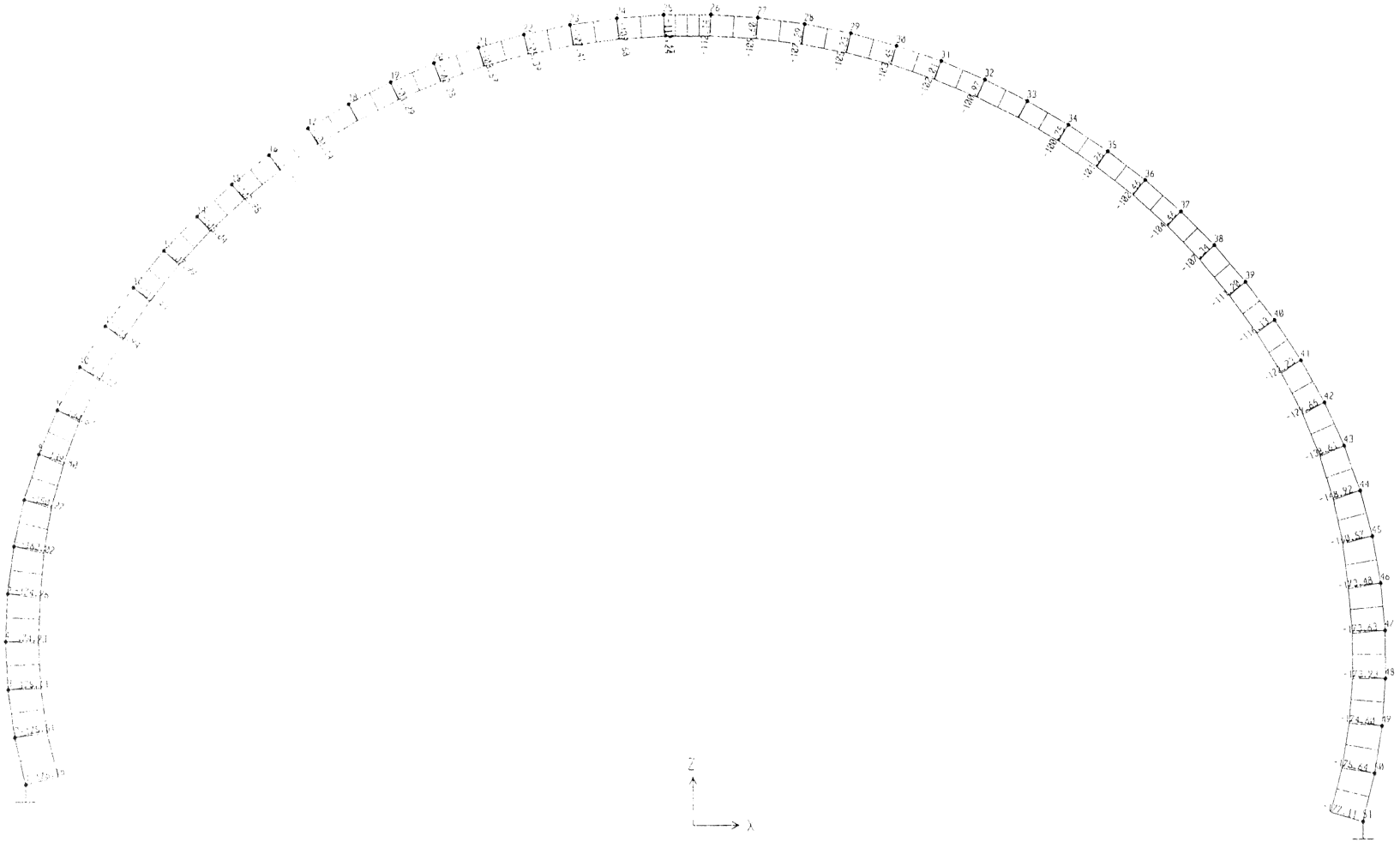
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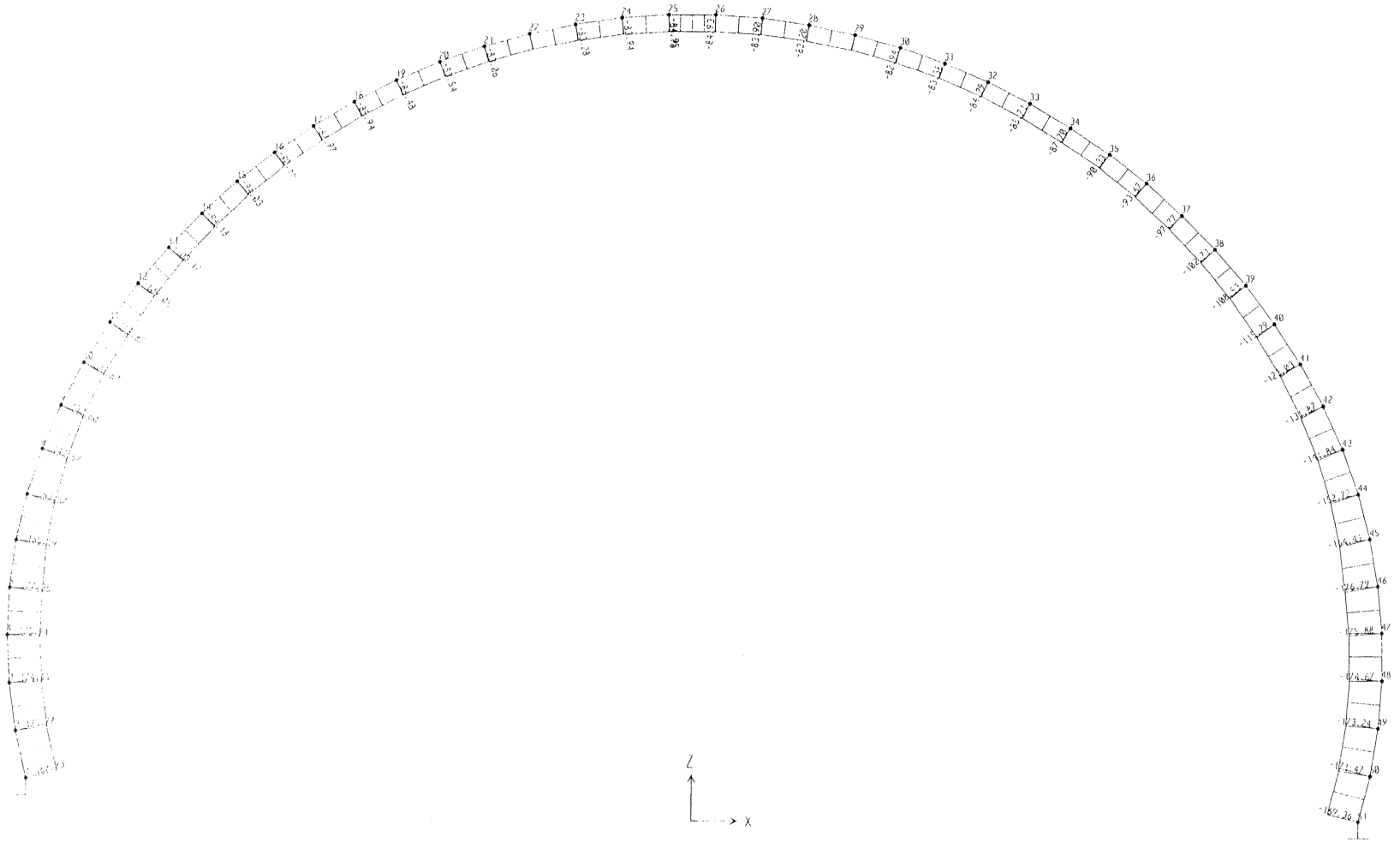

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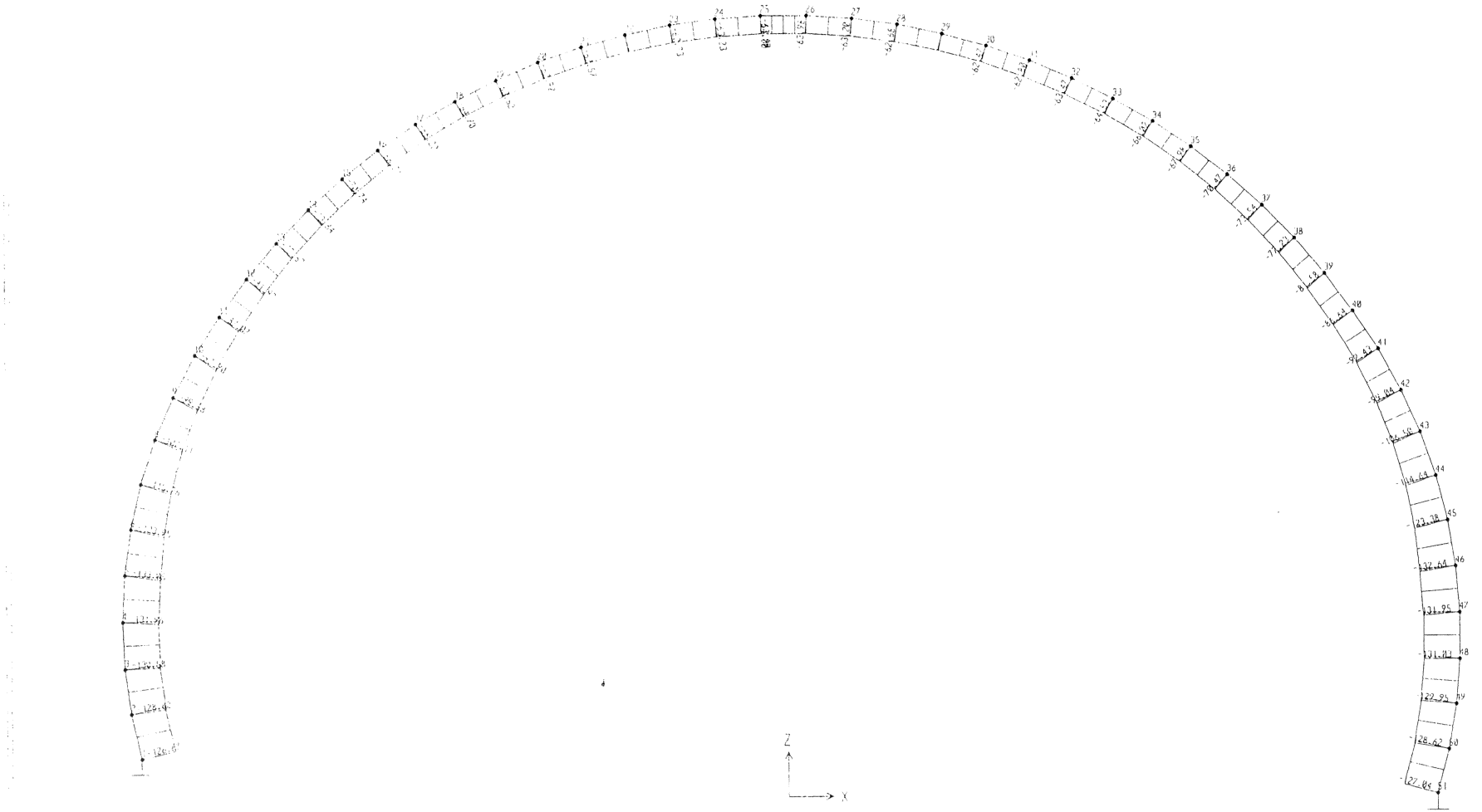
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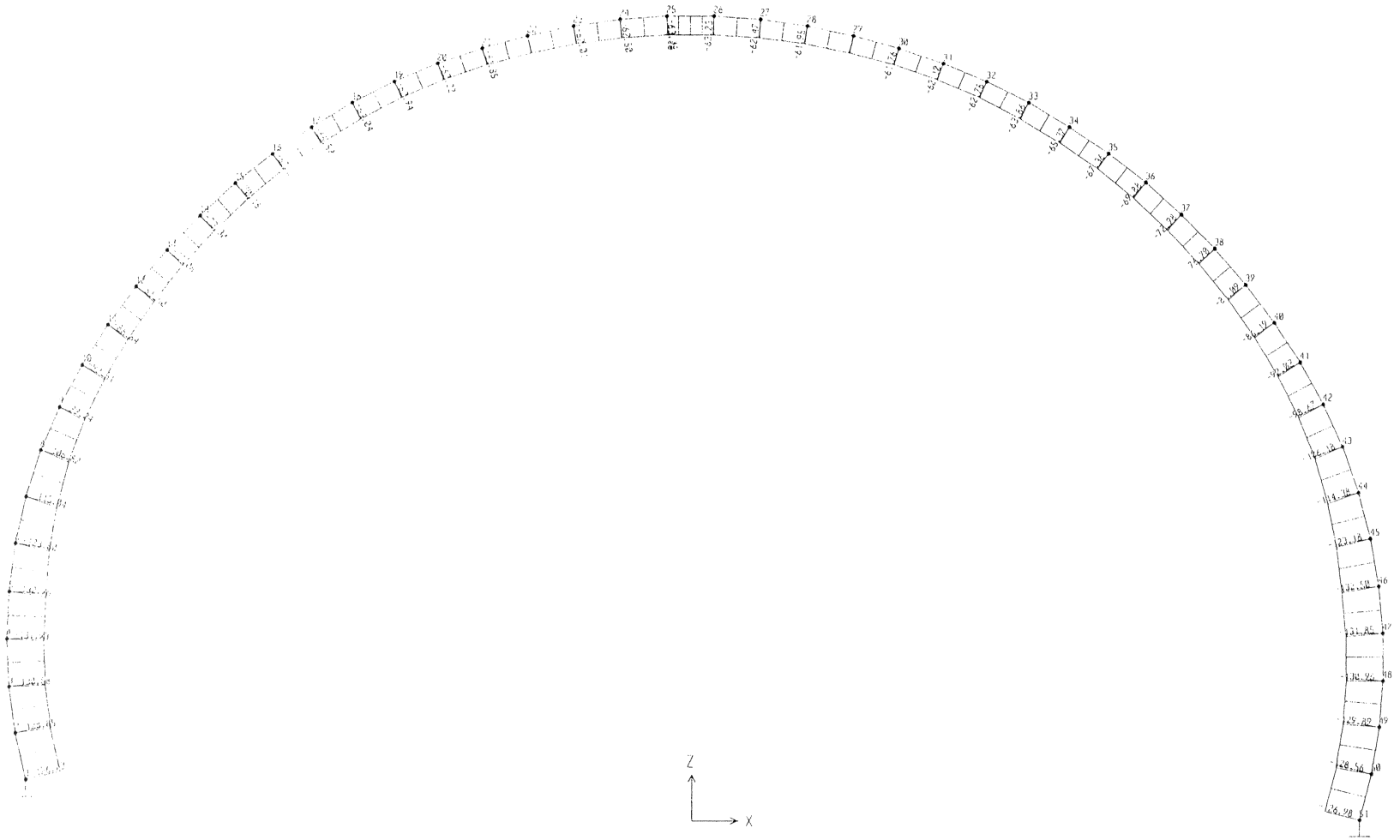

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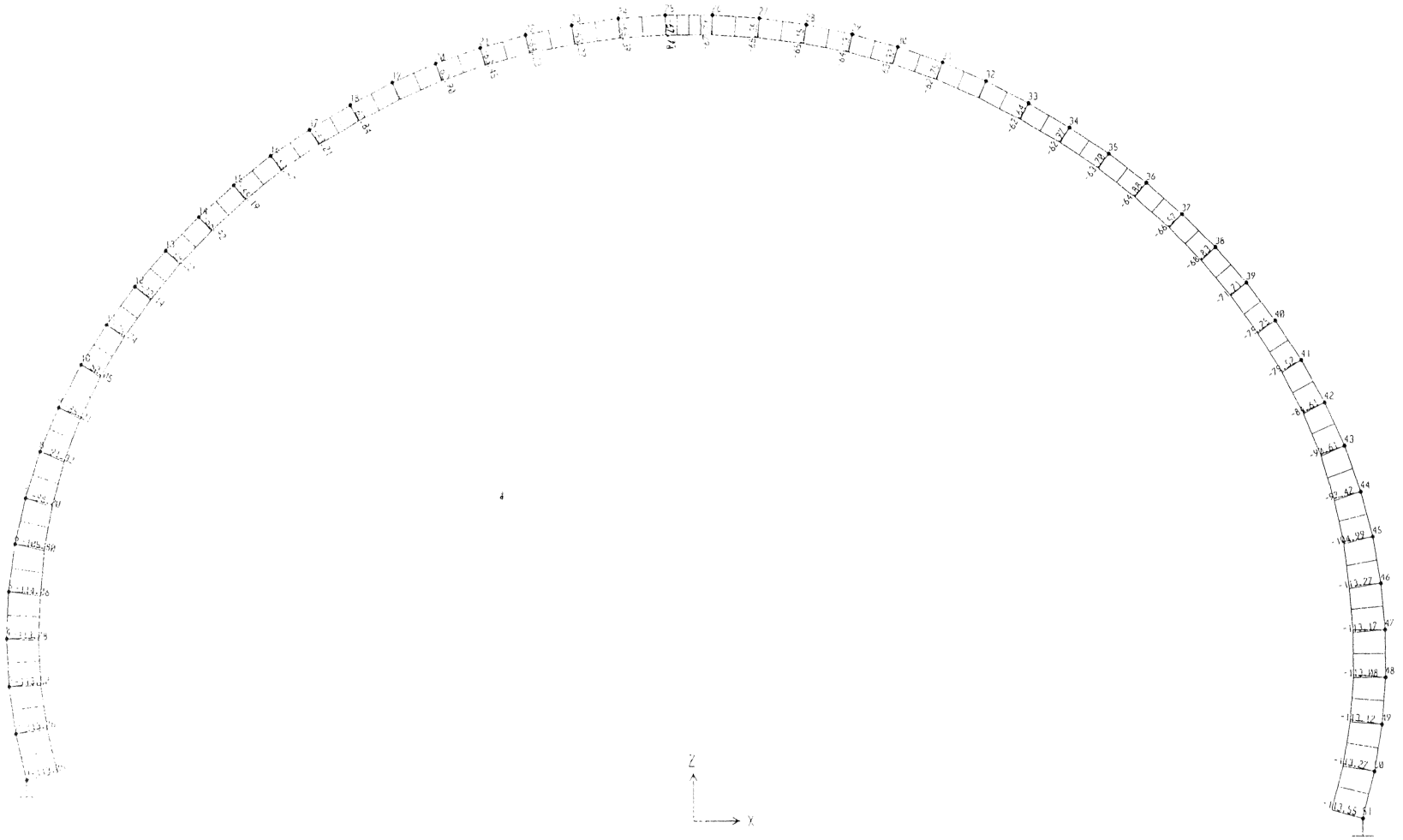

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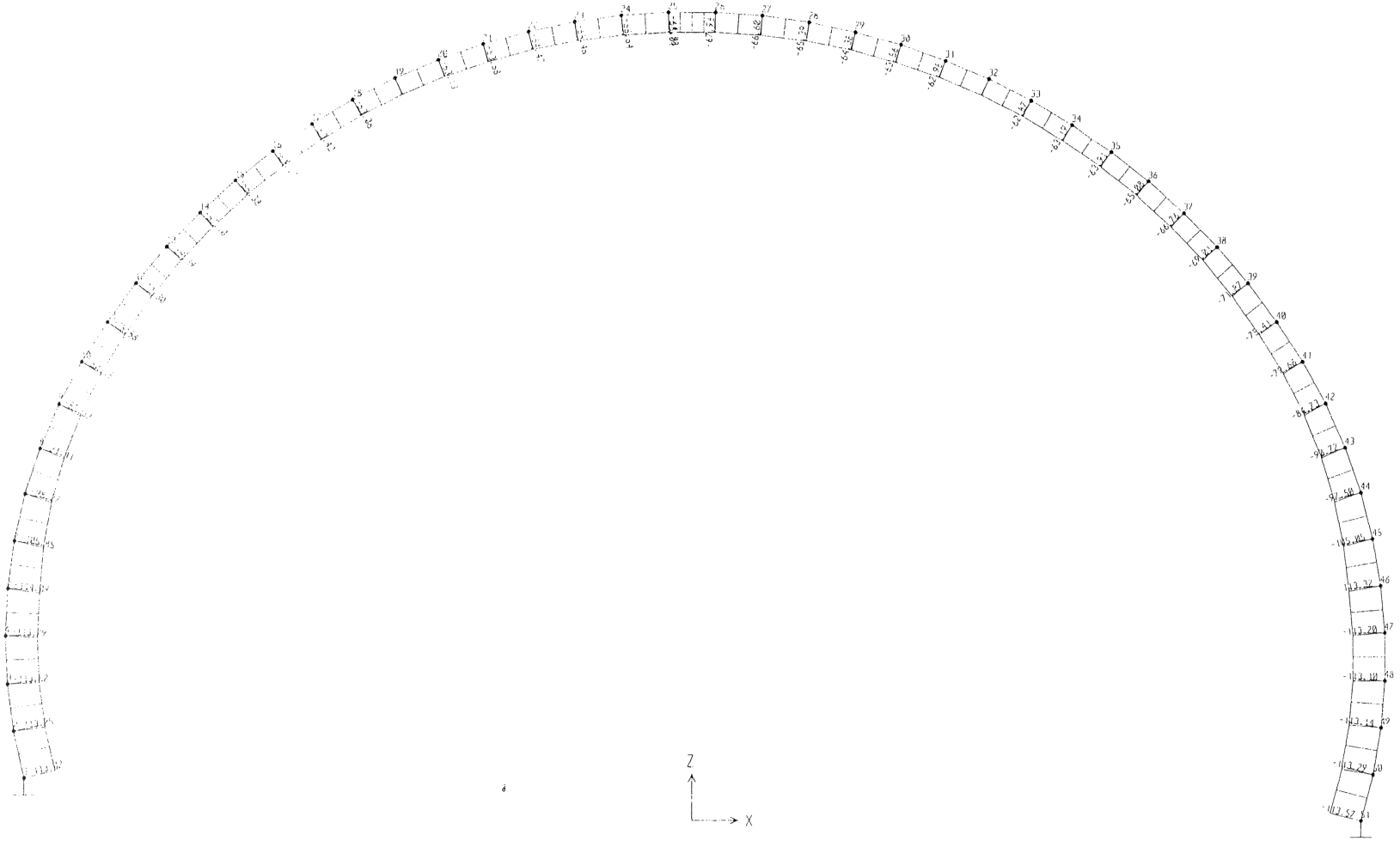
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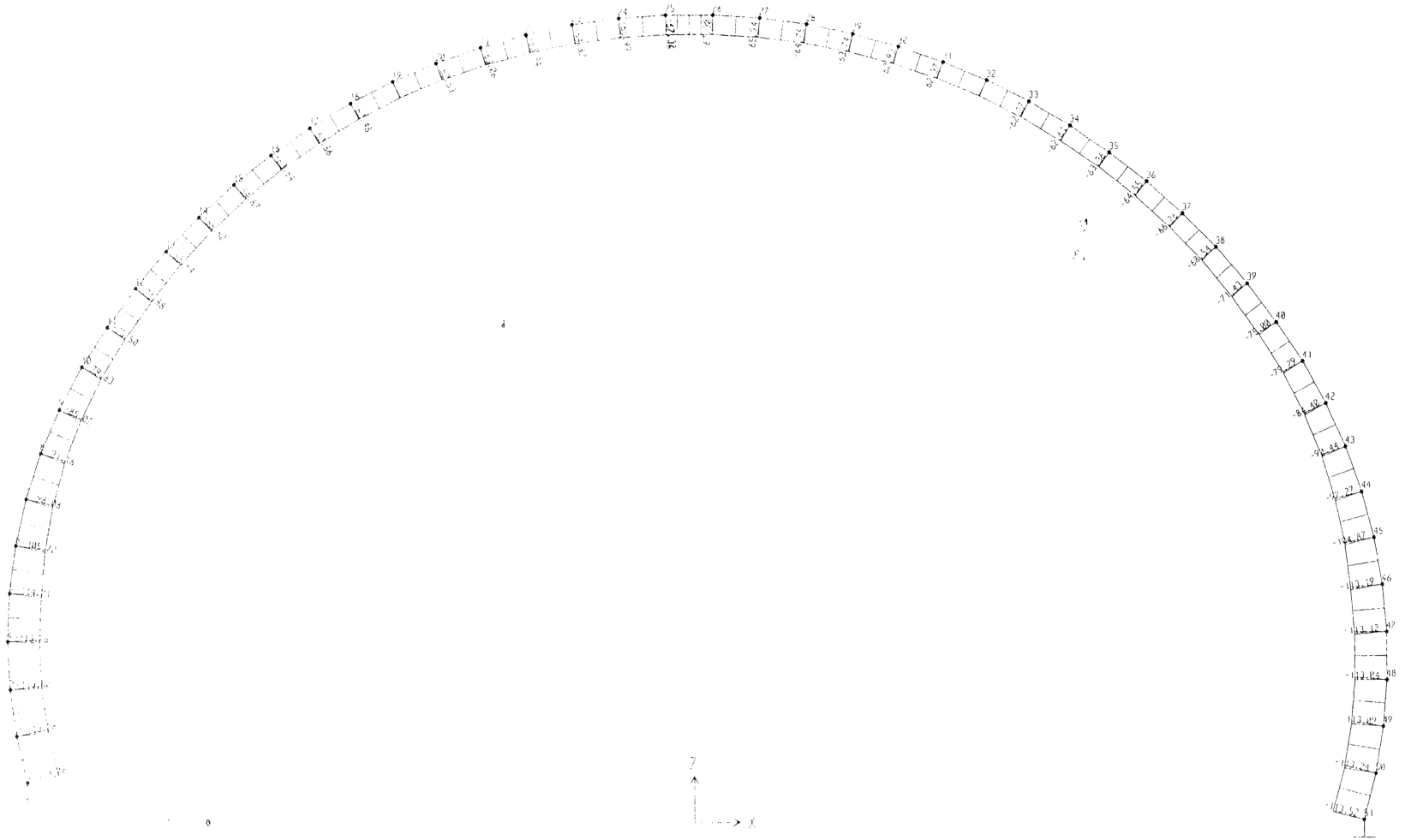

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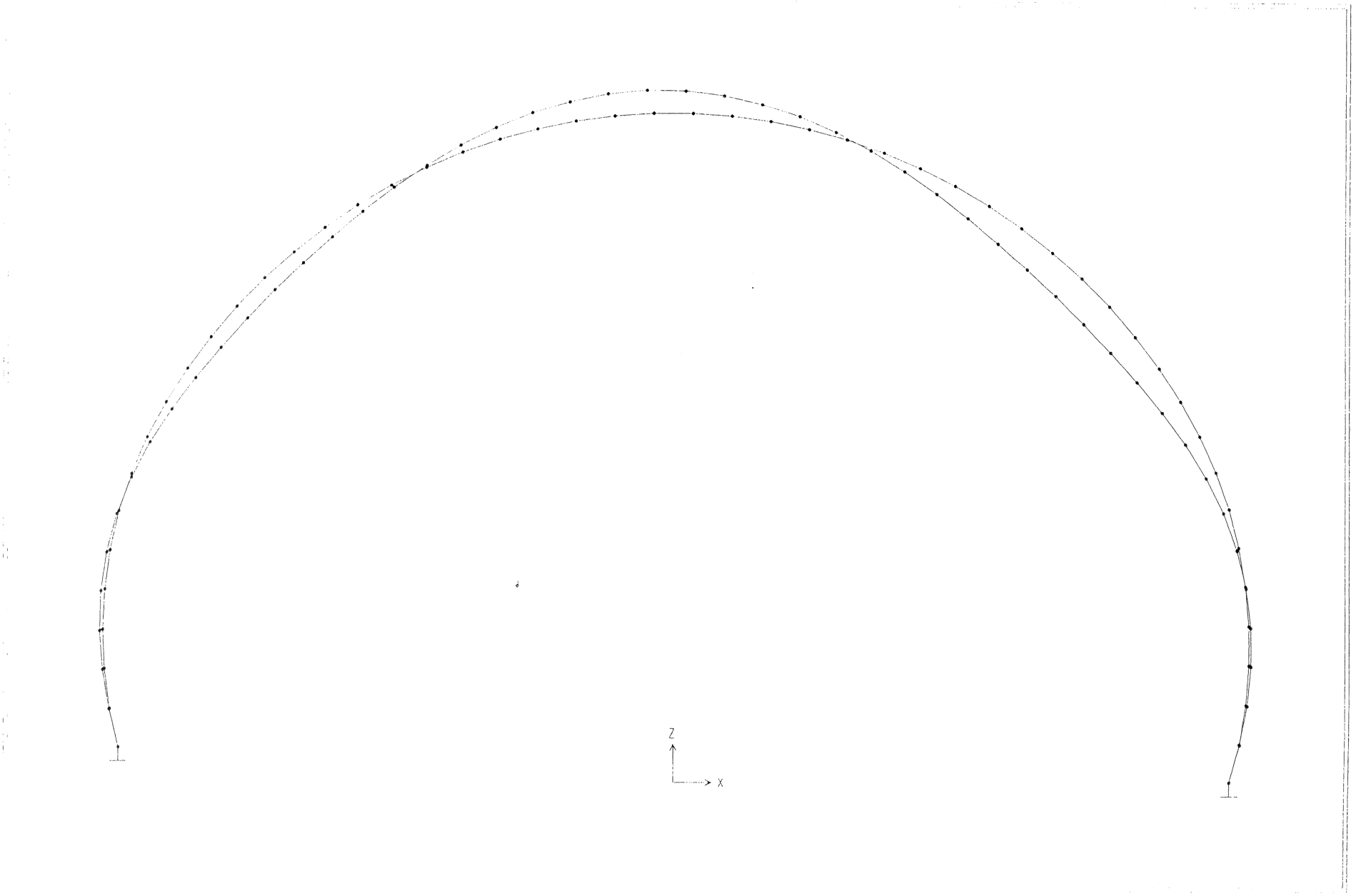
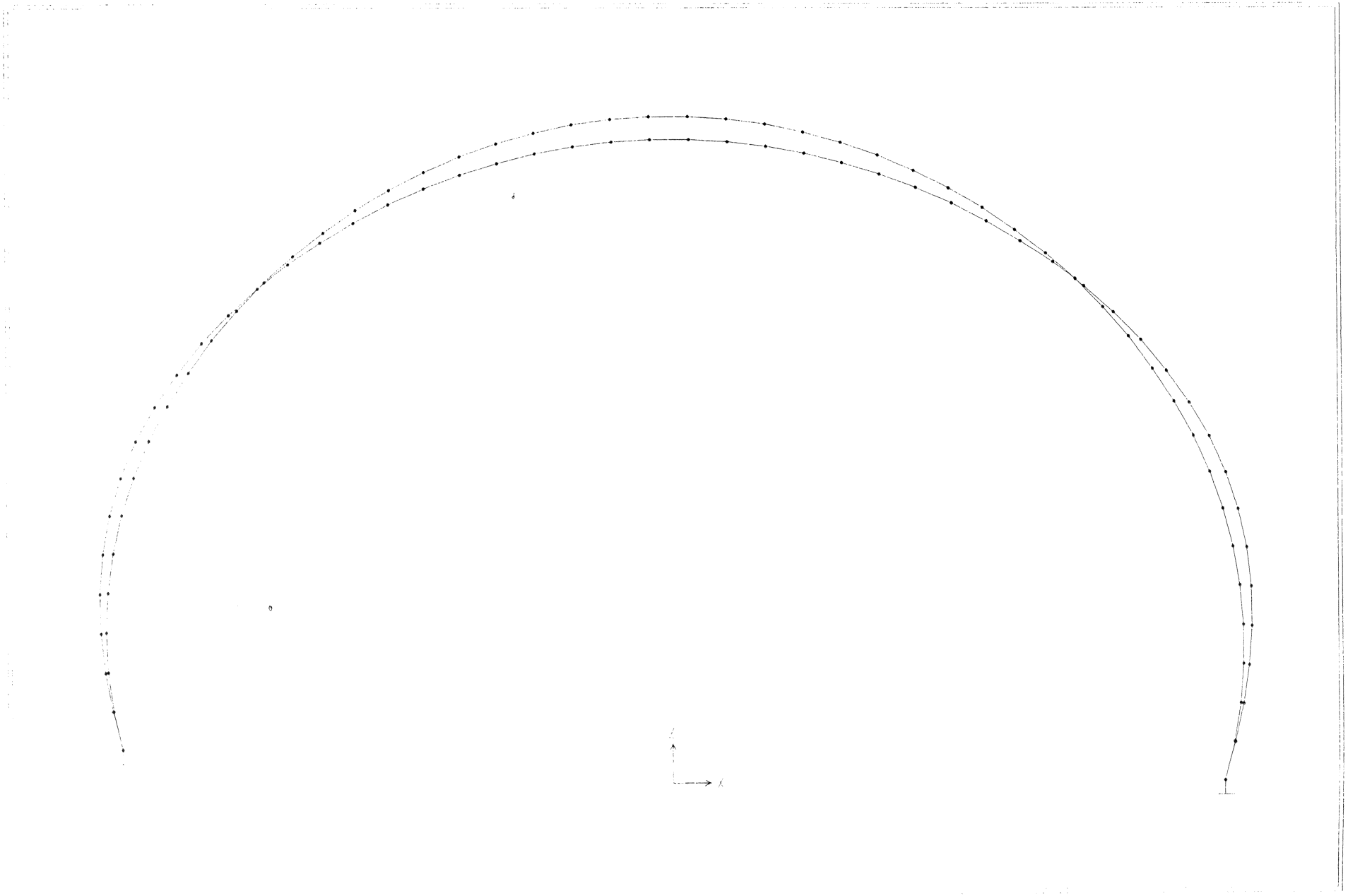


SAP2000 v7.40 - File:tl-5-1 - Deformed Shape (COMB1) - Ton-m Units



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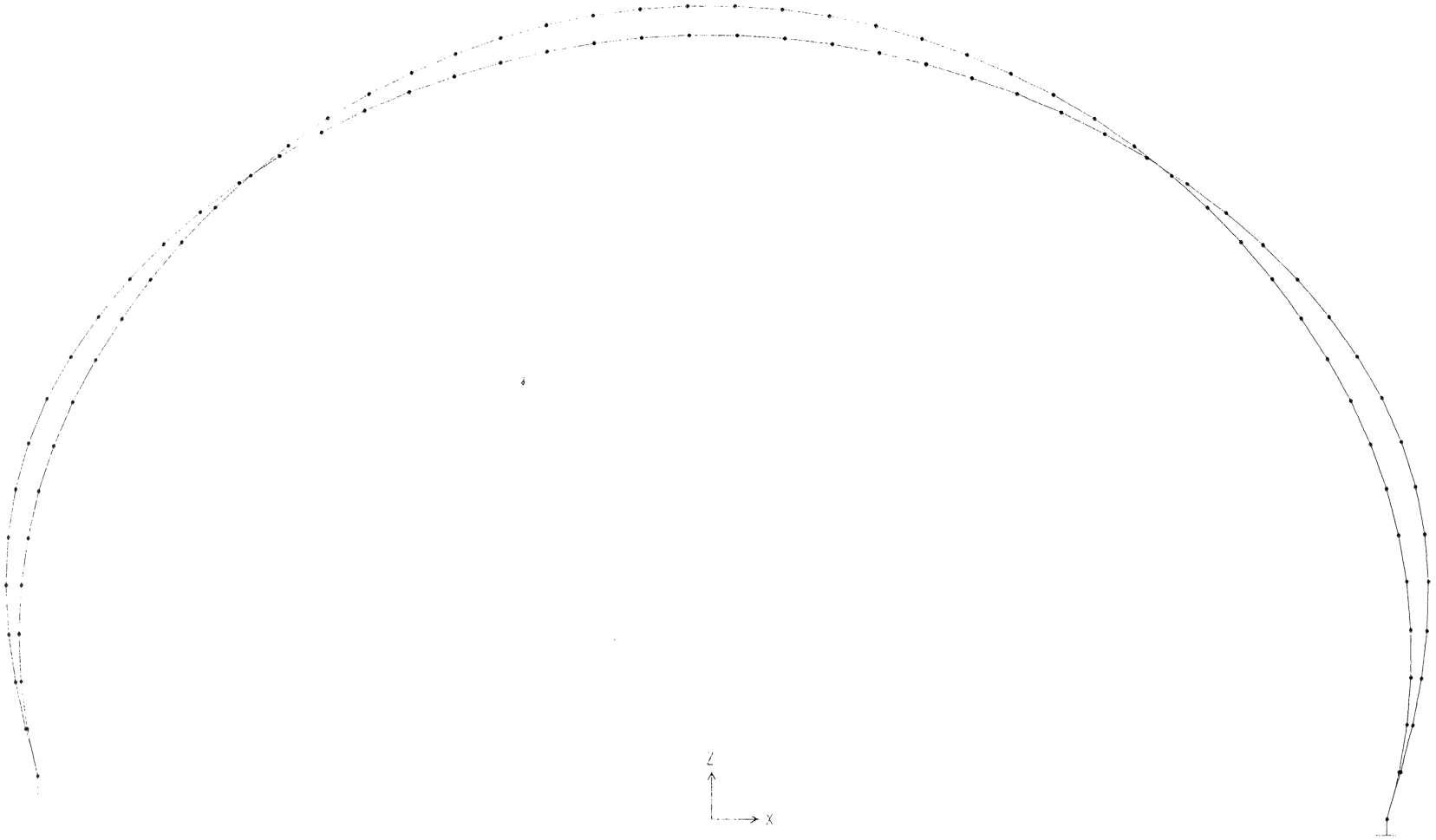

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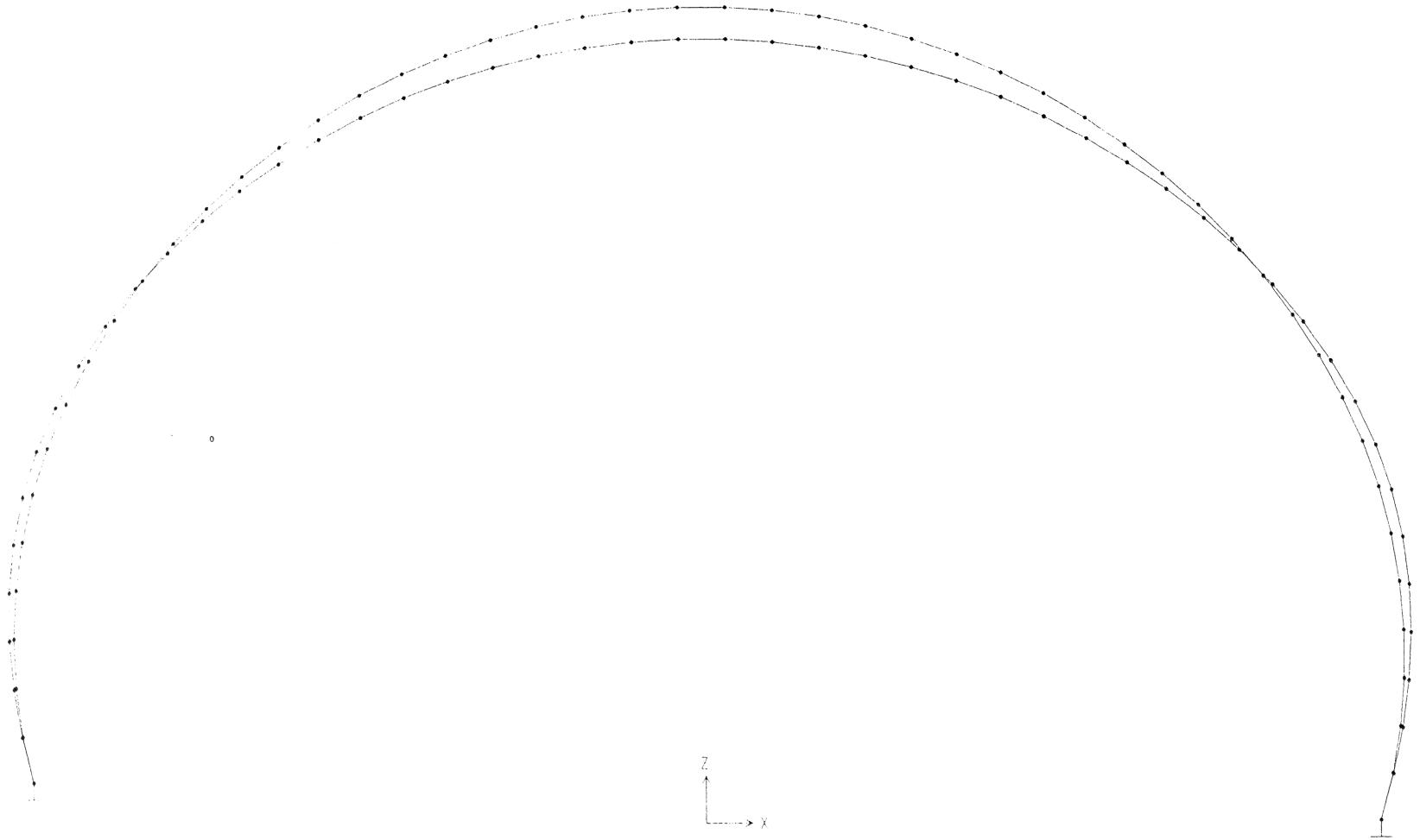
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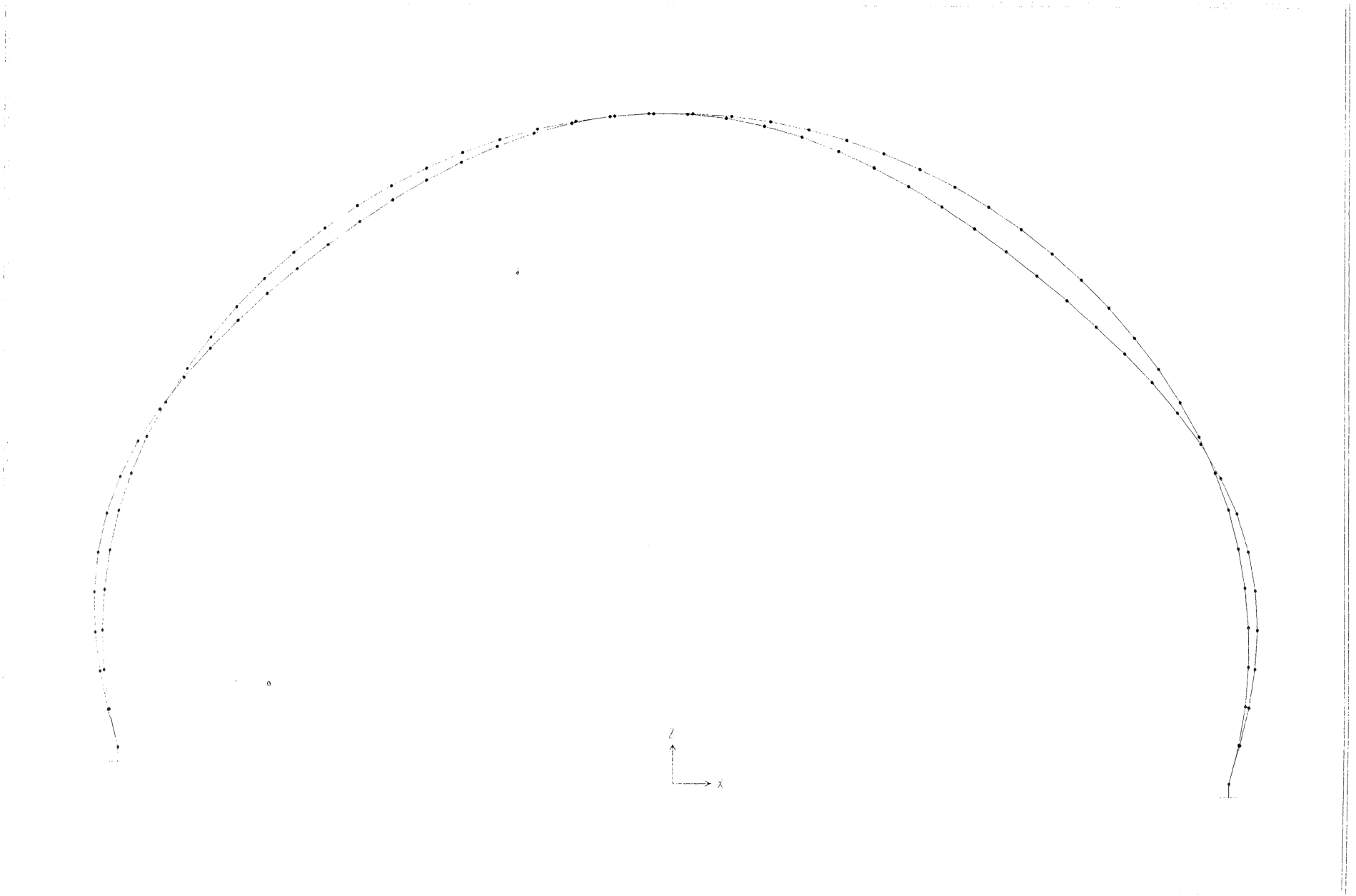

SAP2000 v7.40 - File:tl-5-1 - Deformed Shape (COMB5) - Ton-m Units

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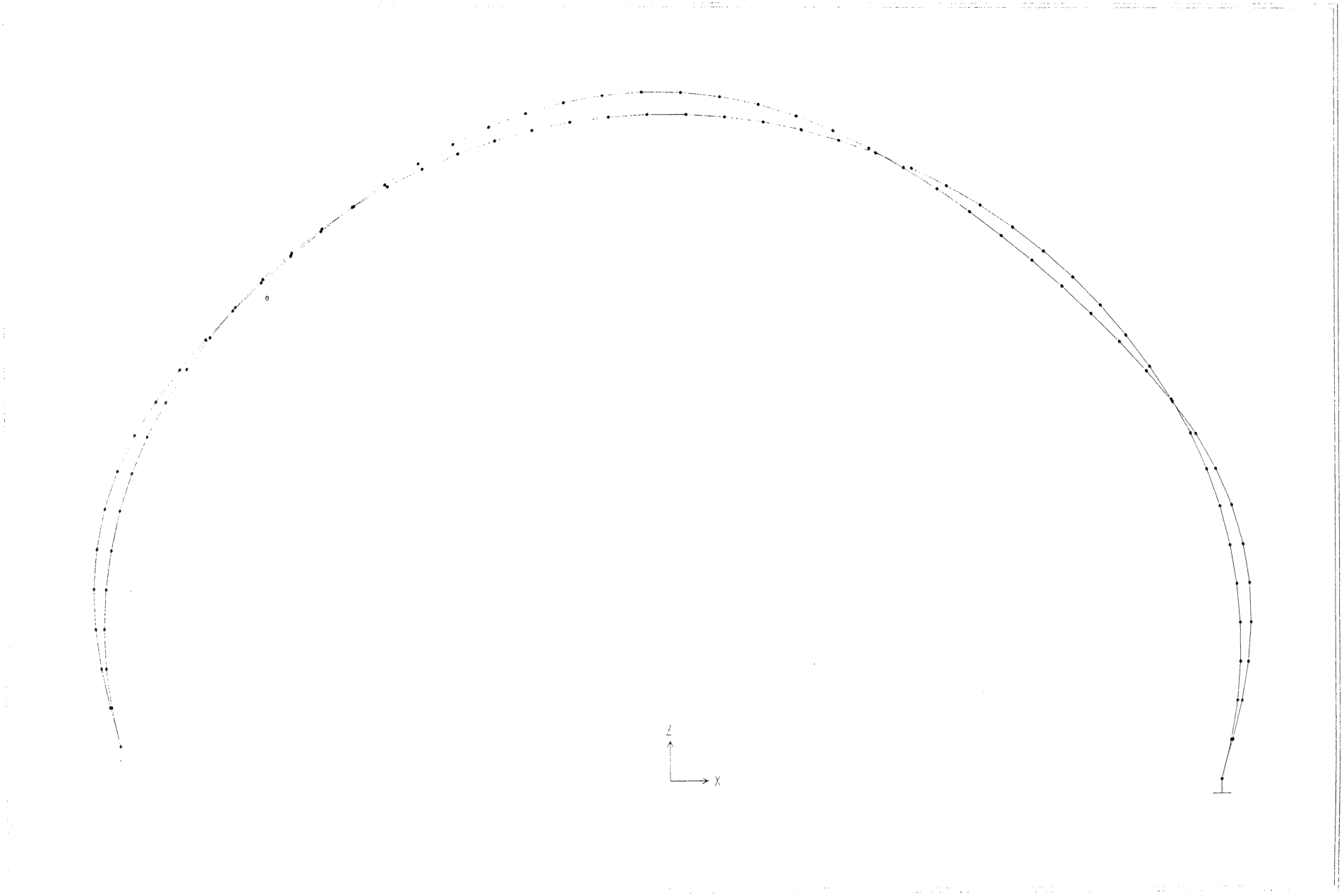

SAP2000 v7.40 - File:tl-5-1 - Deformed Shape (COMB6) - Ton-m Units

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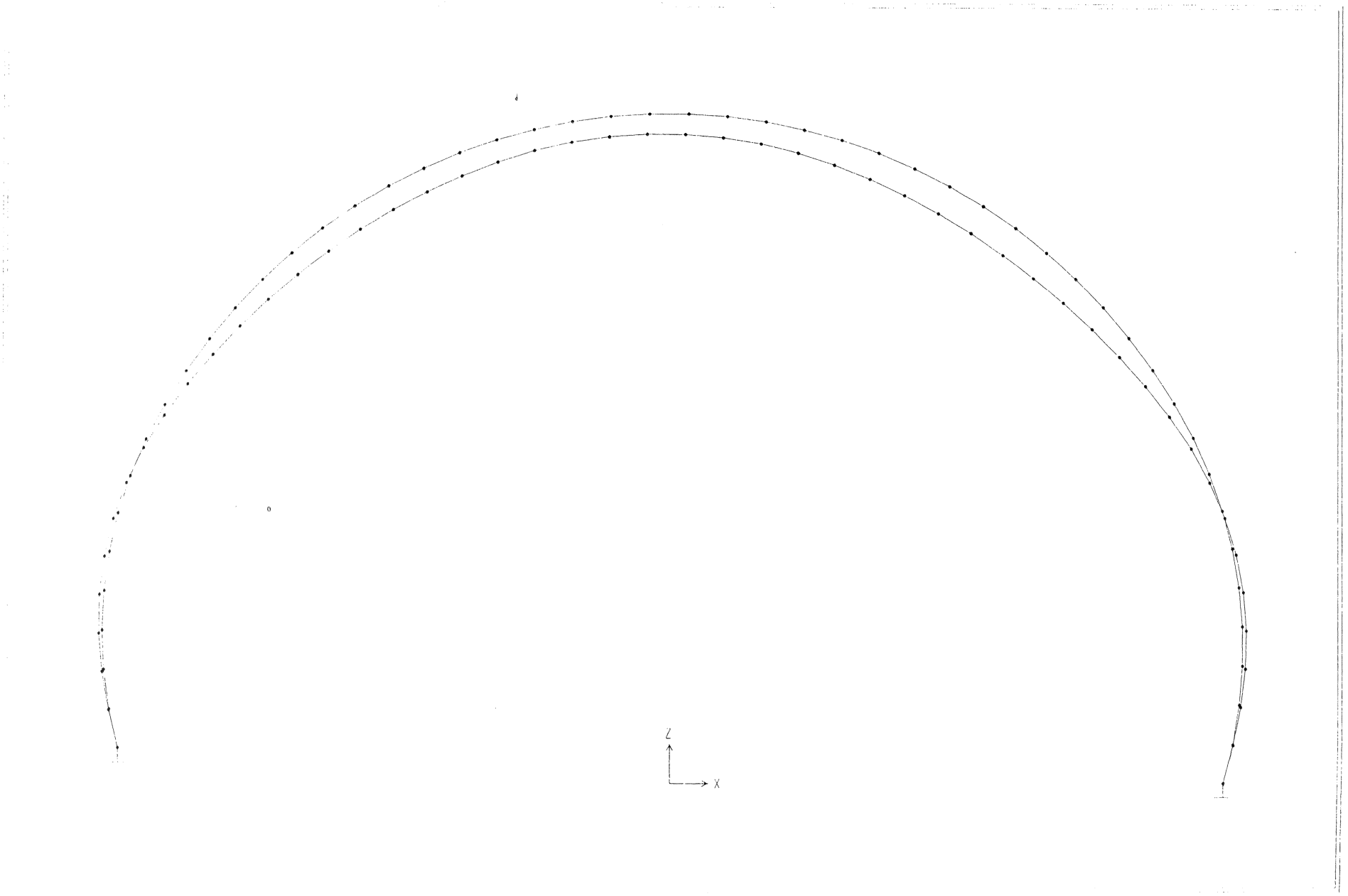

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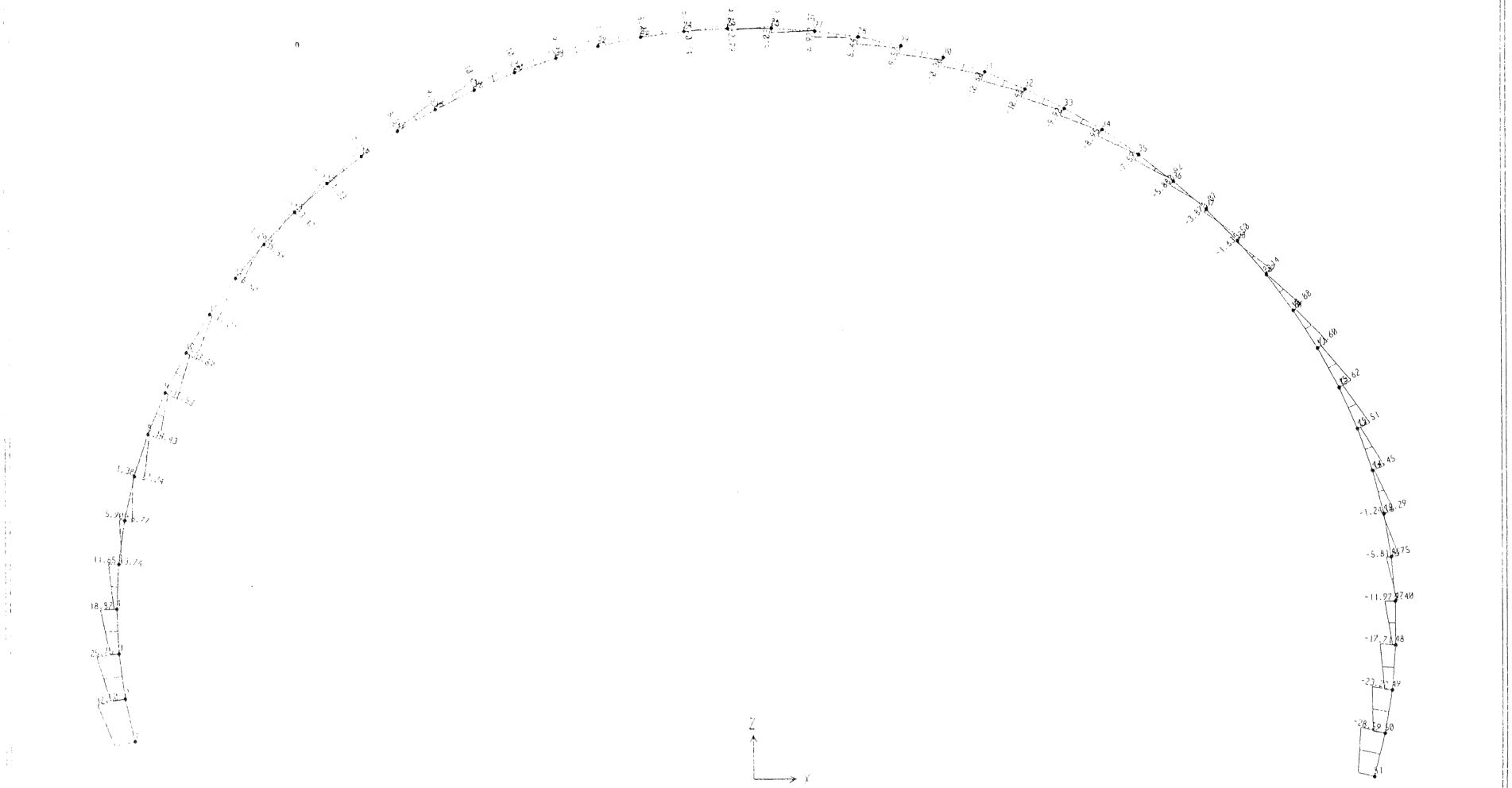

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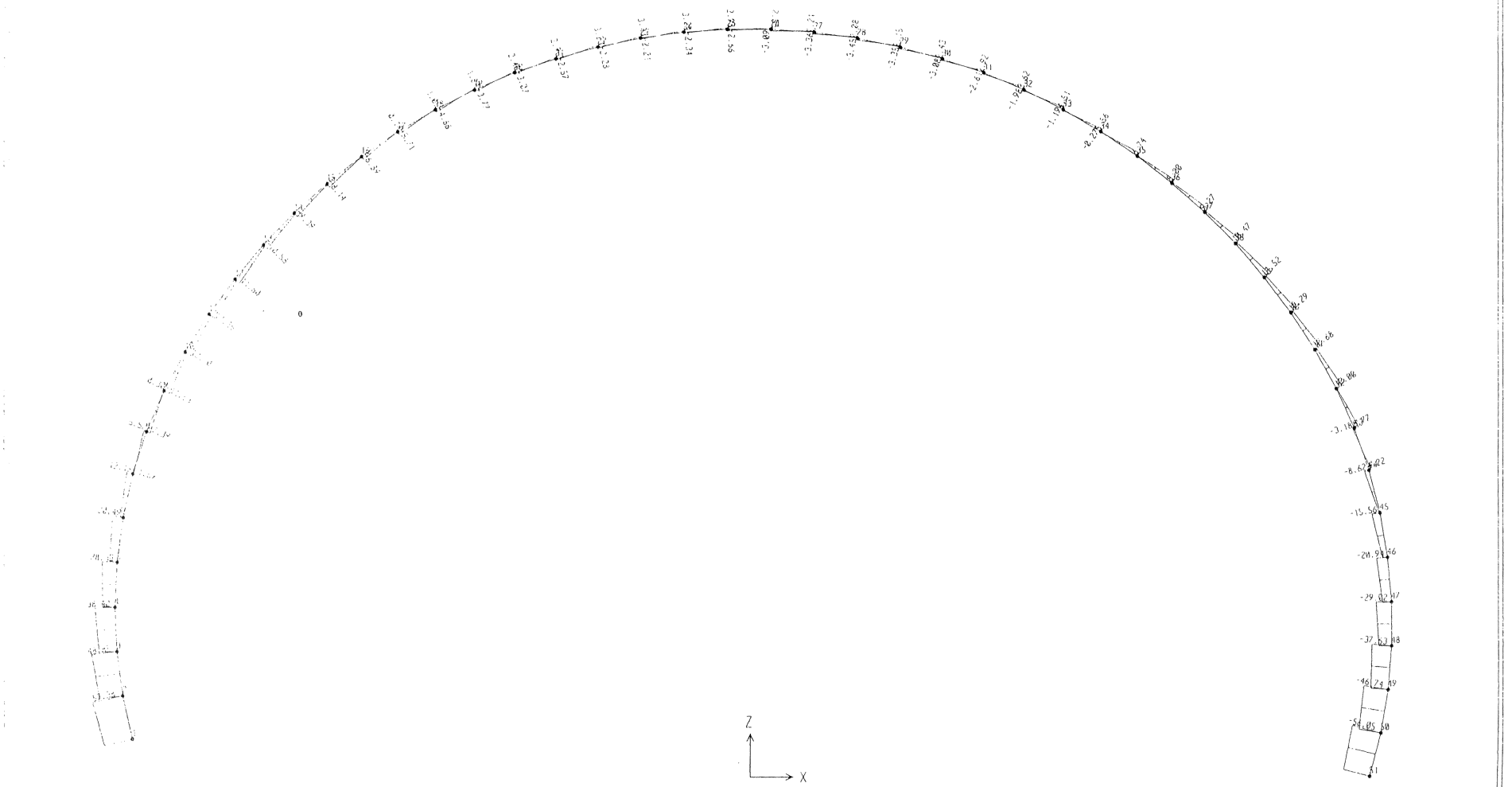

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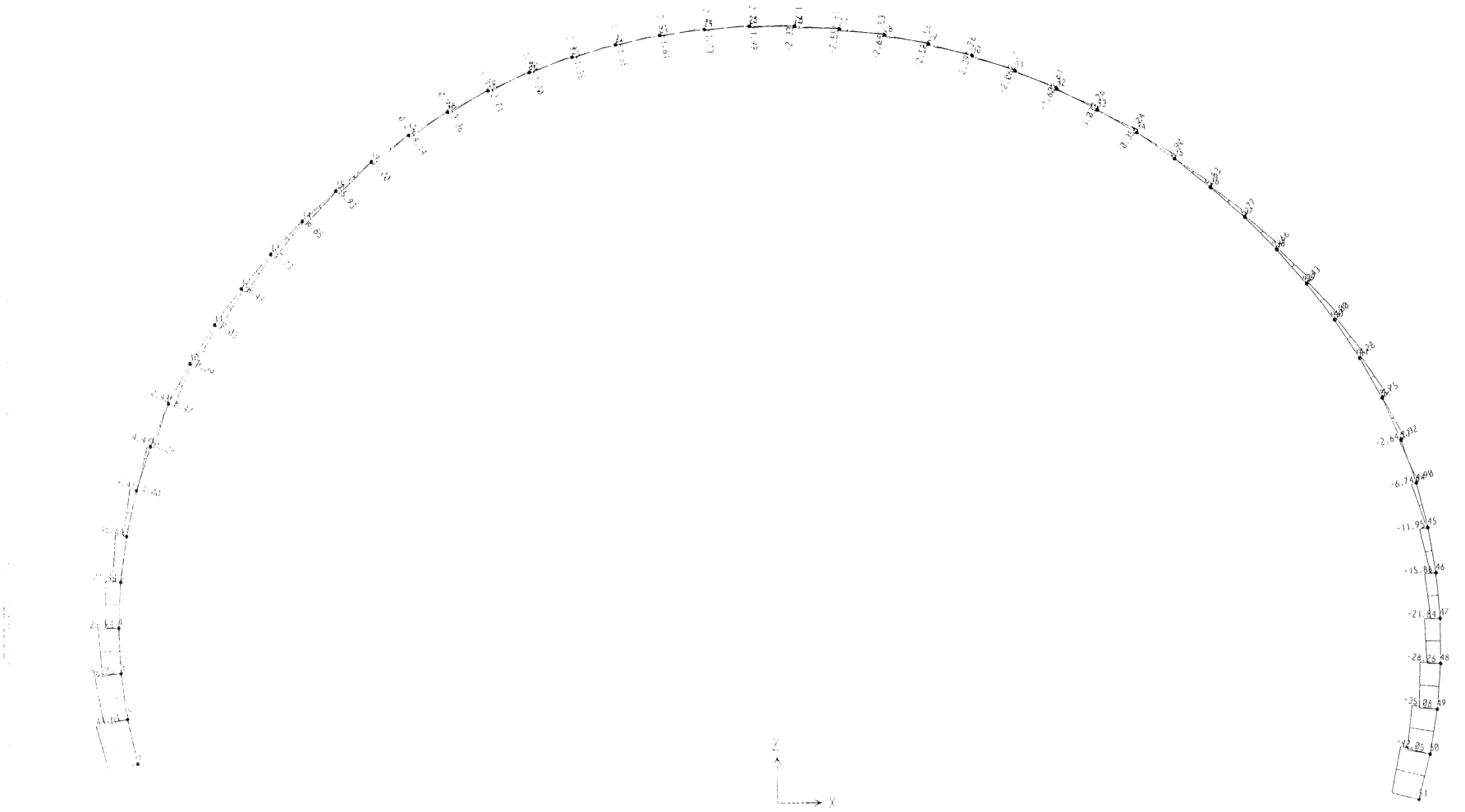

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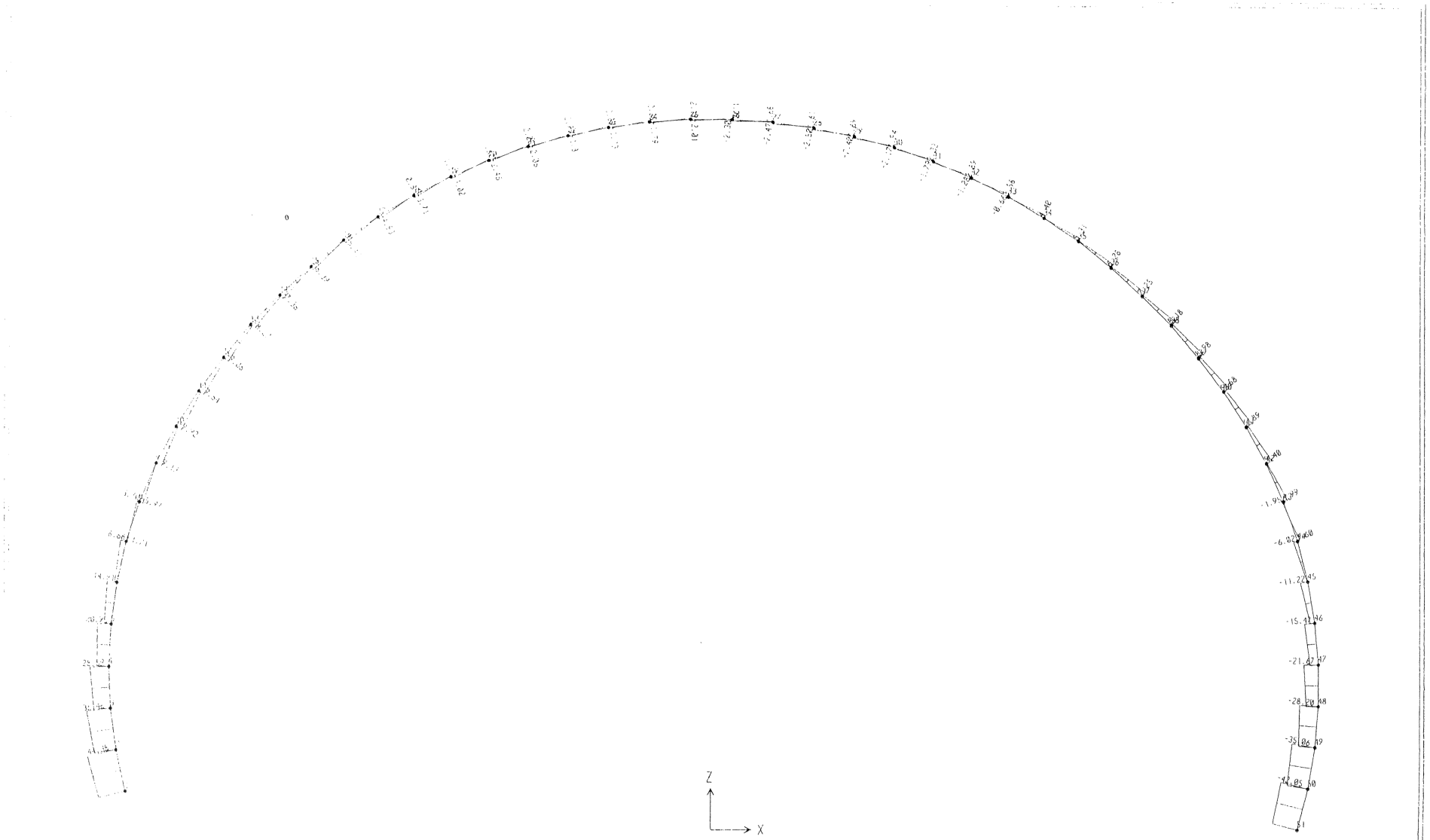

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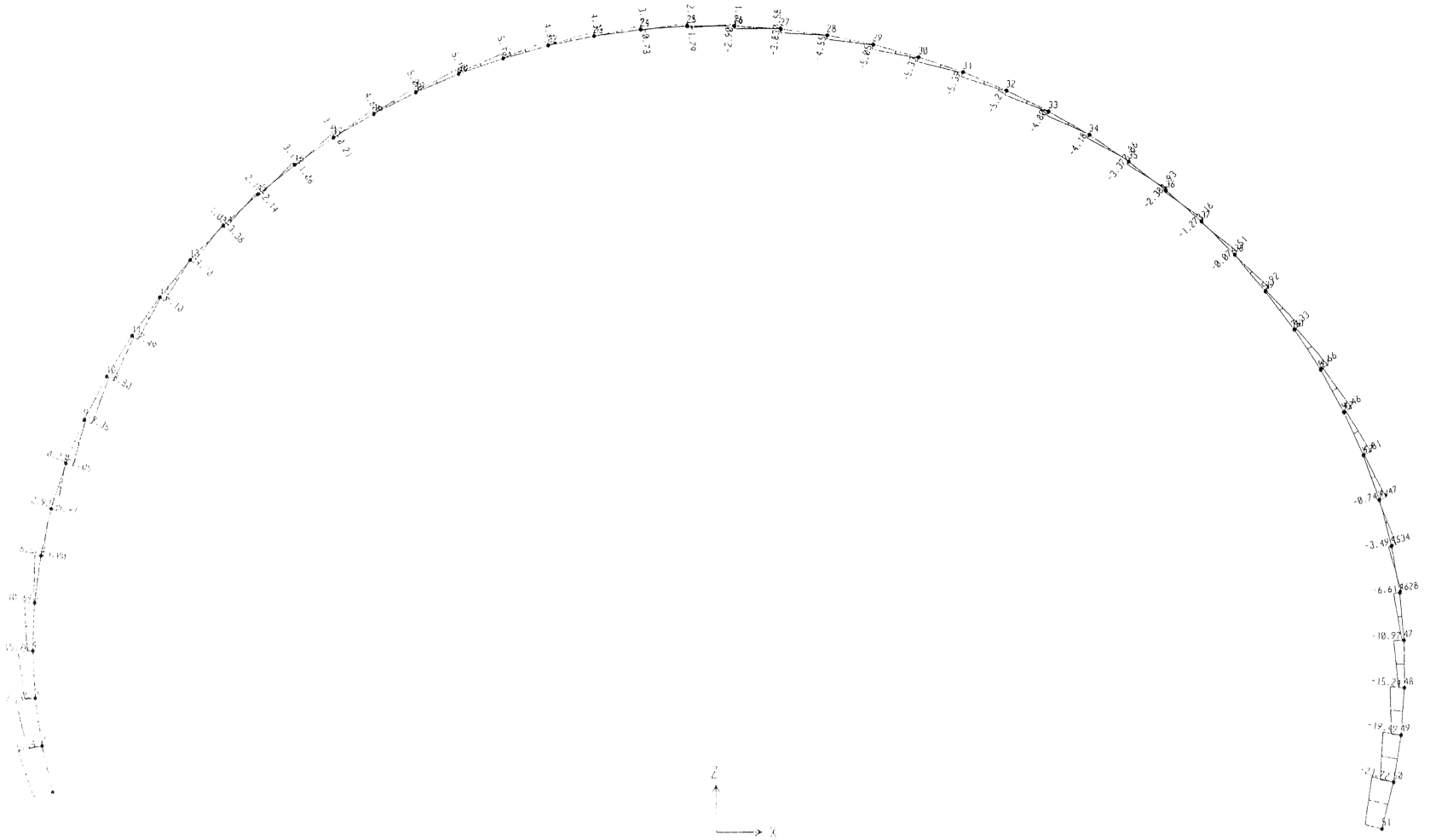

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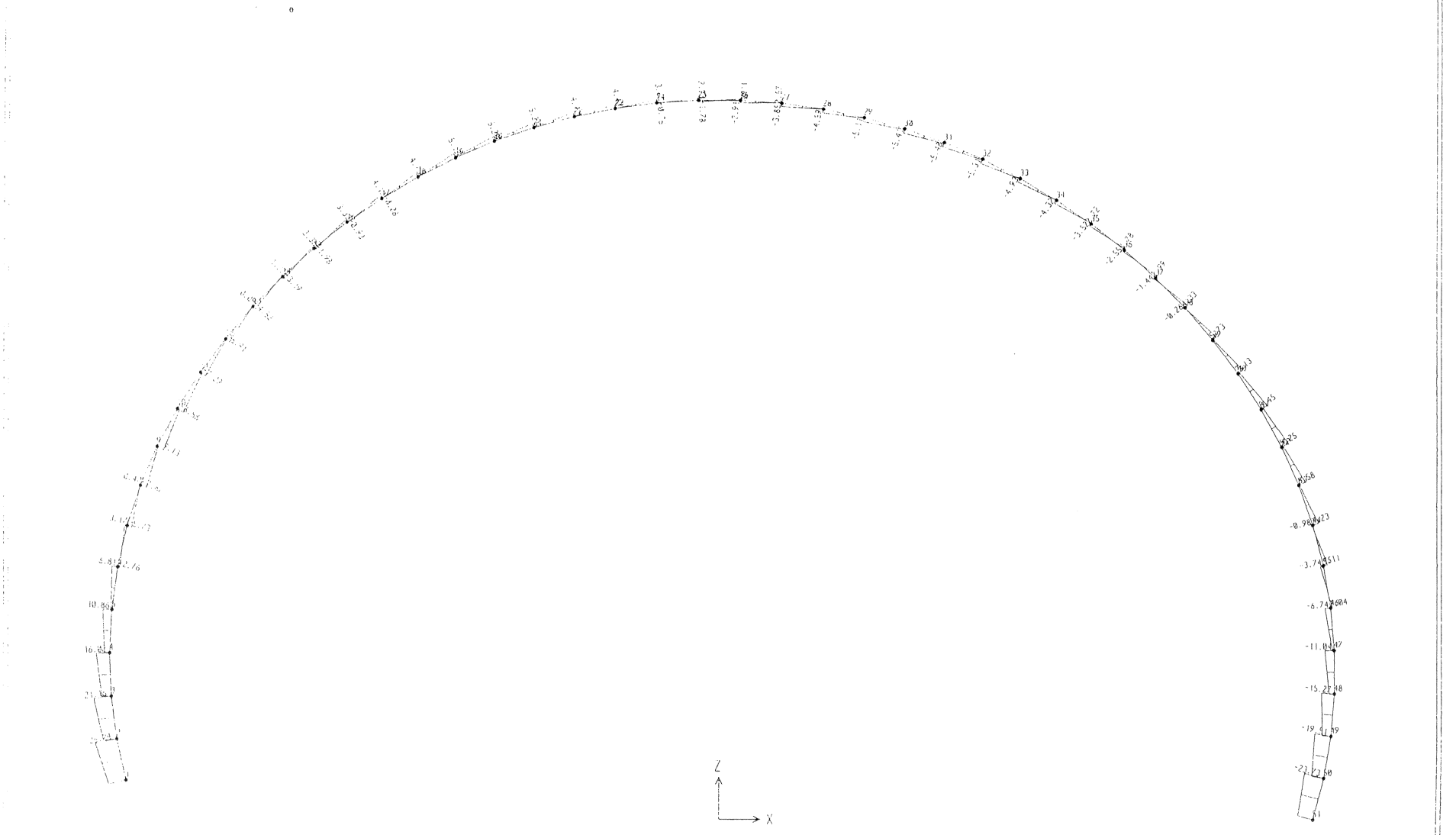

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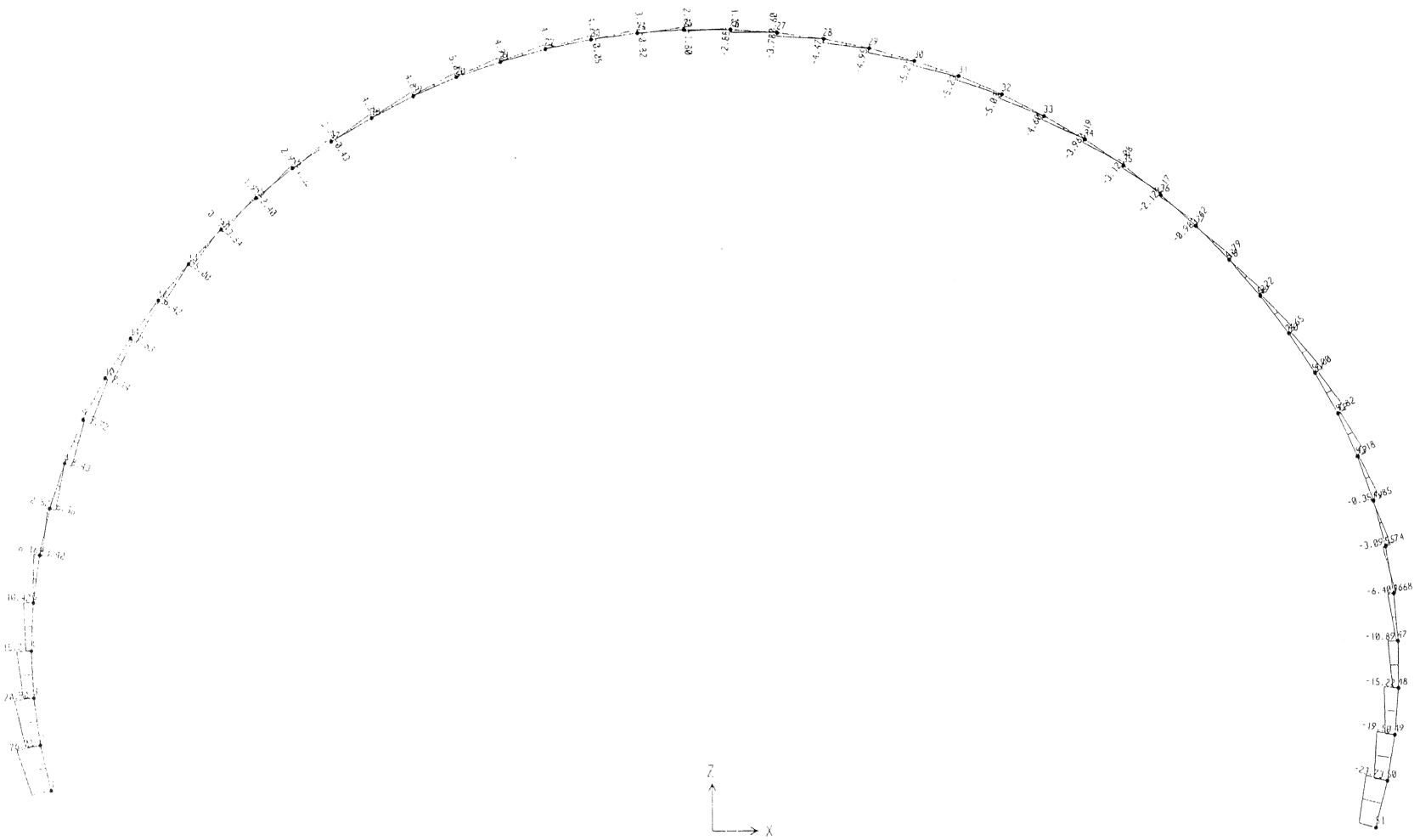

SAP2000 v7.40 - File:tl-5-1 - Shear Force 2-2 Diagram (COMB7) - Ton-m Units

■ 전산 OUT PUT

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17 X=-4.066225 Y=0 Z=7.32115
18 X=-3.632915 Y=0 Z=7.576842
19 X=-3.183595 Y=0 Z=7.803221
20 X=-2.720245 Y=0 Z=7.99929
21 X=-2.244908 Y=0 Z=8.164185
22 X=-1.759678 Y=0 Z=8.297178
23 X=-1.266693 Y=0 Z=8.397685
24 X=-.7681263 Y=0 Z=8.465262
25 X=-.2661743 Y=0 Z=8.499612
26 X=.2369507 Y=0 Z=8.500583
27 X=.7390314 Y=0 Z=8.46817
28 X=1.237855 Y=0 Z=8.402516
29 X=1.731224 Y=0 Z=8.303912
30 X=2.216964 Y=0 Z=8.172791
31 X=2.692934 Y=0 Z=8.009731
32 X=3.157036 Y=0 Z=7.815452
33 X=3.607226 Y=0 Z=7.590808
34 X=4.041519 Y=0 Z=7.33679
35 X=4.458002 Y=0 Z=7.054517
36 X=4.854839 Y=0 Z=6.745234
37 X=5.230281 Y=0 Z=6.410303
38 X=5.582675 Y=0 Z=6.051201
39 X=5.910466 Y=0 Z=5.669509
40 X=6.21221 Y=0 Z=5.26691
41 X=6.486578 Y=0 Z=4.845178
42 X=6.730439 Y=0 Z=4.40515
43 X=6.936839 Y=0 Z=3.946371
44 X=7.103971 Y=0 Z=3.471875
45 X=7.230656 Y=0 Z=2.985017
46 X=7.315998 Y=0 Z=2.489239
47 X=7.359392 Y=0 Z=1.988044
48 X=7.360533 Y=0 Z=1.484975
49 X=7.319413 Y=0 Z=.983588
50 X=7.236321 Y=0 Z=.4874274
51 X=7.111846 Y=0 Z=0

)CAL
ADD=2 ANG=0,-100.1886,180
ADD=3 ANG=0,-95.0078,180

```
  ADD=4   ANG=0,-89.8269,180
  ADD=5   ANG=0,-84.6461,180
  ADD=6   ANG=0,-79.4652,180
  ADD=7   ANG=0,-74.2844,180
  ADD=8   ANG=0,-69.1035,180
  ADD=9   ANG=0,-63.9227,180
  ADD=10   ANG=0,-59.0761,180
  ADD=11   ANG=0,-55.2719,180
  ADD=12   ANG=0,-51.4677,180
  ADD=13   ANG=0,-47.6634,180
  ADD=14   ANG=0,-43.8592,180
  ADD=15   ANG=0,-40.055,180
  ADD=16   ANG=0,-36.2507,180
  ADD=17   ANG=0,-32.4465,180
  ADD=18   ANG=0,-28.6423,180
  ADD=19   ANG=0,-24.838,180
  ADD=20   ANG=0,-21.0338,180
  ADD=21   ANG=0,-17.2296,180
  ADD=22   ANG=0,-13.4253,180
  ADD=23   ANG=0,-9.6211,180
  ADD=24   ANG=0,-5.8169,180
  ADD=25   ANG=0,-2.0126,180
  ADD=26   ANG=0,1.7916,180
  ADD=27   ANG=0,5.5958,180
  ADD=28   ANG=0,9.4001,180
  ADD=29   ANG=0,13.2043,180
  ADD=30   ANG=0,17.0085,180
  ADD=31   ANG=0,20.8128,180
  ADD=32   ANG=0,24.617,180
  ADD=33   ANG=0,28.4212,180
  ADD=34   ANG=0,32.2255,180
  ADD=35   ANG=0,36.0297,180
  ADD=36   ANG=0,39.8339,180
  ADD=37   ANG=0,43.6382,180
  ADD=38   ANG=0,47.4424,180
  ADD=39   ANG=0,51.2466,180
  ADD=40   ANG=0,55.0509,180
  ADD=41   ANG=0,58.8551,180
  ADD=42   ANG=0,63.3683,180
  ADD=43   ANG=0,68.1868,180
  ADD=44   ANG=0,73.0053,180
  ADD=45   ANG=0,77.8238,180
  ADD=46   ANG=0,82.6423,180
  ADD=47   ANG=0,87.4608,180
  ADD=48   ANG=0,92.2793,180
  ADD=49   ANG=0,97.0978,180
  ADD=50   ANG=0,101.9163,180

RESTRAINT
  ADD=1   DOF=U1,U2,U3,R1,R2,R3
  ADD=51   DOF=U1,U2,U3,R1,R2,R3

PATTERN
  NAME=DEFAULT

SPRING
  ADD=2   U3=684
  ADD=3   U3=456
  ADD=4   U3=456
  ADD=5   U3=456
  ADD=46   U3=456
  ADD=47   U3=456
  ADD=48   U3=456
```

```
ADD=49  U3=456
ADD=50  U3=684

ATERIAL
NAME=STEEL  IDES=S  M=.798142  W=7.833414
  T=0  E=2.038902E+07  U=.3  A=.0000117  FY=25310.51
NAME=CONC  IDES=C  M=.2448  W=2.5
  T=0  E=2531051  U=.2  A=.0000099
NAME=OTHER  IDES=N  M=.2448012  W=2.402616
  T=0  E=2531051  U=.2  A=.0000099

RAME SECTION
NAME=FSEC1 MAT=CONC SH=R T=.425,1 A=.425 J=1.875584E-02 I=6.397136E-03,3.541667E-02 AS=.3541667,.3541667
NAME=FSEC2 MAT=CONC SH=R T=.375,1 A=.375 J=1.343214E-02 I=4.394531E-03,.03125 AS=.3125,.3125
NAME=FSEC3 MAT=CONC SH=R T=.35,1 A=.35 J=.0111443 I=3.572917E-03,2.916667E-02 AS=.2916667,.2916667

RAME
1  J=1,2  SEC=FSEC1  NSEG=2  ANG=180
2  J=2,3  SEC=FSEC1  NSEG=2  ANG=180
3  J=3,4  SEC=FSEC1  NSEG=2  ANG=180
4  J=4,5  SEC=FSEC2  NSEG=2  ANG=0
5  J=5,6  SEC=FSEC2  NSEG=2  ANG=0
6  J=6,7  SEC=FSEC2  NSEG=2  ANG=0
7  J=7,8  SEC=FSEC2  NSEG=2  ANG=0
8  J=8,9  SEC=FSEC2  NSEG=2  ANG=0
9  J=9,10  SEC=FSEC2  NSEG=2  ANG=0
10  J=10,11  SEC=FSEC3  NSEG=2  ANG=0
11  J=11,12  SEC=FSEC3  NSEG=2  ANG=0
12  J=12,13  SEC=FSEC3  NSEG=2  ANG=0
13  J=13,14  SEC=FSEC3  NSEG=2  ANG=0
14  J=14,15  SEC=FSEC3  NSEG=2  ANG=0
15  J=15,16  SEC=FSEC3  NSEG=2  ANG=0
16  J=16,17  SEC=FSEC3  NSEG=2  ANG=0
17  J=17,18  SEC=FSEC3  NSEG=2  ANG=0
18  J=18,19  SEC=FSEC3  NSEG=2  ANG=0
19  J=19,20  SEC=FSEC3  NSEG=2  ANG=0
20  J=20,21  SEC=FSEC3  NSEG=2  ANG=0
21  J=21,22  SEC=FSEC3  NSEG=2  ANG=0
22  J=22,23  SEC=FSEC3  NSEG=2  ANG=0
23  J=23,24  SEC=FSEC3  NSEG=2  ANG=0
24  J=24,25  SEC=FSEC3  NSEG=2  ANG=0
25  J=25,26  SEC=FSEC3  NSEG=4  ANG=0
26  J=26,27  SEC=FSEC3  NSEG=2  ANG=0
27  J=27,28  SEC=FSEC3  NSEG=2  ANG=0
28  J=28,29  SEC=FSEC3  NSEG=2  ANG=0
29  J=29,30  SEC=FSEC3  NSEG=2  ANG=0
30  J=30,31  SEC=FSEC3  NSEG=2  ANG=0
31  J=31,32  SEC=FSEC3  NSEG=2  ANG=0
32  J=32,33  SEC=FSEC3  NSEG=2  ANG=0
33  J=33,34  SEC=FSEC3  NSEG=2  ANG=0
34  J=34,35  SEC=FSEC3  NSEG=2  ANG=0
35  J=35,36  SEC=FSEC3  NSEG=2  ANG=0
36  J=36,37  SEC=FSEC3  NSEG=2  ANG=0
37  J=37,38  SEC=FSEC3  NSEG=2  ANG=0
38  J=38,39  SEC=FSEC3  NSEG=2  ANG=0
39  J=39,40  SEC=FSEC3  NSEG=2  ANG=0
40  J=40,41  SEC=FSEC3  NSEG=2  ANG=0
41  J=41,42  SEC=FSEC2  NSEG=2  ANG=0
42  J=42,43  SEC=FSEC2  NSEG=2  ANG=0
43  J=43,44  SEC=FSEC2  NSEG=2  ANG=0
44  J=44,45  SEC=FSEC2  NSEG=2  ANG=0
45  J=45,46  SEC=FSEC2  NSEG=2  ANG=0
46  J=46,47  SEC=FSEC2  NSEG=2  ANG=0
```

```
  47  J=47,48  SEC=FSEC2  NSEG=2  ANG=0
  48  J=48,49  SEC=FSEC1  NSEG=2  ANG=180
  49  J=49,50  SEC=FSEC1  NSEG=2  ANG=180
  50  J=50,51  SEC=FSEC1  NSEG=2  ANG=180

LOAD
  NAME=LOAD1  SW=1  CSYS=0
  NAME=LOAD2  CSYS=0
    TYPE=DISTRIBUTED SPAN
      ADD=5  RD=0,.9999067  UZ=-17.645,-16.673
      ADD=6  RD=0,.9999067  UZ=-16.673,-15.718
      ADD=7  RD=0,.9999067  UZ=-15.718,-14.786
      ADD=8  RD=0,.9999067  UZ=-14.786,-13.887
      ADD=9  RD=0,1  UZ=-13.887,-13.026
      ADD=10  RD=0,.9999484  UZ=-13.026,-12.201
      ADD=11  RD=0,.9999484  UZ=-12.201,-11.414
      ADD=12  RD=0,.9999484  UZ=-11.414,-10.667
      ADD=13  RD=0,.9999484  UZ=-10.667,-9.964
      ADD=14  RD=0,.9999484  UZ=-9.964,-9.308
      ADD=15  RD=0,.9999484  UZ=-9.308,-8.702
      ADD=16  RD=0,.9999484  UZ=-8.702,-8.149
      ADD=17  RD=0,.9999484  UZ=-8.149,-7.65
      ADD=18  RD=0,.9999484  UZ=-7.65,-7.209
      ADD=19  RD=0,.9999484  UZ=-7.209,-6.826
      ADD=20  RD=0,.9999484  UZ=-6.826,-6.505
      ADD=21  RD=0,.9999484  UZ=-6.505,-6.245
      ADD=22  RD=0,.9999484  UZ=-6.245,-6.049
      ADD=23  RD=0,.9999484  UZ=-6.049,-5.918
      ADD=24  RD=0,.9999484  UZ=-5.918,-5.85
      ADD=25  RD=0,.9999484  UZ=-5.85,-5.85
      ADD=26  RD=0,.9999484  UZ=-5.85,-5.912
      ADD=27  RD=0,.9999484  UZ=-5.912,-6.04
      ADD=28  RD=0,.9999484  UZ=-6:04,-6.232
      ADD=29  RD=0,.9999484  UZ=-6.232,-6.488
      ADD=30  RD=0,.9999484  UZ=-6.488,-6.806
      ADD=31  RD=0,.9999484  UZ=-6.806,-7.185
      ADD=32  RD=0,.9999484  UZ=-7.185,-7.623
      ADD=33  RD=0,.9999484  UZ=-7.623,-8.118
      ADD=34  RD=0,.9999484  UZ=-8.118,-8.669
      ADD=35  RD=0,.9999484  UZ=-8.669,-9.272
      ADD=36  RD=0,.9999484  UZ=-9.272,-9.925
      ADD=37  RD=0,.9999484  UZ=-9.925,-10.625
      ADD=38  RD=0,.9999484  UZ=-10.625,-11.369
      ADD=39  RD=0,.9999484  UZ=-11.369,-12.155
      ADD=40  RD=0,.9999484  UZ=-12.155,-12.977
      ADD=41  RD=0,1  UZ=-12.977,-13.835
      ADD=42  RD=0,1  UZ=-13.835,-14.73
      ADD=43  RD=0,1  UZ=-14.73,-15.655
      ADD=44  RD=0,1  UZ=-15.655,-16.604
      ADD=45  RD=0,1  UZ=-16.604,-17.571
  NAME=LOAD3  CSYS=0
    TYPE=DISTRIBUTED SPAN
      ADD=1  RD=0,.9999067  UX=10.767,10.288
      ADD=2  RD=0,.9999067  UX=10.288,9.802
      ADD=3  RD=0,.9999067  UX=9.802,9.312
      ADD=4  RD=0,.9999067  UX=9.312,8.822
      ADD=5  RD=0,.9999067  UX=8.822,8.337
      ADD=6  RD=0,.9999067  UX=8.337,7.859
      ADD=7  RD=0,.9999067  UX=7.859,7.393
      ADD=8  RD=0,.9999067  UX=7.393,6.943
      ADD=11  RD=0,.9999484  UX=6.101,5.707
      ADD=9  RD=0,1  UX=6.943,6.513
      ADD=10  RD=0,.9999484  UX=6.513,6.101
```

```
    ADD=12  RD=0,.9999484  UX=5.707,5.334
    ADD=13  RD=0,.9999484  UX=5.334,4.982
    ADD=14  RD=0,.9999484  UX=4.982,4.654
    ADD=15  RD=0,.9999484  UX=4.654,4.351
    ADD=16  RD=0,.9999484  UX=4.351,4.074
    ADD=17  RD=0,.9999484  UX=4.074,3.825
    ADD=18  RD=0,.9999484  UX=3.825,3.604
    ADD=19  RD=0,.9999484  UX=3.604,3.413
    ADD=20  RD=0,.9999484  UX=3.413,3.252
    ADD=21  RD=0,.9999484  UX=3.252,3.123
    ADD=22  RD=0,.9999484  UX=3.123,3.025
    ADD=23  RD=0,.9999484  UX=3.025,2.959
    ADD=24  RD=0,.9999484  UX=2.959,2.925
    ADD=26  RD=0,.9999484  UX=-2.925,-2.956
    ADD=27  RD=0,.9999484  UX=-2.956,-3.02
    ADD=28  RD=0,.9999484  UX=-3.02,-3.116
    ADD=29  RD=0,.9999484  UX=-3.116,-3.244
    ADD=30  RD=0,.9999484  UX=-3.244,-3.403
    ADD=31  RD=0,.9999484  UX=-3.403,-3.592
    ADD=32  RD=0,.9999484  UX=-3.592,-3.811
    ADD=33  RD=0,.9999484  UX=-3.811,-4.059
    ADD=34  RD=0,.9999484  UX=-4.059,-4.334
    ADD=35  RD=0,.9999484  UX=-4.334,-4.636
    ADD=36  RD=0,.9999484  UX=-4.636,-4.962
    ADD=37  RD=0,.9999484  UX=-4.962,-5.313
    ADD=38  RD=0,.9999484  UX=-5.313,-5.685
    ADD=39  RD=0,.9999484  UX=-5.685,-6.077
    ADD=40  RD=0,.9999484  UX=-6.077,-6.488
    ADD=41  RD=0,1  UX=-6.488,-6.917
    ADD=42  RD=0,1  UX=-6.917,-7.365
    ADD=43  RD=0,1  UX=-7.365,-7.827
    ADD=44  RD=0,1  UX=-7.827,-8.302
    ADD=45  RD=0,1  UX=-8.302,-8.786
    ADD=46  RD=0,1  UX=-8.786,-9.274
    ADD=47  RD=0,1  UX=-9.274,-9.765
    ADD=48  RD=0,1  UX=-9.765,-10.253
    ADD=49  RD=0,1  UX=-10.253,-10.737
    ADD=50  RD=0,1  UX=-10.737,-11.213
NAME=LOAD4  CSYS=0
  TYPE=TEMPERATURE  ELEM=FRAME
    ADD=1  T2=5
    ADD=2  T2=5
    ADD=3  T2=5
    ADD=4  T2=5
    ADD=5  T2=5
    ADD=6  T2=5
    ADD=7  T2=5
    ADD=8  T2=5
    ADD=9  T2=5
    ADD=10  T2=5
    ADD=11  T2=5
    ADD=12  T2=5
    ADD=13  T2=5
    ADD=14  T2=5
    ADD=15  T2=5
    ADD=16  T2=5
    ADD=17  T2=5
    ADD=18  T2=5
    ADD=19  T2=5
    ADD=20  T2=5
    ADD=21  T2=5
    ADD=22  T2=5
    ADD=23  T2=5
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ADD=24 T2=5
ADD=25 T2=5
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ADD=27 T2=5
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ADD=29 T2=5
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ADD=31 T2=5
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ADD=41 T2=5
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ADD=45 T2=5
ADD=46 T2=5
ADD=47 T2=5
ADD=48 T2=5
ADD=49 T2=5
ADD=50 T2=5
ADD=1 T=20
ADD=2 T=20
ADD=3 T=20
ADD=4 T=20
ADD=5 T=20
ADD=6 T=20
ADD=7 T=20
ADD=8 T=20
ADD=9 T=20
ADD=10 T=20
ADD=11 T=20
ADD=12 T=20
ADD=13 T=20
ADD=14 T=20
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ADD=16 T=20
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ADD=31 T=20
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ADD=34 T=20
ADD=35 T=20
ADD=36 T=20

```
    ADD=37  T=20
    ADD=38  T=20
    ADD=39  T=20
    ADD=40  T=20
    ADD=41  T=20
    ADD=42  T=20
    ADD=43  T=20
    ADD=44  T=20
    ADD=45  T=20
    ADD=46  T=20
    ADD=47  T=20
    ADD=48  T=20
    ADD=49  T=20
    ADD=50  T=20
NAME=LOAD5  CSYS=0
  TYPE=TEMPERATURE  ELEM=FRAME
    ADD=1  T2=-5
    ADD=2  T2=-5
    ADD=3  T2=-5
    ADD=4  T2=-5
    ADD=5  T2=-5
    ADD=6  T2=-5
    ADD=7  T2=-5
    ADD=8  T2=-5
    ADD=9  T2=-5
    ADD=10  T2=-5
    ADD=11  T2=-5
    ADD=12  T2=-5
    ADD=13  T2=-5
    ADD=14  T2=-5
    ADD=15  T2=-5
    ADD=16  T2=-5
    ADD=17  T2=-5
    ADD=18  T2=-5
    ADD=19  T2=-5
    ADD=20  T2=-5
    ADD=21  T2=-5
    ADD=22  T2=-5
    ADD=23  T2=-5
    ADD=24  T2=-5
    ADD=25  T2=-5
    ADD=26  T2=-5
    ADD=27  T2=-5
    ADD=28  T2=-5
    ADD=29  T2=-5
    ADD=30  T2=-5
    ADD=31  T2=-5
    ADD=32  T2=-5
    ADD=33  T2=-5
    ADD=34  T2=-5
    ADD=35  T2=-5
    ADD=36  T2=-5
    ADD=37  T2=-5
    ADD=38  T2=-5
    ADD=39  T2=-5
    ADD=40  T2=-5
    ADD=41  T2=-5
    ADD=42  T2=-5
    ADD=43  T2=-5
    ADD=44  T2=-5
    ADD=45  T2=-5
    ADD=46  T2=-5
    ADD=47  T2=-5
```

```
      ADD=48  T2=-5
      ADD=49  T2=-5
      ADD=50  T2=-5
      ADD=1  T=-35
      ADD=2  T=-35
      ADD=3  T=-35
      ADD=4  T=-35
      ADD=5  T=-35
      ADD=6  T=-35
      ADD=7  T=-35
      ADD=8  T=-35
      ADD=9  T=-35
      ADD=10  T=-35
      ADD=11  T=-35
      ADD=12  T=-35
      ADD=13  T=-35
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      ADD=16  T=-35
      ADD=17  T=-35
      ADD=18  T=-35
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      ADD=21  T=-35
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      ADD=27  T=-35
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      ADD=32  T=-35
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      ADD=36  T=-35
      ADD=37  T=-35
      ADD=38  T=-35
      ADD=39  T=-35
      ADD=40  T=-35
      ADD=41  T=-35
      ADD=42  T=-35
      ADD=43  T=-35
      ADD=44  T=-35
      ADD=45  T=-35
      ADD=46  T=-35
      ADD=47  T=-35
      ADD=48  T=-35
      ADD=49  T=-35
      ADD=50  T=-35

COMBO
  NAME=COMB1
    LOAD=LOAD1  SF=1.54
    LOAD=LOAD2  SF=1.54
    LOAD=LOAD3  SF=1.8
  NAME=COMB2
    LOAD=LOAD1  SF=1.54
    LOAD=LOAD2  SF=1.54
    LOAD=LOAD3  SF=.9
```

```
NAME=COMB3
   LOAD=LOAD1  SF=1.155
   LOAD=LOAD2  SF=1.155
   LOAD=LOAD3  SF=.675
   LOAD=LOAD4  SF=1.125
NAME=COMB4
   LOAD=LOAD1  SF=1.155
   LOAD=LOAD2  SF=1.155
   LOAD=LOAD3  SF=.675
   LOAD=LOAD5  SF=1.125
NAME=COMB5
   LOAD=LOAD1  SF=1
   LOAD=LOAD2  SF=1
   LOAD=LOAD3  SF=1
NAME=COMB6
   LOAD=LOAD1  SF=1
   LOAD=LOAD2  SF=1
   LOAD=LOAD3  SF=1
   LOAD=LOAD4  SF=1
NAME=COMB7
   LOAD=LOAD1  SF=1
   LOAD=LOAD2  SF=1
   LOAD=LOAD3  SF=1
   LOAD=LOAD5  SF=1

ITPUT
ELEM=FRAME  TYPE=FORCE  COMB=COMB1
ELEM=FRAME  TYPE=FORCE  COMB=COMB2
ELEM=FRAME  TYPE=FORCE  COMB=COMB3
ELEM=FRAME  TYPE=FORCE  COMB=COMB4
ELEM=FRAME  TYPE=FORCE  COMB=COMB5
ELEM=FRAME  TYPE=FORCE  COMB=COMB6
ELEM=FRAME  TYPE=FORCE  COMB=COMB7
ELEM=JOINT  TYPE=REAC  COMB=COMB1
ELEM=JOINT  TYPE=REAC  COMB=COMB2
ELEM=JOINT  TYPE=REAC  COMB=COMB3
ELEM=JOINT  TYPE=REAC  COMB=COMB4
ELEM=JOINT  TYPE=REAC  COMB=COMB5
ELEM=JOINT  TYPE=REAC  COMB=COMB6
ELEM=JOINT  TYPE=REAC  COMB=COMB7
ELEM=JOINT  TYPE=DISP  COMB=COMB1
ELEM=JOINT  TYPE=DISP  COMB=COMB2
ELEM=JOINT  TYPE=DISP  COMB=COMB3
ELEM=JOINT  TYPE=DISP  COMB=COMB4
ELEM=JOINT  TYPE=DISP  COMB=COMB5
ELEM=JOINT  TYPE=DISP  COMB=COMB6
ELEM=JOINT  TYPE=DISP  COMB=COMB7

D

The following data is used for graphics, design and pushover analysis.
If changes are made to the analysis data above, then the following data
should be checked for consistency.
P2000 V7.40 SUPPLEMENTAL DATA
GROUP "DXFIN"  FRAME 1
GROUP "DXFIN"  FRAME 2
GROUP "DXFIN"  FRAME 3
GROUP "DXFIN"  FRAME 4
GROUP "DXFIN"  FRAME 5
GROUP "DXFIN"  FRAME 6
GROUP "DXFIN"  FRAME 7
GROUP "DXFIN"  FRAME 8
GROUP "DXFIN"  FRAME 9
```

```
  GROUP "DXFIN"  FRAME 10
  GROUP "DXFIN"  FRAME 11
  GROUP "DXFIN"  FRAME 12
  GROUP "DXFIN"  FRAME 13
  GROUP "DXFIN"  FRAME 14
  GROUP "DXFIN"  FRAME 15
  GROUP "DXFIN"  FRAME 16
  GROUP "DXFIN"  FRAME 17
  GROUP "DXFIN"  FRAME 18
  GROUP "DXFIN"  FRAME 19
  GROUP "DXFIN"  FRAME 20
  GROUP "DXFIN"  FRAME 21
  GROUP "DXFIN"  FRAME 22
  GROUP "DXFIN"  FRAME 23
  GROUP "DXFIN"  FRAME 24
  GROUP "DXFIN"  FRAME 25
  GROUP "DXFIN"  FRAME 26
  GROUP "DXFIN"  FRAME 27
  GROUP "DXFIN"  FRAME 28
  GROUP "DXFIN"  FRAME 29
  GROUP "DXFIN"  FRAME 30
  GROUP "DXFIN"  FRAME 31
  GROUP "DXFIN"  FRAME 32
  GROUP "DXFIN"  FRAME 33
  GROUP "DXFIN"  FRAME 34
  GROUP "DXFIN"  FRAME 35
  GROUP "DXFIN"  FRAME 36
  GROUP "DXFIN"  FRAME 37
  GROUP "DXFIN"  FRAME 38
  GROUP "DXFIN"  FRAME 39
  GROUP "DXFIN"  FRAME 40
  GROUP "DXFIN"  FRAME 41
  GROUP "DXFIN"  FRAME 42
  GROUP "DXFIN"  FRAME 43
  GROUP "DXFIN"  FRAME 44
  GROUP "DXFIN"  FRAME 45
  GROUP "DXFIN"  FRAME 46
  GROUP "DXFIN"  FRAME 47
  GROUP "DXFIN"  FRAME 48
  GROUP "DXFIN"  FRAME 49
  GROUP "DXFIN"  FRAME 50
  MATERIAL STEEL FY 25310.51
  MATERIAL CONC FYREBAR 42184.18 FYSHEAR 28122.79 FC 2812.279 FCSHEAR 2812.279
  CONCRETESECTION FSEC1 COLUMN  COVER .05 REBAR RR-3-3
  CONCRETESECTION FSEC2 COLUMN  COVER .04572 REBAR RR-3-3
  CONCRETESECTION FSEC3 COLUMN  COVER .04572 REBAR RR-3-3
  STATICLOAD LOAD1 TYPE DEAD
  STATICLOAD LOAD2 TYPE OTHER
  STATICLOAD LOAD3 TYPE QUAKE
  STATICLOAD LOAD4 TYPE WIND
  STATICLOAD LOAD5 TYPE SNOW
  COMBO COMB1 DESIGN CONCRETE
  COMBO COMB2 DESIGN CONCRETE
  COMBO COMB3 DESIGN CONCRETE
  COMBO COMB4 DESIGN CONCRETE
  COMBO COMB5 DESIGN CONCRETE
  COMBO COMB6 DESIGN CONCRETE
  COMBO COMB7 DESIGN CONCRETE
END SUPPLEMENTAL DATA
```

S A P 2 0 0 0 (R)

Structural Analysis Programs

Nonlinear Version 7.40

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results produced by this program

14 Aug 2003 15:38:08

D I S P L A C E M E N T D E G R E E S O F F R E E D O M

(A) = Active DOF, equilibrium equation
(-) = Restrained DOF, reaction computed
(+) = Constrained DOF
(S) = External substructure DOF
( ) = Null DOF

JOINTS		U1	U2	U3	R1	R2	R3
1		-	-	-	-	-	-
2 TO	50	A	A	A	A	A	A
51		-	-	-	-	-	-

A S S E M B L E D J O I N T M A S S E S

IN LOCAL COORDINATES

JOINT	U1	U2	U3	R1	R2	R3
1	0.026169	0.026169	0.026169	.000000	.000000	.000000
2	0.052337	0.052337	0.052337	.000000	.000000	.000000
3	0.052337	0.052337	0.052337	.000000	.000000	.000000
4	0.049258	0.049258	0.049258	.000000	.000000	.000000
5	0.046180	0.046180	0.046180	.000000	.000000	.000000
6	0.046180	0.046180	0.046180	.000000	.000000	.000000
7	0.046180	0.046180	0.046180	.000000	.000000	.000000
8	0.046180	0.046180	0.046180	.000000	.000000	.000000
9	0.046180	0.046180	0.046180	.000000	.000000	.000000
10	0.044644	0.044644	0.044644	.000000	.000000	.000000
11	0.043108	0.043108	0.043108	.000000	.000000	.000000
12	0.043108	0.043108	0.043108	.000000	.000000	.000000
13	0.043108	0.043108	0.043108	.000000	.000000	.000000
14	0.043108	0.043108	0.043108	.000000	.000000	.000000
15	0.043108	0.043108	0.043108	.000000	.000000	.000000
16	0.043108	0.043108	0.043108	.000000	.000000	.000000
17	0.043108	0.043108	0.043108	.000000	.000000	.000000
18	0.043108	0.043108	0.043108	.000000	.000000	.000000
19	0.043108	0.043108	0.043108	.000000	.000000	.000000
20	0.043108	0.043108	0.043108	.000000	.000000	.000000
21	0.043108	0.043108	0.043108	.000000	.000000	.000000
22	0.043108	0.043108	0.043108	.000000	.000000	.000000
23	0.043108	0.043108	0.043108	.000000	.000000	.000000
24	0.043108	0.043108	0.043108	.000000	.000000	.000000
25	0.043108	0.043108	0.043108	.000000	.000000	.000000
26	0.043108	0.043108	0.043108	.000000	.000000	.000000
27	0.043108	0.043108	0.043108	.000000	.000000	.000000
28	0.043108	0.043108	0.043108	.000000	.000000	.000000
29	0.043108	0.043108	0.043108	.000000	.000000	.000000
30	0.043108	0.043108	0.043108	.000000	.000000	.000000
31	0.043108	0.043108	0.043108	.000000	.000000	.000000
32	0.043108	0.043108	0.043108	.000000	.000000	.000000
33	0.043108	0.043108	0.043108	.000000	.000000	.000000
34	0.043108	0.043108	0.043108	.000000	.000000	.000000
35	0.043108	0.043108	0.043108	.000000	.000000	.000000
36	0.043108	0.043108	0.043108	.000000	.000000	.000000
37	0.043108	0.043108	0.043108	.000000	.000000	.000000
38	0.043108	0.043108	0.043108	.000000	.000000	.000000
39	0.043108	0.043108	0.043108	.000000	.000000	.000000
40	0.043108	0.043108	0.043108	.000000	.000000	.000000
41	0.044645	0.044645	0.044645	.000000	.000000	.000000
42	0.046182	0.046182	0.046182	.000000	.000000	.000000
43	0.046182	0.046182	0.046182	.000000	.000000	.000000
44	0.046182	0.046182	0.046182	.000000	.000000	.000000
45	0.046182	0.046182	0.046182	.000000	.000000	.000000
46	0.046182	0.046182	0.046182	.000000	.000000	.000000
47	0.046182	0.046182	0.046182	.000000	.000000	.000000
48	0.049261	0.049261	0.049261	.000000	.000000	.000000
49	0.052339	0.052339	0.052339	.000000	.000000	.000000
50	0.052339	0.052339	0.052339	.000000	.000000	.000000

A S S E M B L E D J O I N T M A S S E S

IN LOCAL COORDINATES

JOINT	U1	U2	U3	R1	R2	R3
51	0.026170	0.026170	0.026170	.000000	.000000	.000000

T O T A L A S S E M B L E D J O I N T M A S S E S

IN GLOBAL COORDINATES

	UX	UY	UZ	RX	RY	RZ
TOTAL	2.250725	2.250725	2.250725	.000000	.000000	000000

T O T A L A C C E L E R A T E D M A S S A N D L O C A T I O N

TOTAL MASS ACTIVATED BY ACCELERATION LOADS, IN GLOBAL COORDINATES

	UX	UY	UZ
MASS	2.198387	2.198387	2.198387
X-LOC	0.150003	0.150003	0.150003
Y-LOC	.000000	.000000	.000000
Z-LOC	5.432461	5.432461	5.432461

J O I N T D I S P L A C E M E N T S

TRANSLATIONS AND ROTATIONS, IN LOCAL COORDINATES

COMB COMB1 ---------- MAX

JOINT	U1	U2	U3	R1	R2	R3
1	.000000	.000000	.000000	.000000	.000000	.000000
2	9.01E-05	3.35E-20	-0.000184	2.15E-20	0.000526	1.56E-19
3	-0.000203	1.20E-19	-0.000514	5.99E-20	0.000666	1.92E-19
4	-0.000345	2.07E-19	-0.000818	9.62E-20	0.000525	1.39E-19
5	-0.000518	3.06E-19	-0.000947	1.26E-19	6.79E-05	2.26E-19
6	-0.000686	4.63E-19	-0.000790	1.48E-19	-0.000486	3.32E-19
7	-0.000820	6.80E-19	-0.000337	1.64E-19	-0.001009	4.30E-19
8	-0.000896	9.44E-19	0.000368	1.72E-19	-0.001412	5.00E-19
9	-0.000895	1.24E-18	0.001238	1.75E-19	-0.001633	5.31E-19
10	-0.000820	1.53E-18	0.002158	1.74E-19	-0.001636	5.15E-19
11	-0.000718	1.79E-18	0.002992	1.72E-19	-0.001377	4.46E-19
12	-0.000563	2.01E-18	0.003628	1.72E-19	-0.000914	3.33E-19
13	-0.000373	2.15E-18	0.003980	1.73E-19	-0.000318	1.92E-19
14	-0.000169	2.22E-18	0.003954	1.77E-19	0.000344	3.60E-20
15	2.64E-05	2.20E-18	0.003656	1.85E-19	0.001005	-1.20E-19
16	0.000189	2.10E-18	0.002983	1.96E-19	0.001609	-2.64E-19
17	0.000297	1.92E-18	0.002018	2.09E-19	0.002106	-3.85E-19
18	0.000335	1.69E-18	0.000832	2.24E-19	0.002459	-4.76E-19
19	0.000289	1.43E-18	-0.000490	2.39E-19	0.002639	-5.31E-19
20	0.000153	1.15E-18	-0.001850	2.53E-19	0.002632	-5.47E-19
21	-7.18E-05	8.73E-19	-0.003148	2.66E-19	0.002436	-5.22E-19
22	-0.000378	6.26E-19	-0.004282	2.75E-19	0.002060	-4.59E-19
23	-0.000752	4.27E-19	-0.005161	2.79E-19	0.001526	-3.63E-19
24	-0.001175	2.93E-19	-0.005710	2.78E-19	0.000867	-2.40E-19
25	-0.001623	2.36E-19	-0.005873	2.71E-19	0.000128	-9.85E-20
26	-0.002068	2.63E-19	-0.005622	2.57E-19	-0.000637	4.90E-20
27	-0.002483	3.73E-19	-0.004959	2.38E-19	-0.001367	1.90E-19
28	-0.002839	5.60E-19	-0.003922	2.12E-19	-0.002005	3.13E-19
29	-0.003116	8.10E-19	-0.002573	1.82E-19	-0.002508	4.09E-19
30	-0.003294	1.10E-18	-0.000996	1.49E-19	-0.002841	4.71E-19
31	-0.003362	1.42E-18	0.000712	1.14E-19	-0.002984	4.94E-19
32	-0.003315	1.74E-18	0.002441	7.86E-20	-0.002926	4.76E-19
33	-0.003155	2.04E-18	0.004084	4.45E-20	-0.002670	4.18E-19
34	-0.002893	2.30E-18	0.005536	1.35E-20	-0.002231	3.23E-19
35	-0.002544	2.49E-18	0.006704	-1.33E-20	-0.001635	1.97E-19
36	-0.002129	2.61E-18	0.007512	-3.45E-20	-0.000922	4.65E-20
37	-0.001676	2.63E-18	0.007910	-4.95E-20	-0.000140	-1.17E-19
38	-0.001212	2.56E-18	0.007874	-5.78E-20	0.000653	-2.82E-19
39	-0.000766	2.40E-18	0.007417	-5.95E-20	0.001391	-4.35E-19
40	-0.000366	2.15E-18	0.006563	-5.52E-20	0.002004	-5.62E-19
41	-3.40E-05	1.85E-18	0.005459	-4.60E-20	0.002422	-6.46E-19
42	0.000276	1.51E-18	0.004173	-3.22E-20	0.002551	-6.69E-19
43	0.000501	1.16E-18	0.002857	-1.63E-20	0.002448	-6.43E-19
44	0.000613	8.33E-19	0.001635	-9.14E-22	0.002128	-5.70E-19
45	0.000626	5.52E-19	0.000621	1.21E-20	0.001624	-4.59E-19
46	0.000559	3.37E-19	-9.79E-05	2.12E-20	0.000996	-3.22E-19
47	0.000443	1.99E-19	-0.000473	2.57E-20	0.000343	-1.79E-19
48	0.000309	1.34E-19	-0.000521	2.59E-20	-0.000202	-6.11E-20
49	0.000191	8.34E-20	-0.000361	1.64E-20	-0.000412	-1.26E-19
50	8.79E-05	2.39E-20	-0.000138	2.68E-21	-0.000372	-1.14E-19
51	.000000	.000000	.000000	.000000	.000000	.000000

COMB COMB2 ---------- MAX

JOINT	U1	U2	U3	R1	R2	R3
1	.000000	.000000	.000000	.000000	.000000	.000000
2	-0.000105	1.27E-19	-0.000581	3.64E-20	0.001871	5.60E-19
3	-0.000296	4.79E-19	-0.001865	1.51E-19	0.002930	8.69E-19
4	-0.000619	9.45E-19	-0.003475	3.04E-19	0.003341	9.72E-19
5	-0.001100	1.44E-18	-0.005116	4.56E-19	0.003227	9.63E-19
6	-0.001717	1.97E-18	-0.006504	6.03E-19	0.002617	1.05E-18
7	-0.002431	2.59E-18	-0.007427	7.39E-19	0.001706	1.19E-18
8	-0.003198	3.31E-18	-0.007776	8.61E-19	0.000673	1.35E-18
9	-0.003963	4.13E-18	-0.007527	9.69E-19	-0.000341	1.49E-18
10	-0.004636	5.03E-18	-0.006750	1.06E-18	-0.001229	1.60E-18
11	-0.005114	5.97E-18	-0.005565	1.10E-18	-0.002094	1.72E-18
12	-0.005495	6.97E-18	-0.003978	1.14E-18	-0.002722	1.78E-18
13	-0.005757	8.00E-18	-0.002110	1.18E-18	-0.003128	1.80E-18
14	-0.005887	9.02E-18	-7.84E-05	1.21E-18	-0.003334	1.77E-18
15	-0.005878	1.00E-17	0.002015	1.23E-18	-0.003369	1.70E-18
16	-0.005728	1.10E-17	0.004082	1.25E-18	-0.003263	1.60E-18
17	-0.005442	1.19E-17	0.006052	1.27E-18	-0.003049	1.47E-18
18	-0.005029	1.27E-17	0.007867	1.29E-18	-0.002757	1.33E-18
19	-0.004501	1.34E-17	0.009489	1.31E-18	-0.002414	1.17E-18
20	-0.003872	1.41E-17	0.010891	1.32E-18	-0.002044	1.01E-18
21	-0.003157	1.46E-17	0.012058	1.34E-18	-0.001665	8.47E-19
22	-0.002373	1.51E-17	0.012985	1.36E-18	-0.001291	6.82E-19
23	-0.001535	1.54E-17	0.013672	1.37E-18	-0.000930	5.18E-19
24	-0.000659	1.56E-17	0.014125	1.38E-18	-0.000583	3.57E-19
25	0.000239	1.58E-17	0.014347	1.39E-18	-0.000250	1.98E-19
26	0.001143	1.58E-17	0.014344	1.40E-18	8.05E-05	3.88E-20
27	0.002040	1.58E-17	0.014114	1.41E-18	0.000418	-1.23E-19
28	0.002915	1.56E-17	0.013652	1.42E-18	0.000770	-2.88E-19
29	0.003751	1.54E-17	0.012951	1.42E-18	0.001142	-4.59E-19
30	0.004533	1.50E-17	0.012005	1.43E-18	0.001530	-6.33E-19
31	0.005244	1.45E-17	0.010811	1.43E-18	0.001926	-8.09E-19
32	0.005866	1.40E-17	0.009372	1.43E-18	0.002318	-9.85E-19
33	0.006385	1.33E-17	0.007702	1.42E-18	0.002686	-1.16E-18
34	0.006785	1.25E-17	0.005826	1.42E-18	0.003008	-1.32E-18
35	0.007053	1.17E-17	0.003781	1.41E-18	0.003255	-1.46E-18
36	0.007180	1.08E-17	0.001622	1.40E-18	0.003397	-1.58E-18
37	0.007160	9.78E-18	-0.000581	1.39E-18	0.003402	-1.67E-18
38	0.006993	8.77E-18	-0.002741	1.36E-18	0.003239	-1.73E-18

J O I N T D I S P L A C E M E N T S

TRANSLATIONS AND ROTATIONS, IN LOCAL COORDINATES

JOINT	U1	U2	U3	R1	R2	R3
49	0.000191	8.34E-20	-0.000361	1.64E-20	-0.000412	-1.26E-19
50	8.79E-05	2.39E-20	-0.000138	2.68E-21	-0.000372	-1.14E-19
51	.000000	.000000	.000000	.000000	.000000	.000000

COMB COMB1 ---------- MIN

JOINT	U1	U2	U3	R1	R2	R3
1	.000000	.000000	.000000	.000000	.000000	.000000
2	-9.01E-05	3.35E-20	-0.000184	2.15E-20	0.000526	1.56E-19
3	-0.000203	1.20E-19	-0.000514	5.99E-20	0.000666	1.92E-19
4	-0.000345	2.07E-19	-0.000818	9.62E-20	0.000525	1.39E-19
5	-0.000518	3.06E-19	-0.000947	1.26E-19	6.79E-05	2.26E-19
6	-0.000686	4.63E-19	-0.000790	1.48E-19	-0.000486	3.32E-19
7	-0.000820	6.80E-19	-0.000337	1.64E-19	-0.001009	4.30E-19
8	-0.000896	9.44E-19	0.000368	1.72E-19	-0.001412	5.00E-19
9	-0.000895	1.24E-18	0.001238	1.75E-19	-0.001633	5.31E-19
10	-0.000820	1.53E-18	0.002158	1.74E-19	-0.001636	5.15E-19
11	-0.000718	1.79E-18	0.002992	1.72E-19	-0.001377	4.46E-19
12	-0.000563	2.01E-18	0.003628	1.72E-19	-0.000914	3.33E-19
13	-0.000373	2.15E-18	0.003980	1.73E-19	-0.000318	1.92E-19
14	-0.000169	2.22E-18	0.003954	1.77E-19	0.000344	3.60E-20
15	2.64E-05	2.20E-18	0.003656	1.85E-19	0.001005	-1.20E-19
16	0.000189	2.10E-18	0.002983	1.96E-19	0.001609	-2.64E-19
17	0.000297	1.92E-18	0.002018	2.09E-19	0.002106	-3.85E-19
18	0.000335	1.69E-18	0.000832	2.24E-19	0.002459	-4.76E-19
19	0.000289	1.43E-18	-0.000490	2.39E-19	0.002639	-5.31E-19
20	0.000153	1.15E-18	-0.001850	2.53E-19	0.002632	-5.47E-19
21	-7.18E-05	8.73E-19	-0.003148	2.66E-19	0.002436	-5.22E-19
22	-0.000378	6.26E-19	-0.004282	2.75E-19	0.002060	-4.59E-19
23	-0.000752	4.27E-19	-0.005161	2.79E-19	0.001526	-3.63E-19
24	-0.001175	2.93E-19	-0.005710	2.78E-19	0.000867	-2.40E-19
25	-0.001623	2.36E-19	-0.005873	2.71E-19	0.000128	-9.85E-20
26	-0.002068	2.63E-19	-0.005622	2.57E-19	-0.000637	4.90E-20
27	-0.002483	3.73E-19	-0.004959	2.38E-19	-0.001367	1.90E-19
28	-0.002839	5.60E-19	-0.003922	2.12E-19	-0.002005	3.13E-19
29	-0.003116	8.10E-19	-0.002573	1.82E-19	-0.002508	4.09E-19
30	-0.003294	1.10E-18	-0.000996	1.49E-19	-0.002841	4.71E-19
31	-0.003362	1.42E-18	0.000712	1.14E-19	-0.002984	4.94E-19
32	-0.003315	1.74E-18	0.002441	7.86E-20	-0.002926	4.76E-19
33	-0.003155	2.04E-18	0.004084	4.45E-20	-0.002670	4.18E-19
34	-0.002893	2.30E-18	0.005536	1.35E-20	-0.002231	3.23E-19
35	-0.002544	2.49E-18	0.006704	-1.33E-20	-0.001635	1.97E-19
36	-0.002129	2.61E-18	0.007512	-3.45E-20	-0.000922	4.65E-20
37	-0.001676	2.63E-18	0.007910	-4.95E-20	-0.000140	-1.17E-19
38	-0.001212	2.56E-18	0.007874	-5.78E-20	0.000653	-2.82E-19
39	-0.000766	2.40E-18	0.007417	-5.95E-20	0.001391	-4.35E-19
40	-0.000366	2.15E-18	0.006563	-5.52E-20	0.002004	-5.62E-19
41	-3.40E-05	1.85E-18	0.005459	-4.60E-20	0.002422	-6.46E-19
42	0.000276	1.51E-18	0.004173	-3.22E-20	0.002551	-6.69E-19
43	0.000501	1.16E-18	0.002857	-1.63E-20	0.002448	-6.43E-19

J O I N T D I S P L A C E M E N T S

TRANSLATIONS AND ROTATIONS, IN LOCAL COORDINATES

JOINT	U1	U2	U3	R1	R2	R3
44	0.000613	8.33E-19	0.001635	-9.14E-22	0.002128	-5.70E-19
45	0.000626	5.52E-19	0.000621	1.21E-20	0.001624	-4.59E-19
46	0.000559	3.37E-19	-9.79E-05	2.12E-20	0.000996	-3.22E-19
47	0.000443	1.99E-19	-0.000473	2.57E-20	0.000343	-1.79E-19
48	0.000309	1.34E-19	-0.000521	2.59E-20	-0.000202	-6.11E-20
49	0.000191	8.34E-20	-0.000361	1.64E-20	-0.000412	-1.26E-19
50	8.79E-05	2.39E-20	-0.000138	2.68E-21	-0.000372	-1.14E-19
51	.000000	.000000	.000000	.000000	.000000	.000000

COMB COMB2 ---------- MIN

JOINT	U1	U2	U3	R1	R2	R3
1	.000000	.000000	.000000	.000000	.000000	.000000
2	-0.000105	1.27E-19	-0.000581	3.64E-20	0.001871	5.60E-19
3	-0.000296	4.79E-19	-0.001865	1.51E-19	0.002930	8.69E-19
4	-0.000619	9.45E-19	-0.003475	3.04E-19	0.003341	9.72E-19
5	-0.001100	1.44E-18	-0.005116	4.56E-19	0.003227	9.63E-19
6	-0.001717	1.97E-18	-0.006504	6.03E-19	0.002617	1.05E-18
7	-0.002431	2.59E-18	-0.007427	7.39E-19	0.001706	1.19E-18
8	-0.003198	3.31E-18	-0.007776	8.61E-19	0.000673	1.35E-18
9	-0.003963	4.13E-18	-0.007527	9.69E-19	-0.000341	1.49E-18
10	-0.004636	5.03E-18	-0.006750	1.06E-18	-0.001229	1.60E-18
11	-0.005114	5.97E-18	-0.005565	1.10E-18	-0.002094	1.72E-18
12	-0.005495	6.97E-18	-0.003978	1.14E-18	-0.002722	1.78E-18
13	-0.005757	8.00E-18	-0.002110	1.18E-18	-0.003128	1.80E-18
14	-0.005887	9.02E-18	-7.84E-05	1.21E-18	-0.003334	1.77E-18
15	-0.005878	1.00E-17	0.002015	1.23E-18	-0.003369	1.70E-18
16	-0.005728	1.10E-17	0.004082	1.25E-18	-0.003263	1.60E-18
17	-0.005442	1.19E-17	0.006052	1.27E-18	-0.003049	1.47E-18
18	-0.005029	1.27E-17	0.007867	1.29E-18	-0.002757	1.33E-18
19	-0.004501	1.34E-17	0.009489	1.31E-18	-0.002414	1.17E-18
20	-0.003872	1.41E-17	0.010891	1.32E-18	-0.002044	1.01E-18
21	-0.003157	1.46E-17	0.012058	1.34E-18	-0.001665	8.47E-19
22	-0.002373	1.51E-17	0.012985	1.36E-18	-0.001291	6.82E-19
23	-0.001535	1.54E-17	0.013672	1.37E-18	-0.000930	5.18E-19
24	-0.000659	1.56E-17	0.014125	1.38E-18	-0.000583	3.57E-19
25	0.000239	1.58E-17	0.014347	1.39E-18	-0.000250	1.98E-19
26	0.001143	1.58E-17	0.014344	1.40E-18	8.05E-05	3.88E-20
27	0.002040	1.58E-17	0.014114	1.41E-18	0.000418	-1.23E-19
28	0.002915	1.56E-17	0.013652	1.42E-18	0.000770	-2.88E-19
29	0.003751	1.54E-17	0.012951	1.42E-18	0.001142	-4.59E-19
30	0.004533	1.50E-17	0.012005	1.43E-18	0.001530	-6.33E-19
31	0.005244	1.45E-17	0.010811	1.43E-18	0.001926	-8.09E-19
32	0.005866	1.40E-17	0.009372	1.43E-18	0.002318	-9.85E-19
33	0.006385	1.33E-17	0.007702	1.42E-18	0.002686	-1.16E-18

J O I N T D I S P L A C E M E N T S

TRANSLATIONS AND ROTATIONS, IN LOCAL COORDINATES

JOINT	U1	U2	U3	R1	R2	R3
39	0.006684	7.74E-18	-0.004757	1.33E-18	0.002879	-1.74E-18
40	0.006246	6.73E-18	-0.006513	1.30E-18	0.002299	-1.70E-18
41	0.005700	5.76E-18	-0.007886	1.25E-18	0.001483	-1.61E-18
42	0.004971	4.84E-18	-0.008858	1.17E-18	0.000631	-1.52E-18
43	0.004134	3.98E-18	-0.009319	1.07E-18	-0.000367	-1.40E-18
44	0.003277	3.21E-18	-0.009181	9.55E-19	-0.001426	-1.25E-18
45	0.002452	2.54E-18	-0.008438	8.22E-19	-0.002432	-1.11E-18
46	0.001706	1.97E-18	-0.007155	6.74E-19	-0.003237	-9.97E-19
47	0.001081	1.45E-18	-0.005481	5.16E-19	-0.003689	-9.52E-19
48	0.000604	9.57E-19	-0.003645	3.50E-19	-0.003621	-1.01E-18
49	0.000289	4.80E-19	-0.001923	1.86E-19	-0.003086	-8.84E-19
50	0.000104	1.26E-19	-0.000589	5.83E-20	-0.001927	-5.59E-19
51	.000000	.000000	.000000	.000000	.000000	.000000

COMB COMB2 ---------- MIN

JOINT	U1	U2	U3	R1	R2	R3
1	.000000	.000000	.000000	.000000	.000000	.000000
2	-0.000105	1.27E-19	-0.000581	3.64E-20	0.001871	5.60E-19
3	-0.000296	4.79E-19	-0.001865	1.51E-19	0.002930	8.69E-19
4	-0.000619	9.45E-19	-0.003475	3.04E-19	0.003341	9.72E-19
5	-0.001100	1.44E-18	-0.005116	4.56E-19	0.003227	9.63E-19
6	-0.001717	1.97E-18	-0.006504	6.03E-19	0.002617	1.05E-18
7	-0.002431	2.59E-18	-0.007427	7.39E-19	0.001706	1.19E-18
8	-0.003198	3.31E-18	-0.007776	8.61E-19	0.000673	1.35E-18
9	-0.003963	4.13E-18	-0.007527	9.69E-19	-0.000341	1.49E-18
10	-0.004636	5.03E-18	-0.006750	1.06E-18	-0.001229	1.60E-18
11	-0.005114	5.97E-18	-0.005565	1.10E-18	-0.002094	1.72E-18
12	-0.005495	6.97E-18	-0.003978	1.14E-18	-0.002722	1.78E-18
13	-0.005757	8.00E-18	-0.002110	1.18E-18	-0.003128	1.80E-18
14	-0.005887	9.02E-18	-7.84E-05	1.21E-18	-0.003334	1.77E-18
15	-0.005878	1.00E-17	0.002015	1.23E-18	-0.003369	1.70E-18
16	-0.005728	1.10E-17	0.004082	1.25E-18	-0.003263	1.60E-18
17	-0.005442	1.19E-17	0.006052	1.27E-18	-0.003049	1.47E-18
18	-0.005029	1.27E-17	0.007867	1.29E-18	-0.002757	1.33E-18
19	-0.004501	1.34E-17	0.009489	1.31E-18	-0.002414	1.17E-18
20	-0.003872	1.41E-17	0.010891	1.32E-18	-0.002044	1.01E-18
21	-0.003157	1.46E-17	0.012058	1.34E-18	-0.001665	8.47E-19
22	-0.002373	1.51E-17	0.012985	1.36E-18	-0.001291	6.82E-19
23	-0.001535	1.54E-17	0.013672	1.37E-18	-0.000930	5.18E-19
24	-0.000659	1.56E-17	0.014125	1.38E-18	-0.000583	3.57E-19
25	0.000239	1.58E-17	0.014347	1.39E-18	-0.000250	1.98E-19
26	0.001143	1.58E-17	0.014344	1.40E-18	8.05E-05	3.88E-20
27	0.002040	1.58E-17	0.014114	1.41E-18	0.000418	-1.23E-19
28	0.002915	1.56E-17	0.013652	1.42E-18	0.000770	-2.88E-19
29	0.003751	1.54E-17	0.012951	1.42E-18	0.001142	-4.59E-19
30	0.004533	1.50E-17	0.012005	1.43E-18	0.001530	-6.33E-19
31	0.005244	1.45E-17	0.010811	1.43E-18	0.001926	-8.09E-19
32	0.005866	1.40E-17	0.009372	1.43E-18	0.002318	-9.85E-19
33	0.006385	1.33E-17	0.007702	1.42E-18	0.002686	-1.16E-18

J O I N T D I S P L A C E M E N T S

TRANSLATIONS AND ROTATIONS, IN LOCAL COORDINATES

JOINT	U1	U2	U3	R1	R2	R3
34	0.006785	1.25E-17	0.005826	1.42E-18	0.003008	-1.32E-18
35	0.007053	1.17E-17	0.003781	1.41E-18	0.003255	-1.46E-18
36	0.007180	1.08E-17	0.001622	1.40E-18	0.003397	-1.58E-18
37	0.007160	9.78E-18	-0.000561	1.39E-18	0.003402	-1.67E-18
38	0.006993	8.77E-18	-0.002741	1.36E-18	0.003239	-1.73E-18
39	0.006684	7.74E-18	-0.004757	1.33E-18	0.002879	-1.74E-18
40	0.006246	6.73E-18	-0.006513	1.30E-18	0.002299	-1.70E-18
41	0.005700	5.76E-18	-0.007886	1.25E-18	0.001483	-1.61E-18
42	0.004971	4.84E-18	-0.008858	1.17E-18	0.000631	-1.52E-18
43	0.004134	3.98E-18	-0.009319	1.07E-18	-0.000367	-1.40E-18
44	0.003277	3.21E-18	-0.009181	9.55E-19	-0.001426	-1.25E-18
45	0.002452	2.54E-18	-0.008438	8.22E-19	-0.002432	-1.11E-18
46	0.001706	1.97E-18	-0.007155	6.74E-19	-0.003237	-9.97E-19
47	0.001061	1.45E-18	-0.005451	5.16E-19	-0.003689	-9.52E-19
48	0.000604	9.57E-19	-0.003645	3.50E-19	-0.003621	-1.01E-18
49	0.000289	4.80E-19	-0.001923	1.86E-19	-0.003086	-8.84E-19
50	0.000104	1.26E-19	-0.000589	5.83E-20	-0.001927	-5.59E-19
51	.000000	.000000	.000000	.000000	.000000	.000000

COMB COMB3 ---------- MAX

JOINT	U1	U2	U3	R1	R2	R3
1	.000000	.000000	.000000	.000000	.000000	.000000
2	3.29E-05	9.43E-20	-0.000448	2.70E-20	0.001432	4.24E-19
3	-7.26E-07	3.57E-19	-0.001448	1.14E-19	0.002253	6.60E-19
4	-0.000138	7.03E-19	-0.002715	2.30E-19	0.002586	7.41E-19
5	-0.000401	1.06E-18	-0.004032	3.46E-19	0.002546	7.23E-19
6	-0.000774	1.45E-18	-0.005189	4.58E-19	0.002128	7.79E-19
7	-0.001232	1.89E-18	-0.006024	5.62E-19	0.001479	8.76E-19
8	-0.001743	2.40E-18	-0.006450	6.56E-19	0.000731	9.85E-19
9	-0.002269	2.98E-18	-0.006444	7.39E-19	-7.82E-06	1.08E-18
10	-0.002738	3.62E-18	-0.006051	8.06E-19	-0.000658	1.16E-18
11	-0.003055	4.29E-18	-0.005352	8.43E-19	-0.001288	1.25E-18
12	-0.003314	5.00E-18	-0.004360	8.74E-19	-0.001747	1.29E-18
13	-0.003497	5.73E-18	-0.003164	9.01E-19	-0.002045	1.30E-18
14	-0.003594	6.46E-18	-0.001847	9.23E-19	-0.002199	1.28E-18
15	-0.003601	7.17E-18	-0.000482	9.43E-19	-0.002230	1.22E-18
16	-0.003515	7.84E-18	0.000869	9.60E-19	-0.002162	1.15E-18
17	-0.003341	8.47E-18	0.002155	9.76E-19	-0.002016	1.06E-18
18	-0.003084	9.05E-18	0.003337	9.91E-19	-0.001817	9.53E-19
19	-0.002751	9.56E-18	0.004389	1.00E-18	-0.001583	8.40E-19
20	-0.002354	1.00E-17	0.005293	1.02E-18	-0.001332	7.22E-19
21	-0.001901	1.04E-17	0.006041	1.03E-18	-0.001077	6.03E-19
22	-0.001403	1.07E-17	0.006629	1.04E-18	-0.000829	4.84E-19
23	-0.000872	1.09E-17	0.007061	1.05E-18	-0.000592	3.68E-19
24	-0.000318	1.11E-17	0.007340	1.06E-18	-0.000367	2.53E-19
25	0.000250	1.12E-17	0.007473	1.07E-18	-0.000154	1.39E-19
26	0.000822	1.12E-17	0.007462	1.08E-18	5.71E-05	2.63E-20
27	0.001389	1.12E-17	0.007306	1.08E-18	0.000273	-8.85E-20
28	0.001940	1.11E-17	0.007002	1.09E-18	0.000502	-2.06E-19

J O I N T D I S P L A C E M E N T S

TRANSLATIONS AND ROTATIONS, IN LOCAL COORDINATES

JOINT	U1	U2	U3	R1	R2	R3
29	0.002467	1.09E-17	0.006543	1.09E-18	0.000745	-3.28E-19
30	0.002957	1.07E-17	0.005925	1.09E-18	0.001003	-4.53E-19
31	0.003401	1.03E-17	0.005142	1.09E-18	0.001269	-5.80E-19
32	0.003788	9.93E-18	0.004197	1.09E-18	0.001534	-7.06E-19
33	0.004106	9.45E-18	0.003098	1.08E-18	0.001785	-8.30E-19
34	0.004345	8.92E-18	0.001859	1.08E-18	0.002004	-9.47E-19
35	0.004498	8.32E-18	0.000509	1.07E-18	0.002171	-1.05E-18
36	0.004557	7.66E-18	-0.000917	1.06E-18	0.002264	-1.14E-18
37	0.004519	6.97E-18	-0.002368	1.05E-18	0.002260	-1.21E-18
38	0.004384	6.26E-18	-0.003783	1.03E-18	0.002134	-1.25E-18
39	0.004157	5.53E-18	-0.005089	1.01E-18	0.001867	-1.26E-18
40	0.003846	4.81E-18	-0.006204	9.80E-19	0.001440	-1.23E-18
41	0.003467	4.12E-18	-0.007039	9.44E-19	0.000842	-1.17E-18
42	0.002952	3.47E-18	-0.007572	8.83E-19	0.000216	-1.10E-18
43	0.002366	2.86E-18	-0.007729	8.06E-19	-0.000515	-1.02E-18
44	0.001781	2.32E-18	-0.007450	7.17E-19	-0.001285	-9.12E-19
45	0.001233	1.85E-18	-0.006737	6.16E-19	-0.002010	-8.11E-19
46	0.000756	1.44E-18	-0.005642	5.05E-19	-0.002579	-7.36E-19
47	0.000381	1.07E-18	-0.004280	3.86E-19	-0.002877	-7.11E-19
48	0.000125	7.09E-19	-0.002827	2.61E-19	-0.002782	-7.66E-19
49	-4.83E-06	3.56E-19	-0.001484	1.38E-19	-0.002360	-6.67E-19
50	-3.40E-05	9.31E-20	-0.000452	4.28E-20	-0.001468	-4.22E-19
51	.000000	.000000	.000000	.000000	.000000	.000000

COMB COMB3 ---------- MIN

JOINT	U1	U2	U3	R1	R2	R3
1	.000000	.000000	.000000	.000000	.000000	.000000
2	3.29E-05	9.43E-20	-0.000448	2.70E-20	0.001432	4.24E-19
3	-7.26E-07	3.57E-19	-0.001448	1.14E-19	0.002253	6.60E-19
4	-0.000138	7.03E-19	-0.002715	2.30E-19	0.002586	7.41E-19
5	-0.000401	1.06E-18	-0.004032	3.46E-19	0.002546	7.23E-19
6	-0.000774	1.45E-18	-0.005189	4.58E-19	0.002128	7.79E-19
7	-0.001232	1.89E-18	-0.006024	5.62E-19	0.001479	8.76E-19
8	-0.001743	2.40E-18	-0.006450	6.56E-19	0.000731	9.85E-19
9	-0.002269	2.98E-18	-0.006444	7.39E-19	-7.82E-06	1.08E-18
10	-0.002738	3.62E-18	-0.006051	8.06E-19	-0.000658	1.16E-18
11	-0.003055	4.29E-18	-0.005352	8.43E-19	-0.001288	1.25E-18
12	-0.003314	5.00E-18	-0.004360	8.74E-19	-0.001747	1.29E-18
13	-0.003497	5.73E-18	-0.003164	9.01E-19	-0.002045	1.30E-18
14	-0.003594	6.46E-18	-0.001847	9.23E-19	-0.002199	1.28E-18
15	-0.003601	7.17E-18	-0.000482	9.43E-19	-0.002230	1.22E-18
16	-0.003515	7.84E-18	0.000869	9.60E-19	-0.002162	1.15E-18
17	-0.003341	8.47E-18	0.002155	9.76E-19	-0.002016	1.06E-18
18	-0.003084	9.05E-18	0.003337	9.91E-19	-0.001817	9.53E-19
19	-0.002751	9.56E-18	0.004389	1.00E-18	-0.001583	8.40E-19
20	-0.002354	1.00E-17	0.005293	1.02E-18	-0.001332	7.22E-19
21	-0.001901	1.04E-17	0.006041	1.03E-18	-0.001077	6.03E-19
22	-0.001403	1.07E-17	0.006629	1.04E-18	-0.000829	4.84E-19
23	-0.000872	1.09E-17	0.007061	1.05E-18	-0.000592	3.68E-19

J O I N T D I S P L A C E M E N T S

TRANSLATIONS AND ROTATIONS, IN LOCAL COORDINATES

JOINT	U1	U2	U3	R1	R2	R3
24	-0.000318	1.11E-17	0.007340	1.06E-18	-0.000367	2.53E-19
25	0.000250	1.12E-17	0.007473	1.07E-18	-0.000154	1.39E-19
26	0.000822	1.12E-17	0.007462	1.08E-18	5.71E-05	2.63E-20
27	0.001389	1.12E-17	0.007306	1.08E-18	0.000273	-8.85E-20
28	0.001940	1.11E-17	0.007002	1.09E-18	0.000502	-2.06E-19
29	0.002467	1.09E-17	0.006543	1.09E-18	0.000745	-3.28E-19
30	0.002957	1.07E-17	0.005925	1.09E-18	0.001003	-4.53E-19
31	0.003401	1.03E-17	0.005142	1.09E-18	0.001269	-5.80E-19
32	0.003788	9.93E-18	0.004197	1.09E-18	0.001534	-7.06E-19
33	0.004106	9.45E-18	0.003098	1.08E-18	0.001785	-8.30E-19
34	0.004345	8.92E-18	0.001859	1.08E-18	0.002004	-9.47E-19
35	0.004498	8.32E-18	0.000509	1.07E-18	0.002171	-1.05E-18
36	0.004557	7.66E-18	-0.000917	1.06E-18	0.002264	-1.14E-18
37	0.004519	6.97E-18	-0.002368	1.05E-18	0.002260	-1.21E-18
38	0.004384	6.26E-18	-0.003783	1.03E-18	0.002134	-1.25E-18
39	0.004157	5.53E-18	-0.005089	1.01E-18	0.001867	-1.26E-18
40	0.003846	4.81E-18	-0.006204	9.80E-19	0.001440	-1.23E-18
41	0.003467	4.12E-18	-0.007039	9.44E-19	0.000842	-1.17E-18
42	0.002952	3.47E-18	-0.007572	8.83E-19	0.000216	-1.10E-18
43	0.002366	2.86E-18	-0.007729	8.06E-19	-0.000515	-1.02E-18
44	0.001781	2.32E-18	-0.007450	7.17E-19	-0.001285	-9.12E-19
45	0.001233	1.85E-18	-0.006737	6.16E-19	-0.002010	-8.11E-19
46	0.000756	1.44E-18	-0.005642	5.05E-19	-0.002579	-7.36E-19
47	0.000381	1.07E-18	-0.004280	3.86E-19	-0.002877	-7.11E-19
48	0.000125	7.09E-19	-0.002827	2.61E-19	-0.002782	-7.66E-19
49	-4.83E-06	3.56E-19	-0.001484	1.38E-19	-0.002360	-6.67E-19
50	-3.40E-05	9.31E-20	-0.000452	4.28E-20	-0.001468	-4.22E-19
51	.000000	.000000	.000000	.000000	.000000	.000000

COMB COMB4 ---------- MAX

JOINT	U1	U2	U3	R1	R2	R3
1	.000000	.000000	.000000	.000000	.000000	.000000
2	-0.000274	9.51E-20	-0.000413	2.75E-20	0.001350	4.09E-19
3	-0.000608	3.60E-19	-0.001310	1.12E-19	0.002093	6.30E-19
4	-0.001034	7.10E-19	-0.002409	2.22E-19	0.002354	6.97E-19
5	-0.001567	1.09E-18	-0.003485	3.32E-19	0.002192	7.08E-19
6	-0.002184	1.51E-18	-0.004318	4.37E-19	0.001667	7.90E-19
7	-0.002854	2.01E-18	-0.004759	5.34E-19	0.000927	9.10E-19
8	-0.003539	2.59E-18	-0.004732	6.20E-19	0.000105	1.04E-18
9	-0.004195	3.26E-18	-0.004226	6.95E-19	-0.000693	1.16E-18
10	-0.004762	3.99E-18	-0.003309	7.55E-19	-0.001387	1.25E-18
11	-0.005189	4.75E-18	-0.002090	7.88E-19	-0.002065	1.35E-18
12	-0.005521	5.56E-18	-0.000553	8.16E-19	-0.002555	1.40E-18
13	-0.005740	6.40E-18	0.001203	8.38E-19	-0.002868	1.42E-18
14	-0.005837	7.23E-18	0.003085	8.57E-19	-0.003021	1.40E-18
15	-0.005805	8.05E-18	0.005009	8.73E-19	-0.003037	1.35E-18
16	-0.005645	8.84E-18	0.006904	8.87E-19	-0.002939	1.27E-18
17	-0.005361	9.57E-18	0.008709	8.99E-19	-0.002752	1.18E-18
18	-0.004960	1.03E-17	0.010379	9.11E-19	-0.002498	1.07E-18

J O I N T D I S P L A C E M E N T S

TRANSLATIONS AND ROTATIONS, IN LOCAL COORDINATES

JOINT	U1	U2	U3	R1	R2	R3
19	-0.004453	1.09E-17	0.011878	9.22E-19	-0.002201	9.44E-19
20	-0.003853	1.14E-17	0.013182	9.33E-19	-0.001877	8.16E-19
21	-0.003172	1.18E-17	0.014276	9.44E-19	-0.001542	6.85E-19
22	-0.002426	1.22E-17	0.015154	9.54E-19	-0.001207	5.54E-19
23	-0.001629	1.25E-17	0.015812	9.64E-19	-0.000877	4.23E-19
24	-0.000796	1.27E-17	0.016253	9.74E-19	-0.000557	2.93E-19
25	5.91E-05	1.28E-17	0.016478	9.83E-19	-0.000244	1.63E-19
26	0.000922	1.29E-17	0.016491	9.91E-19	6.59E-05	3.42E-20
27	0.001778	1.28E-17	0.016289	9.99E-19	0.000382	-9.68E-20
28	0.002615	1.27E-17	0.015871	1.01E-18	0.000708	-2.31E-19
29	0.003416	1.25E-17	0.015230	1.01E-18	0.001046	-3.68E-19
30	0.004168	1.22E-17	0.014364	1.02E-18	0.001394	-5.08E-19
31	0.004854	1.18E-17	0.013274	1.02E-18	0.001745	-6.48E-19
32	0.005461	1.13E-17	0.011965	1.02E-18	0.002088	-7.88E-19
33	0.005973	1.08E-17	0.010450	1.02E-18	0.002409	-9.22E-19
34	0.006378	1.01E-17	0.008752	1.02E-18	0.002688	-1.05E-18
35	0.006664	9.44E-18	0.006904	1.02E-18	0.002904	-1.16E-18
36	0.006822	8.69E-18	0.004951	1.01E-18	0.003035	-1.26E-18
37	0.006848	7.89E-18	0.002952	1.01E-18	0.003055	-1.33E-18
38	0.006739	7.06E-18	0.000977	9.93E-19	0.002940	-1.37E-18
39	0.006501	6.23E-18	-0.000891	9.75E-19	0.002668	-1.37E-18
40	0.006143	5.40E-18	-0.002560	9.50E-19	0.002221	-1.34E-18
41	0.005680	4.62E-18	-0.003931	9.17E-19	0.001586	-1.26E-18
42	0.005080	3.86E-18	-0.005002	8.62E-19	0.000925	-1.19E-18
43	0.004380	3.15E-18	-0.005680	7.91E-19	0.000146	-1.09E-18
44	0.003638	2.53E-18	-0.005883	7.07E-19	-0.000689	-9.72E-19
45	0.002896	1.98E-18	-0.005599	6.10E-19	-0.001494	-8.53E-19
46	0.002192	1.51E-18	-0.004871	5.02E-19	-0.002160	-7.56E-19
47	0.001561	1.11E-18	-0.003804	3.86E-19	-0.002568	-7.06E-19
48	0.001027	7.24E-19	-0.002565	2.62E-19	-0.002589	-7.34E-19
49	0.000605	3.63E-19	-0.001367	1.41E-19	-0.002230	-6.47E-19
50	0.000273	9.52E-20	-0.000423	4.51E-20	-0.001403	-4.12E-19
51	.000000	.000000	.000000	.000000	.000000	.000000

COMB COMB4 ---------- MIN

JOINT	U1	U2	U3	R1	R2	R3
1	.000000	.000000	.000000	.000000	.000000	.000000
2	-0.000274	9.51E-20	-0.000413	2.75E-20	0.001350	4.09E-19
3	-0.000608	3.60E-19	-0.001310	1.12E-19	0.002093	6.30E-19
4	-0.001034	7.10E-19	-0.002409	2.22E-19	0.002354	6.97E-19
5	-0.001567	1.09E-18	-0.003485	3.32E-19	0.002192	7.08E-19
6	-0.002184	1.51E-18	-0.004318	4.37E-19	0.001667	7.90E-19
7	-0.002854	2.01E-18	-0.004759	5.34E-19	0.000927	9.10E-19
8	-0.003539	2.59E-18	-0.004732	6.20E-19	0.000105	1.04E-18
9	-0.004195	3.26E-18	-0.004226	6.95E-19	-0.000693	1.16E-18
10	-0.004762	3.99E-18	-0.003309	7.55E-19	-0.001387	1.25E-18
11	-0.005189	4.75E-18	-0.002090	7.88E-19	-0.002065	1.35E-18
12	-0.005521	5.56E-18	-0.000553	8.16E-19	-0.002555	1.40E-18
13	-0.005740	6.40E-18	0.001203	8.38E-19	-0.002868	1.42E-18

J O I N T D I S P L A C E M E N T S

TRANSLATIONS AND ROTATIONS, IN LOCAL COORDINATES

JOINT	U1	U2	U3	R1	R2	R3
14	-0.005827	7.23E-18	0.003085	8.57E-19	-0.003021	1.40E-18
15	-0.005805	8.05E-18	0.005009	8.73E-19	-0.003037	1.35E-18
16	-0.005645	8.84E-18	0.006904	8.67E-19	-0.002939	1.27E-18
17	-0.005361	9.57E-18	0.008709	8.99E-19	-0.002752	1.18E-18
18	-0.004960	1.03E-17	0.010379	9.11E-19	-0.002498	1.07E-18
19	-0.004453	1.09E-17	0.011878	9.22E-19	-0.002201	9.44E-19
20	-0.003853	1.14E-17	0.013182	9.33E-19	-0.001877	8.16E-19
21	-0.003172	1.18E-17	0.014276	9.44E-19	-0.001542	6.85E-19
22	-0.002426	1.22E-17	0.015154	9.54E-19	-0.001207	5.54E-19
23	-0.001629	1.25E-17	0.015812	9.64E-19	-0.000877	4.23E-19
24	-0.000796	1.27E-17	0.016253	9.74E-19	-0.000557	2.93E-19
25	5.91E-05	1.28E-17	0.016478	9.83E-19	-0.000244	1.63E-19
26	0.000922	1.29E-17	0.016491	9.91E-19	6.59E-05	3.42E-20
27	0.001778	1.28E-17	0.016289	9.99E-19	0.000382	-9.68E-20
28	0.002615	1.27E-17	0.015871	1.01E-18	0.000708	-2.31E-19
29	0.003416	1.25E-17	0.015230	1.01E-18	0.001046	-3.68E-19
30	0.004168	1.22E-17	0.014364	1.02E-18	0.001394	-5.08E-19
31	0.004854	1.18E-17	0.013274	1.02E-18	0.001745	-6.48E-19
32	0.005461	1.13E-17	0.011965	1.02E-18	0.002088	-7.88E-19
33	0.005973	1.08E-17	0.010450	1.02E-18	0.002409	-9.22E-19
34	0.006378	1.01E-17	0.008752	1.02E-18	0.002688	-1.05E-18
35	0.006664	9.44E-18	0.006904	1.02E-18	0.002904	-1.16E-18
36	0.006822	8.69E-18	0.004951	1.01E-18	0.003035	-1.26E-18
37	0.006848	7.89E-18	0.002952	1.01E-18	0.003059	-1.33E-18
38	0.006739	7.06E-18	0.000977	9.85E-19	0.002977	-1.37E-18
39	0.006501	6.23E-18	-0.000691	9.75E-19	0.002668	-1.37E-18
40	0.006143	5.40E-18	-0.002560	9.50E-19	0.002221	-1.34E-18
41	0.005680	4.62E-18	-0.002931	9.17E-19	0.001586	-1.26E-18
42	0.005080	3.86E-18	-0.005002	8.62E-19	0.000925	-1.19E-18
43	0.004380	3.15E-18	-0.005680	7.91E-19	0.000146	-1.09E-18
44	0.003638	2.53E-18	-0.005883	7.07E-19	-0.000689	-9.72E-19
45	0.002896	1.98E-18	-0.005599	6.10E-19	-0.001494	-8.53E-19
46	0.002192	1.51E-18	-0.004871	5.02E-19	-0.002160	-7.56E-19
47	0.001561	1.11E-18	-0.003804	3.86E-19	-0.002568	-7.06E-19
48	0.001027	7.24E-19	-0.002565	2.62E-19	-0.002589	-7.34E-19
49	0.000605	3.63E-19	-0.001367	1.41E-19	-0.002230	-8.47E-19
50	0.000273	9.52E-20	-0.000423	4.51E-20	-0.001403	-4.12E-19
51	.000000	.000000	.000000	.000000	.000000	.000000

COMB COMB5 ---------- MAX

JOINT	U1	U2	U3	R1	R2	R3
1	.000000	.000000	.000000	.000000	.000000	.000000
2	-6.13E-05	3.92E-20	-0.000194	1.68E-20	0.000594	1.77E-19
3	-0.000149	1.45E-19	-0.000587	5.60E-20	0.000857	2.52E-19
4	-0.000275	2.73E-19	-0.001030	1.01E-19	0.000869	2.46E-19
5	-0.000446	4.11E-19	-0.001397	1.44E-19	0.000637	2.85E-19
6	-0.000639	5.84E-19	-0.001585	1.82E-19	0.000267	3.50E-19
7	-0.000835	8.00E-19	-0.001549	2.14E-19	-0.000146	4.22E-19
8	-0.001013	1.06E-18	-0.001289	2.41E-19	-0.000526	4.83E-19

J O I N T D I S P L A C E M E N T S

TRANSLATIONS AND ROTATIONS, IN LOCAL COORDINATES

JOINT	U1	U2	U3	R1	R2	R3
9	-0.001157	1.35E-18	-0.000840	2.62E-19	-0.000816	5.24E-19
10	-0.001249	1.65E-18	-0.000269	2.78E-19	-0.000986	5.37E-19
11	-0.001291	1.95E-18	0.000338	2.87E-19	-0.001029	5.28E-19
12	-0.001291	2.24E-18	0.000929	2.94E-19	-0.000933	4.88E-19
13	-0.001252	2.49E-18	0.001442	3.01E-19	-0.000733	4.25E-19
14	-0.001182	2.72E-18	0.001830	3.08E-19	-0.000467	3.48E-19
15	-0.001090	2.89E-18	0.002066	3.16E-19	-0.000168	2.63E-19
16	-0.000987	3.03E-18	0.002143	3.25E-19	0.000131	1.78E-19
17	-0.000884	3.12E-18	0.002067	3.35E-19	0.000401	9.84E-20
18	-0.000789	3.16E-18	0.001860	3.45E-19	0.000618	2.95E-20
19	-0.000711	3.18E-18	0.001554	3.56E-19	0.000766	-2.50E-20
20	-0.000656	3.17E-18	0.001189	3.65E-19	0.000832	-6.26E-20
21	-0.000625	3.14E-18	0.000809	3.74E-19	0.000813	-8.22E-20
22	-0.000620	3.11E-18	0.000459	3.81E-19	0.000709	-8.43E-20
23	-0.000635	3.09E-18	0.000182	3.86E-19	0.000530	-7.04E-20
24	-0.000666	3.07E-18	1.29E-05	3.88E-19	0.000291	-4.36E-20
25	-0.000705	3.07E-18	-2.05E-05	3.86E-19	1.21E-05	-8.30E-21
26	-0.000741	3.09E-18	9.50E-05	3.82E-19	-0.000279	2.99E-20
27	-0.000764	3.13E-18	0.000358	3.74E-19	-0.000553	6.47E-20
28	-0.000764	3.19E-18	0.000750	3.64E-19	-0.000781	9.05E-20
29	-0.000735	3.26E-18	0.001241	3.51E-19	-0.000944	1.03E-19
30	-0.000671	3.32E-18	0.001792	3.36E-19	-0.001025	9.87E-20
31	-0.000569	3.38E-18	0.002357	3.20E-19	-0.001017	7.63E-20
32	-0.000430	3.42E-18	0.002885	3.04E-19	-0.000916	3.52E-20
33	-0.000259	3.44E-18	0.003331	2.88E-19	-0.000729	-2.36E-20
34	-6.31E-05	3.41E-18	0.003649	2.73E-19	-0.000466	-9.76E-20
35	0.000149	3.34E-18	0.003805	2.59E-19	-0.000145	-1.83E-19
36	0.000364	3.22E-18	0.003773	2.47E-19	0.000212	-2.75E-19
37	0.000569	3.05E-18	0.003543	2.37E-19	0.000574	-3.68E-19
38	0.000752	2.83E-18	0.003122	2.29E-19	0.000909	-4.55E-19
39	0.000900	2.56E-18	0.002532	2.23E-19	0.001182	-5.27E-19
40	0.001003	2.26E-18	0.001818	2.18E-19	0.001357	-5.78E-19
41	0.001054	1.94E-18	0.001042	2.13E-19	0.001396	-6.00E-19
42	0.001060	1.60E-18	0.000265	2.05E-19	0.001296	-5.94E-19
43	0.001007	1.28E-18	-0.000429	1.94E-19	0.001062	-5.59E-19
44	0.000898	9.87E-19	-0.000967	1.79E-19	0.000715	-4.98E-19
45	0.000749	7.32E-19	-0.001296	1.60E-19	0.000294	-4.20E-19
46	0.000578	5.25E-19	-0.001387	1.36E-19	-0.000147	-3.36E-19
47	0.000407	3.64E-19	-0.001247	1.09E-19	-0.000534	-2.61E-19
48	0.000256	2.41E-19	-0.000924	7.76E-20	-0.000772	-2.18E-19
49	0.000142	1.29E-19	-0.000528	4.25E-20	-0.000769	-2.24E-19
50	6.00E-05	3.46E-20	-0.000174	1.22E-20	-0.000533	-1.58E-19
51	.000000	.000000	.000000	.000000	.000000	.000000

COMB COMB5 ---------- MIN

JOINT	U1	U2	U3	R1	R2	R3
1	.000000	.000000	.000000	.000000	.000000	.000000
2	-6.13E-05	3.92E-20	-0.000194	1.68E-20	0.000594	1.77E-19
3	-0.000149	1.45E-19	-0.000587	5.60E-20	0.000857	2.52E-19

J O I N T D I S P L A C E M E N T S

TRANSLATIONS AND ROTATIONS, IN LOCAL COORDINATES

JOINT	U1	U2	U3	R1	R2	R3
4	-0.000275	2.73E-19	-0.001030	1.01E-19	0.000869	2.46E-19
5	-0.000446	4.11E-19	-0.001397	1.44E-19	0.000637	2.85E-19
6	-0.000639	5.84E-19	-0.001585	1.82E-19	0.000267	3.50E-19
7	-0.000835	8.00E-19	-0.001549	2.14E-19	-0.000146	4.22E-19
8	-0.001013	1.06E-18	-0.001289	2.41E-19	-0.000526	4.83E-19
9	-0.001157	1.35E-18	-0.000840	2.62E-19	-0.000818	5.24E-19
10	-0.001249	1.65E-18	-0.000269	2.78E-19	-0.000986	5.37E-19
11	-0.001291	1.95E-18	0.000338	2.87E-19	-0.001029	5.28E-19
12	-0.001291	2.24E-18	0.000929	2.94E-19	-0.000933	4.88E-19
13	-0.001252	2.49E-18	0.001442	3.01E-19	-0.000733	4.25E-19
14	-0.001182	2.72E-18	0.001830	3.08E-19	-0.000467	3.48E-19
15	-0.001090	2.89E-18	0.002066	3.16E-19	-0.000168	2.63E-19
16	-0.000987	3.03E-18	0.002143	3.25E-19	0.000131	1.78E-19
17	-0.000884	3.12E-18	0.002067	3.35E-19	0.000401	9.84E-20
18	-0.000789	3.16E-18	0.001860	3.45E-19	0.000618	2.95E-20
19	-0.000711	3.18E-18	0.001554	3.56E-19	0.000766	-2.50E-20
20	-0.000656	3.17E-18	0.001189	3.65E-19	0.000832	-6.26E-20
21	-0.000625	3.14E-18	0.000809	3.74E-19	0.000813	-8.22E-20
22	-0.000620	3.11E-18	0.000459	3.81E-19	0.000709	-8.43E-20
23	-0.000635	3.09E-18	0.000182	3.86E-19	0.000530	-7.04E-20
24	-0.000666	3.07E-18	1.29E-05	3.88E-19	0.000291	-4.36E-20
25	-0.000705	3.07E-18	-2.05E-05	3.86E-19	1.21E-05	-8.30E-21
26	-0.000741	3.09E-18	9.50E-05	3.82E-19	-0.000279	2.99E-20
27	-0.000764	3.13E-18	0.000358	3.74E-19	-0.000553	6.47E-20
28	-0.000764	3.19E-18	0.000750	3.64E-19	-0.000781	9.05E-20
29	-0.000735	3.26E-18	0.001241	3.51E-19	-0.000944	1.03E-19
30	-0.000671	3.32E-18	0.001792	3.36E-19	-0.001025	9.87E-20
31	-0.000569	3.38E-18	0.002357	3.20E-19	-0.001017	7.63E-20
32	-0.000430	3.42E-18	0.002885	3.04E-19	-0.000916	3.52E-20
33	-0.000259	3.44E-18	0.003331	2.88E-19	-0.000729	-2.36E-20
34	-6.31E-05	3.41E-18	0.003649	2.73E-19	-0.000466	-9.76E-20
35	0.000149	3.34E-18	0.003805	2.59E-19	-0.000145	-1.83E-19
36	0.000364	3.22E-18	0.003773	2.47E-19	0.000212	-2.75E-19
37	0.000569	3.05E-18	0.003543	2.37E-19	0.000574	-3.68E-19
38	0.000752	2.83E-18	0.003122	2.29E-19	0.000909	-4.55E-19
39	0.000900	2.56E-18	0.002532	2.23E-19	0.001182	-5.27E-19
40	0.001003	2.26E-18	0.001818	2.18E-19	0.001357	-5.78E-19
41	0.001054	1.94E-18	0.001042	2.13E-19	0.001396	-6.00E-19
42	0.001060	1.60E-18	0.000265	2.05E-19	0.001296	-5.94E-19
43	0.001007	1.28E-18	-0.000429	1.94E-19	0.001062	-5.59E-19
44	0.000898	9.87E-19	-0.000967	1.79E-19	0.000715	-4.98E-19
45	0.000749	7.32E-19	-0.001296	1.60E-19	0.000294	-4.20E-19
46	0.000578	5.25E-19	-0.001387	1.36E-19	-0.000147	-3.36E-19
47	0.000407	3.64E-19	-0.001247	1.09E-19	-0.000534	-2.61E-19
48	0.000256	2.41E-19	-0.000924	7.76E-20	-0.000772	-2.18E-19
49	0.000142	1.29E-19	-0.000528	4.25E-20	-0.000769	-2.24E-19
50	6.00E-05	3.46E-20	-0.000174	1.22E-20	-0.000533	-1.58E-19
51	.000000	.000000	.000000	.000000	.000000	.000000

J O I N T D I S P L A C E M E N T S

TRANSLATIONS AND ROTATIONS, IN LOCAL COORDINATES

COMB COMB6 ---------- MAX

JOINT	U1	U2	U3	R1	R2	R3
1	.000000	.000000	.000000	.000000	.000000	.000000
2	3.79E-05	3.86E-20	-0.000205	1.65E-20	0.000619	1.81E-19
3	4.71E-05	1.43E-19	-0.000631	5.63E-20	0.000906	2.59E-19
4	1.43E-05	2.68E-19	-0.001126	1.03E-19	0.000941	2.57E-19
5	-6.82E-05	3.99E-19	-0.001570	1.47E-19	0.000748	2.86E-19
6	-0.000182	5.58E-19	-0.001861	1.86E-19	0.000414	3.43E-19
7	-0.000309	7.54E-19	-0.001952	2.21E-19	3.09E-05	4.07E-19
8	-0.000431	9.85E-19	-0.001838	2.50E-19	-0.000325	4.62E-19
9	-0.000532	1.24E-18	-0.001551	2.73E-19	-0.000598	4.97E-19
10	-0.000591	1.51E-18	-0.001149	2.91E-19	-0.000751	5.06E-19
11	-0.000597	1.78E-18	-0.000709	3.00E-19	-0.000778	4.92E-19
12	-0.000573	2.03E-18	-0.000294	3.09E-19	-0.000671	4.48E-19
13	-0.000522	2.26E-18	3.64E-05	3.17E-19	-0.000466	3.83E-19
14	-0.000452	2.44E-18	0.000240	3.25E-19	-0.000199	3.04E-19
15	-0.000373	2.58E-18	0.000295	3.34E-19	9.57E-05	2.19E-19
16	-0.000293	2.68E-18	0.000194	3.44E-19	0.000385	1.35E-19
17	-0.000225	2.73E-18	-5.17E-05	3.55E-19	0.000641	5.66E-20
18	-0.000177	2.75E-18	-0.000418	3.66E-19	0.000842	-1.00E-20
19	-0.000156	2.73E-18	-0.000871	3.77E-19	0.000968	-6.15E-20
20	-0.000166	2.69E-18	-0.001367	3.87E-19	0.001011	-9.54E-20
21	-0.000210	2.64E-18	-0.001861	3.96E-19	0.000965	-1.11E-19
22	-0.000285	2.59E-18	-0.002306	4.03E-19	0.000833	-1.08E-19
23	-0.000387	2.54E-18	-0.002657	4.08E-19	0.000624	-8.93E-20
24	-0.000509	2.51E-18	-0.002879	4.10E-19	0.000353	-5.72E-20
25	-0.000641	2.51E-18	-0.002943	4.08E-19	4.20E-05	-1.64E-20
26	-0.000772	2.53E-18	-0.002835	4.03E-19	-0.000282	2.75E-20
27	-0.000890	2.57E-18	-0.002557	3.95E-19	-0.000588	6.79E-20
28	-0.000983	2.63E-18	-0.002128	3.84E-19	-0.000849	9.93E-20
29	-0.001043	2.71E-18	-0.001577	3.70E-19	-0.001043	1.17E-19
30	-0.001064	2.79E-18	-0.000945	3.54E-19	-0.001154	1.18E-19
31	-0.001041	2.87E-18	-0.000280	3.37E-19	-0.001173	1.01E-19
32	-0.000974	2.94E-18	0.000368	3.20E-19	-0.001098	6.39E-20
33	-0.000866	2.98E-18	0.000949	3.02E-19	-0.000934	9.06E-21
34	-0.000724	2.99E-18	0.001418	2.86E-19	-0.000690	-6.17E-20
35	-0.000555	2.95E-18	0.001736	2.71E-19	-0.000385	-1.45E-19
36	-0.000372	2.86E-18	0.001877	2.57E-19	-4.05E-05	-2.35E-19
37	-0.000187	2.73E-18	0.001826	2.46E-19	0.000314	-3.27E-19
38	-1.27E-05	2.54E-18	0.001587	2.37E-19	0.000647	-4.13E-19
39	0.000139	2.31E-18	0.001180	2.30E-19	0.000922	-4.87E-19
40	0.000257	2.05E-18	0.000646	2.24E-19	0.001104	-5.40E-19
41	0.000336	1.76E-18	4.21E-05	2.18E-19	0.001157	-5.65E-19
42	0.000370	1.46E-18	-0.000561	2.09E-19	0.001067	-5.61E-19
43	0.000354	1.17E-18	-0.001087	1.96E-19	0.000849	-5.30E-19
44	0.000296	9.09E-19	-0.001469	1.80E-19	0.000523	-4.74E-19
45	0.000210	6.81E-19	-0.001659	1.60E-19	0.000128	-4.02E-19
46	0.000113	4.94E-19	-0.001632	1.36E-19	-0.000281	-3.25E-19
47	2.57E-05	3.48E-19	-0.001397	1.08E-19	-0.000631	-2.59E-19
48	-3.57E-05	2.34E-19	-0.001007	7.66E-20	-0.000832	-2.24E-19

J O I N T D I S P L A C E M E N T S

TRANSLATIONS AND ROTATIONS, IN LOCAL COORDINATES

JOINT	U1	U2	U3	R1	R2	R3
49	-5.48E-05	1.25E-19	-0.000564	4.13E-20	-0.000809	-2.28E-19
50	-3.93E-05	3.36E-20	-0.000183	1.13E-20	-0.000554	-1.60E-19
51	.000000	.000000	.000000	.000000	.000000	.000000

COMB COMB6 ---------- MIN

JOINT	U1	U2	U3	R1	R2	R3
1	.000000	.000000	.000000	.000000	.000000	.000000
2	3.79E-05	3.86E-20	-0.000205	1.65E-20	0.000619	1.81E-19
3	4.71E-05	1.43E-19	-0.000631	5.63E-20	0.000906	2.59E-19
4	1.43E-05	2.68E-19	-0.001126	1.03E-19	0.000941	2.57E-19
5	-6.82E-05	3.99E-19	-0.001570	1.47E-19	0.000748	2.86E-19
6	-0.000187	5.58E-19	-0.001861	1.86E-19	0.000414	3.43E-19
7	-0.000309	7.54E-19	-0.001952	2.21E-19	3.09E-05	4.07E-19
8	-0.000431	9.85E-19	-0.001838	2.50E-19	-0.000325	4.62E-19
9	-0.000532	1.24E-18	-0.001551	2.73E-19	-0.000598	4.97E-19
10	-0.000591	1.51E-18	-0.001149	2.91E-19	-0.000751	5.06E-19
11	-0.000597	1.78E-18	-0.000709	3.00E-19	-0.000778	4.92E-19
12	-0.000573	2.03E-18	-0.000294	3.09E-19	-0.000671	4.48E-19
13	-0.000522	2.26E-18	3.64E-05	3.17E-19	-0.000466	3.83E-19
14	-0.000452	2.44E-18	0.000240	3.25E-19	-0.000199	3.04E-19
15	-0.000373	2.58E-18	0.000295	3.34E-19	9.57E-05	2.19E-19
16	-0.000293	2.68E-18	0.000194	3.44E-19	0.000385	1.35E-19
17	-0.000225	2.73E-18	-5.17E-05	3.55E-19	0.000641	5.66E-20
18	-0.000177	2.75E-18	-0.000418	3.66E-19	0.000842	-1.00E-20
19	-0.000156	2.73E-18	-0.000871	3.77E-19	0.000968	-6.15E-20
20	-0.000166	2.69E-18	-0.001367	3.87E-19	0.001011	-9.54E-20
21	-0.000210	2.64E-18	-0.001861	3.96E-19	0.000965	-1.11E-19
22	-0.000285	2.59E-18	-0.002306	4.03E-19	0.000833	-1.08E-19
23	-0.000387	2.54E-18	-0.002657	4.08E-19	0.000624	-8.93E-20
24	-0.000509	2.51E-18	-0.002879	4.10E-19	0.000353	-5.72E-20
25	-0.000641	2.51E-18	-0.002943	4.08E-19	4.20E-05	-1.64E-20
26	-0.000772	2.53E-18	-0.002835	4.03E-19	-0.000282	2.75E-20
27	-0.000890	2.57E-18	-0.002557	3.95E-19	-0.000588	6.79E-20
28	-0.000983	2.63E-18	-0.002128	3.84E-19	-0.000849	9.93E-20
29	-0.001043	2.71E-18	-0.001577	3.70E-19	-0.001043	1.17E-19
30	-0.001064	2.79E-18	-0.000945	3.54E-19	-0.001154	1.18E-19
31	-0.001041	2.87E-18	-0.000280	3.37E-19	-0.001173	1.01E-19
32	-0.000974	2.94E-18	0.000368	3.20E-19	-0.001098	6.39E-20
33	-0.000866	2.98E-18	0.000949	3.02E-19	-0.000934	9.06E-21
34	-0.000724	2.99E-18	0.001418	2.86E-19	-0.000690	-6.17E-20
35	-0.000555	2.95E-18	0.001736	2.71E-19	-0.000385	-1.45E-19
36	-0.000372	2.86E-18	0.001877	2.57E-19	-4.05E-05	-2.35E-19
37	-0.000187	2.73E-18	0.001826	2.46E-19	0.000314	-3.27E-19
38	-1.27E-05	2.54E-18	0.001587	2.37E-19	0.000647	-4.13E-19
39	0.000139	2.31E-18	0.001180	2.30E-19	0.000922	-4.87E-19
40	0.000257	2.05E-18	0.000646	2.24E-19	0.001104	-5.40E-19
41	0.000336	1.76E-18	4.21E-05	2.18E-19	0.001157	-5.65E-19
42	0.000370	1.46E-18	-0.000561	2.09E-19	0.001067	-5.61E-19
43	0.000354	1.17E-18	-0.001087	1.96E-19	0.000849	-5.30E-19

J O I N T D I S P L A C E M E N T S

TRANSLATIONS AND ROTATIONS, IN LOCAL COORDINATES

JOINT	U1	U2	U3	R1	R2	R3
44	0.000296	9.09E-19	-0.001469	1.89E-19	0.000523	-4.74E-19
45	0.000210	6.81E-19	-0.001659	1.60E-19	0.000126	-4.02E-19
46	0.000113	4.94E-19	-0.001632	1.36E-19	-0.000281	-3.25E-19
47	2.57E-05	3.48E-19	-0.001397	1.08E-19	-0.000631	-2.50E-19
48	-3.57E-05	2.34E-19	-0.001007	7.66E-20	-0.000832	-2.24E-19
49	-5.48E-05	1.25E-19	-0.000564	4.13E-20	-0.000809	-2.28E-19
50	-3.93E-05	3.36E-20	-0.000183	1.13E-20	-0.000554	-1.60E-19
51	.000000	.000000	.000000	.000000	.000000	.000000

COMB COMB7 ---------- MAX

JOINT	U1	U2	U3	R1	R2	R3
1	.000000	.000000	.000000	.000000	.000000	.000000
2	-0.000235	3.94E-20	-0.000174	1.70E-20	0.000546	1.67E-19
3	-0.000493	1.46E-19	-0.000508	5.45E-20	0.000765	2.32E-19
4	-0.000782	2.74E-19	-0.000855	9.64E-20	0.000734	2.18E-19
5	-0.001105	4.19E-19	-0.001084	1.35E-19	0.000434	2.73E-19
6	-0.001436	6.11E-19	-0.001087	1.68E-19	3.77E-06	3.52E-19
7	-0.001751	8.56E-19	-0.000827	1.96E-19	-0.000460	4.37E-19
8	-0.002027	1.15E-18	-0.000311	2.18E-19	-0.000882	5.10E-19
9	-0.002243	1.49E-18	0.000421	2.35E-19	-0.001207	5.60E-19
10	-0.002391	1.84E-18	0.001289	2.46E-19	-0.001400	5.82E-19
11	-0.002494	2.19E-18	0.002190	2.52E-19	-0.001469	5.81E-19
12	-0.002535	2.53E-18	0.003090	2.56E-19	-0.001389	5.47E-19
13	-0.002517	2.85E-18	0.003918	2.61E-19	-0.001197	4.89E-19
14	-0.002446	3.13E-18	0.004624	2.66E-19	-0.000929	4.14E-19
15	-0.002332	3.37E-18	0.005175	2.72E-19	-0.000621	3.30E-19
16	-0.002187	3.56E-18	0.005558	2.78E-19	-0.000306	2.44E-19
17	-0.002021	3.71E-18	0.005774	2.86E-19	-1.23E-05	1.62E-19
18	-0.001845	3.81E-18	0.005841	2.95E-19	0.000235	9.03E-20
19	-0.001669	3.88E-18	0.005786	3.03E-19	0.000419	3.14E-20
20	-0.001499	3.91E-18	0.005645	3.12E-19	0.000526	-1.16E-20
21	-0.001340	3.93E-18	0.005460	3.20E-19	0.000552	-3.76E-20
22	-0.001195	3.93E-18	0.005272	3.26E-19	0.000497	-4.67E-20
23	-0.001060	3.93E-18	0.005122	3.30E-19	0.000370	-4.05E-20
24	-0.000934	3.94E-18	0.005043	3.32E-19	0.000185	-2.18E-20
25	-0.000811	3.95E-18	0.005062	3.31E-19	-3.89E-05	4.94E-21
26	-0.000683	3.98E-18	0.005191	3.28E-19	-0.000274	3.45E-20
27	-0.000543	4.02E-18	0.005428	3.21E-19	-0.000492	6.05E-20
28	-0.000383	4.06E-18	0.005755	3.12E-19	-0.000666	7.77E-20
29	-0.000199	4.11E-18	0.006145	3.01E-19	-0.000775	8.17E-20
30	1.23E-05	4.15E-18	0.006557	2.88E-19	-0.000806	6.95E-20
31	0.000251	4.18E-18	0.006949	2.75E-19	-0.000749	3.96E-20
32	0.000513	4.18E-18	0.007273	2.61E-19	-0.000605	-8.30E-21
33	0.000794	4.15E-18	0.007485	2.47E-19	-0.000379	-7.30E-20
34	0.001083	4.07E-18	0.007545	2.35E-19	-8.19E-05	-1.52E-19
35	0.001370	3.95E-18	0.007421	2.24E-19	0.000267	-2.42E-19
36	0.001641	3.77E-18	0.007093	2.15E-19	0.000645	-3.36E-19
37	0.001883	3.54E-18	0.006555	2.08E-19	0.001021	-4.31E-19
38	0.002081	3.26E-18	0.005818	2.03E-19	0.001363	-5.17E-19

J O I N T D I S P L A C E M E N T S

TRANSLATIONS AND ROTATIONS, IN LOCAL COORDINATES

JOINT	U1	U2	U3	R1	R2	R3
39	0.002223	2.93E-18	0.004911	1.99E-19	0.001635	-5.88E-19
40	0.002299	2.57E-18	0.003884	1.97E-19	0.001798	-6.35E-19
41	0.002303	2.20E-18	0.002805	1.94E-19	0.001818	-6.51E-19
42	0.002261	1.81E-18	0.001724	1.90E-19	0.001698	-6.40E-19
43	0.002144	1.43E-18	0.000735	1.82E-19	0.001436	-5.97E-19
44	0.001947	1.09E-18	-7.56E-05	1.70E-19	0.001053	-5.28E-19
45	0.001689	7.98E-19	-0.000648	1.54E-19	0.000586	-4.39E-19
46	0.001389	5.60E-19	-0.000947	1.33E-19	9.12E-05	-3.43E-19
47	0.001074	3.79E-19	-0.000974	1.07E-19	-0.000357	-2.55E-19
48	0.000766	2.47E-19	-0.000774	7.74E-20	-0.000660	-1.96E-19
49	0.000487	1.31E-19	-0.000461	4.37E-20	-0.000694	-2.10E-19
50	0.000234	3.55E-20	-0.000157	1.33E-20	-0.000496	-1.51E-19
51	.000000	.000000	.000000	.000000	.000000	.000000

COMB COMB7 ---------- MIN

JOINT	U1	U2	U3	R1	R2	R3
1	.000000	.000000	.000000	.000000	.000000	.000000
2	-0.000235	3.94E-20	-0.000174	1.70E-20	0.000546	1.67E-19
3	-0.000493	1.46E-19	-0.000508	5.45E-20	0.000765	2.32E-19
4	-0.000782	2.74E-19	-0.000855	9.64E-20	0.000734	2.18E-19
5	-0.001105	4.19E-19	-0.001084	1.35E-19	0.000434	2.73E-19
6	-0.001436	6.11E-19	-0.001087	1.68E-19	3.77E-06	3.52E-19
7	-0.001751	8.56E-19	-0.000827	1.96E-19	-0.000460	4.37E-19
8	-0.002027	1.15E-18	-0.000311	2.18E-19	-0.000882	5.10E-19
9	-0.002243	1.49E-18	0.000421	2.35E-19	-0.001207	5.60E-19
10	-0.002391	1.84E-18	0.001289	2.46E-19	-0.001400	5.82E-19
11	-0.002494	2.19E-18	0.002190	2.52E-19	-0.001469	5.81E-19
12	-0.002535	2.53E-18	0.003090	2.56E-19	-0.001389	5.47E-19
13	-0.002517	2.85E-18	0.003918	2.61E-19	-0.001197	4.89E-19
14	-0.002446	3.13E-18	0.004624	2.66E-19	-0.000929	4.14E-19
15	-0.002332	3.37E-18	0.005175	2.72E-19	-0.000621	3.30E-19
16	-0.002187	3.56E-18	0.005558	2.78E-19	-0.000306	2.44E-19
17	-0.002021	3.71E-18	0.005774	2.86E-19	-1.23E-05	1.62E-19
18	-0.001845	3.81E-18	0.005841	2.95E-19	0.000235	9.03E-20
19	-0.001669	3.88E-18	0.005786	3.03E-19	0.000419	3.14E-20
20	-0.001499	3.91E-18	0.005645	3.12E-19	0.000526	-1.16E-20
21	-0.001340	3.93E-18	0.005460	3.20E-19	0.000552	-3.76E-20
22	-0.001195	3.93E-18	0.005272	3.26E-19	0.000497	-4.67E-20
23	-0.001060	3.93E-18	0.005122	3.30E-19	0.000370	-4.05E-20
24	-0.000934	3.94E-18	0.005043	3.32E-19	0.000185	-2.18E-20
25	-0.000811	3.95E-18	0.005062	3.31E-19	-3.89E-05	4.94E-21
26	-0.000683	3.98E-18	0.005191	3.28E-19	-0.000274	3.45E-20
27	-0.000543	4.02E-18	0.005428	3.21E-19	-0.000492	6.05E-20
28	-0.000383	4.06E-18	0.005755	3.12E-19	-0.000666	7.77E-20
29	-0.000199	4.11E-18	0.006145	3.01E-19	-0.000775	8.17E-20
30	1.23E-05	4.15E-18	0.006557	2.88E-19	-0.000806	6.95E-20
31	0.000251	4.18E-18	0.006949	2.75E-19	-0.000749	3.96E-20
32	0.000513	4.18E-18	0.007273	2.61E-19	-0.000605	-8.30E-21
33	0.000794	4.15E-18	0.007485	2.47E-19	-0.000379	-7.30E-20

J O I N T D I S P L A C E M E N T S

TRANSLATIONS AND ROTATIONS, IN LOCAL COORDINATES

JOINT	U1	U2	U3	R1	R2	R3
34	0.001083	4.07E-18	0.007545	2.35E-19	-8.19E-05	-1.52E-19
35	0.001370	3.95E-18	0.007421	2.24E-19	0.000267	-2.42E-19
36	0.001641	3.77E-18	0.007093	2.15E-19	0.000645	-3.36E-19
37	0.001883	3.54E-18	0.006555	2.08E-19	0.001021	-4.31E-19
38	0.002081	3.26E-18	0.005818	2.03E-19	0.001363	-5.17E-19
39	0.002223	2.93E-18	0.004911	1.99E-19	0.001635	-5.88E-19
40	0.002299	2.57E-18	0.003884	1.97E-19	0.001798	-6.35E-19
41	0.002303	2.20E-18	0.002805	1.94E-19	0.001818	-6.51E-19
42	0.002261	1.81E-18	0.001724	1.90E-19	0.001698	-6.40E-19
43	0.002144	1.43E-18	0.000735	1.82E-19	0.001436	-5.97E-19
44	0.001947	1.09E-18	-7.56E-05	1.70E-19	0.001053	-5.28E-19
45	0.001689	7.98E-19	-0.000648	1.54E-19	0.000586	-4.39E-19
46	0.001389	5.60E-19	-0.000947	1.33E-19	9.12E-05	-3.43E-19
47	0.001074	3.79E-19	-0.000974	1.07E-19	-0.000357	-2.55E-19
48	0.000766	2.47E-19	-0.000774	7.74E-20	-0.000660	-1.96E-19
49	0.000487	1.31E-19	-0.000461	4.37E-20	-0.000694	-2.10E-19
50	0.000234	3.55E-20	-0.000157	1.33E-20	-0.000496	-1.51E-19
51	.000000	.000000	.000000	.000000	.000000	.000000

S P R I N G F O R C E S

FORCES AND MOMENTS ACTING ON JOINTS, IN LOCAL COORDINATES

COMB COMB1 ---------- MAX

JOINT	F1	F2	F3	M1	M2	M3
2	-7.25E-18	-2.27E-32	0.126096	.000000	.000000	.000000
3	2.51E-17	-2.98E-32	0.234303	.000000	.000000	.000000
4	6.48E-20	-1.88E-31	0.373013	.000000	.000000	.000000
5	-2.27E-18	1.08E-31	0.431852	.000000	.000000	.000000
46	2.74E-17	-1.33E-31	0.044663	.000000	.000000	.000000
47	1.91E-17	4.34E-32	0.215706	.000000	.000000	.000000
48	2.68E-18	-3.74E-32	0.237644	.000000	.000000	.000000
49	6.34E-18	-1.05E-32	0.164642	.000000	.000000	.000000
50	-2.70E-17	2.88E-32	0.094372	.000000	.000000	.000000

COMB COMB1 ---------- MIN

JOINT	F1	F2	F3	M1	M2	M3
2	-7.25E-18	-2.27E-32	0.126096	.000000	.000000	.000000
3	2.51E-17	-2.98E-32	0.234303	.000000	.000000	.000000
4	6.48E-20	-1.88E-31	0.373013	.000000	.000000	.000000
5	-2.27E-18	1.08E-31	0.431852	.000000	.000000	.000000
46	2.74E-17	-1.33E-31	0.044663	.000000	.000000	.000000
47	1.91E-17	4.34E-32	0.215706	.000000	.000000	.000000
48	2.68E-18	-3.74E-32	0.237644	.000000	.000000	.000000
49	6.34E-18	-1.05E-32	0.164642	.000000	.000000	.000000
50	-2.70E-17	2.88E-32	0.094372	.000000	.000000	.000000

COMB COMB2 ---------- MAX

JOINT	F1	F2	F3	M1	M2	M3
2	-5.97E-18	-3.70E-32	0.397274	.000000	.000000	.000000
3	2.27E-17	1.17E-32	0.850383	.000000	.000000	.000000
4	4.31E-19	-1.05E-31	1.584610	.000000	.000000	.000000
5	1.74E-17	1.37E-31	2.332958	.000000	.000000	.000000
46	4.23E-17	-1.15E-33	3.262592	.000000	.000000	.000000
47	-2.44E-18	1.49E-31	2.499480	.000000	.000000	.000000
48	1.99E-18	-4.78E-32	1.662170	.000000	.000000	.000000
49	1.14E-17	4.86E-33	0.876993	.000000	.000000	.000000
50	-2.99E-17	1.87E-32	0.402539	.000000	.000000	.000000

COMB COMB2 ---------- MIN

JOINT	F1	F2	F3	M1	M2	M3
2	-5.97E-18	-3.70E-32	0.397274	.000000	.000000	.000000
3	2.27E-17	1.17E-32	0.850383	.000000	.000000	.000000
4	4.31E-19	-1.05E-31	1.584610	.000000	.000000	.000000
5	1.74E-17	1.37E-31	2.332958	.000000	.000000	.000000
46	4.23E-17	-1.15E-33	3.262592	.000000	.000000	.000000
47	-2.44E-18	1.49E-31	2.499480	.000000	.000000	.000000
48	1.89E-18	-4.78E-32	1.662170	.000000	.000000	.000000
49	1.14E-17	4.86E-33	0.876993	.000000	.000000	.000000
50	-2.99E-17	1.87E-32	0.402539	.000000	.000000	.000000

S P R I N G F O R C E S

FORCES AND MOMENTS ACTING ON JOINTS, IN LOCAL COORDINATES

COMB COMB3 ---------- MAX

JOINT	F1	F2	F3	M1	M2	M3
2	-4.37E-18	-2.72E-32	0.306494	.000000	.000000	.000000
3	1.70E-17	9.60E-33	0.660119	.000000	.000000	.000000
4	3.32E-19	-7.44E-32	1.237814	.000000	.000000	.000000
5	1.31E-17	1.06E-31	1.838424	.000000	.000000	.000000
46	3.28E-17	5.12E-34	2.572564	.000000	.000000	.000000
47	-2.12E-18	1.15E-31	1.951849	.000000	.000000	.000000
48	1.27E-18	-3.91E-32	1.288943	.000000	.000000	.000000
49	8.35E-18	1.64E-33	0.676656	.000000	.000000	.000000
50	-2.37E-17	1.35E-32	0.309028	.000000	.000000	.000000

COMB COMB3 ---------- MIN

JOINT	F1	F2	F3	M1	M2	M3
2	-4.37E-18	-2.72E-32	0.306494	.000000	.000000	.000000
3	1.70E-17	9.60E-33	0.660119	.000000	.000000	.000000
4	3.32E-19	-7.44E-32	1.237814	.000000	.000000	.000000
5	1.31E-17	1.06E-31	1.838424	.000000	.000000	.000000
46	3.28E-17	5.12E-34	2.572564	.000000	.000000	.000000
47	-2.12E-18	1.15E-31	1.951849	.000000	.000000	.000000
48	1.27E-18	-3.91E-32	1.288943	.000000	.000000	.000000
49	8.35E-18	1.64E-33	0.676656	.000000	.000000	.000000
50	-2.37E-17	1.35E-32	0.309028	.000000	.000000	.000000

COMB COMB4 ---------- MAX

JOINT	F1	F2	F3	M1	M2	M3
2	-4.57E-18	-2.95E-32	0.282534	.000000	.000000	.000000
3	1.74E-17	4.51E-33	0.597300	.000000	.000000	.000000
4	2.65E-19	-8.45E-32	1.098696	.000000	.000000	.000000
5	1.41E-17	9.88E-32	1.588968	.000000	.000000	.000000
46	2.87E-17	-1.17E-32	2.221245	.000000	.000000	.000000
47	-4.64E-19	1.02E-31	1.734736	.000000	.000000	.000000
48	1.16E-18	-3.46E-32	1.169663	.000000	.000000	.000000
49	8.42E-18	3.62E-33	0.623467	.000000	.000000	.000000
50	-2.03E-17	1.37E-32	0.289049	.000000	.000000	.000000

COMB COMB4 ---------- MIN

JOINT	F1	F2	F3	M1	M2	M3
2	-4.57E-18	-2.95E-32	0.282534	.000000	.000000	.000000
3	1.74E-17	4.51E-33	0.597300	.000000	.000000	.000000
4	2.65E-19	-8.45E-32	1.098696	.000000	.000000	.000000
5	1.41E-17	9.88E-32	1.588968	.000000	.000000	.000000
46	2.87E-17	-1.17E-32	2.221245	.000000	.000000	.000000
47	-4.64E-19	1.02E-31	1.734736	.000000	.000000	.000000
48	1.16E-18	-3.46E-32	1.169663	.000000	.000000	.000000
49	8.42E-18	3.62E-33	0.623467	.000000	.000000	.000000
50	-2.03E-17	1.37E-32	0.289049	.000000	.000000	.000000

S P R I N G F O R C E S

FORCES AND MOMENTS ACTING ON JOINTS, IN LOCAL COORDINATES

COMB COMB5 ---------- MAX

JOINT	F1	F2	F3	M1	M2	M3
2	-4.47E-18	-1.74E-32	0.132751	.000000	.000000	.000000
3	1.58E-17	-1.16E-32	0.267715	.000000	.000000	.000000
4	1.11E-19	-1.07E-31	0.469500	.000000	.000000	.000000
5	2.22E-18	7.58E-32	0.637052	.000000	.000000	.000000
46	2.06E-17	-6.17E-32	0.632654	.000000	.000000	.000000
47	8.37E-18	4.80E-32	0.568483	.000000	.000000	.000000
48	1.59E-18	-2.62E-32	0.421541	.000000	.000000	.000000
49	5.06E-18	-3.96E-33	0.240540	.000000	.000000	.000000
50	-1.81E-17	1.68E-32	0.119090	.000000	.000000	.000000

COMB COMB5 ---------- MIN

JOINT	F1	F2	F3	M1	M2	M3
2	-4.47E-18	-1.74E-32	0.132751	.000000	.000000	.000000
3	1.58E-17	-1.16E-32	0.267715	.000000	.000000	.000000
4	1.11E-19	-1.07E-31	0.469500	.000000	.000000	.000000
5	2.22E-18	7.58E-32	0.637052	.000000	.000000	.000000
46	2.06E-17	-6.17E-32	0.632654	.000000	.000000	.000000
47	8.37E-18	4.80E-32	0.568483	.000000	.000000	.000000
48	1.59E-18	-2.62E-32	0.421541	.000000	.000000	.000000
49	5.06E-18	-3.96E-33	0.240540	.000000	.000000	.000000
50	-1.81E-17	1.68E-32	0.119090	.000000	.000000	.000000

COMB COMB6 ---------- MAX

JOINT	F1	F2	F3	M1	M2	M3
2	-4.37E-18	-1.69E-32	0.140341	.000000	.000000	.000000
3	1.58E-17	-1.08E-32	0.287566	.000000	.000000	.000000
4	1.19E-19	-1.03E-31	0.513372	.000000	.000000	.000000
5	2.25E-18	7.85E-32	0.715901	.000000	.000000	.000000
46	2.15E-17	-6.05E-32	0.744316	.000000	.000000	.000000
47	8.11E-18	5.08E-32	0.637139	.000000	.000000	.000000
48	1.46E-18	-2.91E-32	0.459155	.000000	.000000	.000000
49	4.91E-18	-5.74E-33	0.257350	.000000	.000000	.000000
50	-1.92E-17	1.63E-32	0.125422	.000000	.000000	.000000

COMB COMB6 ---------- MIN

JOINT	F1	F2	F3	M1	M2	M3
2	-4.37E-18	-1.69E-32	0.140341	.000000	.000000	.000000
3	1.58E-17	-1.08E-32	0.287566	.000000	.000000	.000000
4	1.19E-19	-1.03E-31	0.513372	.000000	.000000	.000000
5	2.25E-18	7.85E-32	0.715901	.000000	.000000	.000000
46	2.15E-17	-6.05E-32	0.744316	.000000	.000000	.000000
47	8.11E-18	5.08E-32	0.637139	.000000	.000000	.000000
48	1.46E-18	-2.91E-32	0.459155	.000000	.000000	.000000
49	4.91E-18	-5.74E-33	0.257350	.000000	.000000	.000000
50	-1.92E-17	1.63E-32	0.125422	.000000	.000000	.000000

S P R I N G F O R C E S

FORCES AND MOMENTS ACTING ON JOINTS, IN LOCAL COORDINATES

COMB COMB7 ---------- MAX

JOINT	F1	F2	F3	M1	M2	M3
2	-4.55E-18	-1.89E-32	0.119043	.000000	.000000	.000000
3	1.62E-17	-1.54E-32	0.231727	.000000	.000000	.000000
4	5.88E-20	-1.12E-31	0.389712	.000000	.000000	.000000
5	3.11E-18	7.20E-32	0.494163	.000000	.000000	.000000
46	1.79E-17	-7.13E-32	0.432033	.000000	.000000	.000000
47	9.58E-18	3.94E-32	0.444150	.000000	.000000	.000000
48	1.36E-18	-2.52E-32	0.353129	.000000	.000000	.000000
49	4.97E-18	-3.98E-33	0.210071	.000000	.000000	.000000
50	-1.62E-17	1.66E-32	0.107663	.000000	.000000	.000000

COMB COMB7 ---------- MIN

JOINT	F1	F2	F3	M1	M2	M3
2	-4.55E-18	-1.89E-32	0.119043	.000000	.000000	.000000
3	1.62E-17	-1.54E-32	0.231727	.000000	.000000	.000000
4	5.88E-20	-1.12E-31	0.389712	.000000	.000000	.000000
5	3.11E-18	7.20E-32	0.494163	.000000	.000000	.000000
46	1.79E-17	-7.13E-32	0.432033	.000000	.000000	.000000
47	9.58E-18	3.94E-32	0.444150	.000000	.000000	.000000
48	1.36E-18	-2.52E-32	0.353129	.000000	.000000	.000000
49	4.97E-18	-3.98E-33	0.210071	.000000	.000000	.000000
50	-1.62E-17	1.66E-32	0.107663	.000000	.000000	.000000

RESTRAINT FORCES (REACTIONS)

FORCES AND MOMENTS ACTING ON JOINTS, IN LOCAL COORDINATES

COMB COMB1 ---------- MAX

JOINT	F1	F2	F3	M1	M2	M3
1	-16.167069	-4.01E-16	176.992984	9.08E-16	23.574889	-6.95E-17
51	25.251329	-2.18E-16	176.341950	-1.58E-17	-17.604630	-2.86E-16

COMB COMB1 ---------- MIN

JOINT	F1	F2	F3	M1	M2	M3
1	-16.167069	-4.01E-16	176.992984	9.08E-16	23.574889	-6.95E-17
51	25.251329	-2.18E-16	176.341950	-1.58E-17	-17.604630	-2.86E-16

COMB COMB2 ---------- MAX

JOINT	F1	F2	F3	M1	M2	M3
1	16.167087	-1.63E-15	176.895114	2.28E-15	74.401207	1.17E-15
51	-7.928946	-2.83E-15	176.824061	5.67E-15	-75.349665	-1.10E-15

COMB COMB2 ---------- MIN

JOINT	F1	F2	F3	M1	M2	M3
1	16.167087	-1.63E-15	176.895114	2.28E-15	74.401207	1.17E-15
51	-7.928946	-2.83E-15	176.824061	5.67E-15	-75.349665	-1.10E-15

COMB COMB3 ---------- MAX

JOINT	F1	F2	F3	M1	M2	M3
1	12.251441	-1.28E-15	132.670897	1.82E-15	57.652325	9.38E-16
51	-5.956394	-2.21E-15	132.637492	4.41E-15	-58.144375	-9.16E-16

COMB COMB3 ---------- MIN

JOINT	F1	F2	F3	M1	M2	M3
1	12.251441	-1.28E-15	132.670897	1.82E-15	57.652325	9.38E-16
51	-5.956394	-2.21E-15	132.637492	4.41E-15	-58.144375	-9.16E-16

COMB COMB4 ---------- MAX

JOINT	F1	F2	F3	M1	M2	M3
1	11.983687	-1.12E-15	132.671268	1.51E-15	53.147285	7.68E-16
51	-5.971833	-1.97E-15	132.583978	3.97E-15	-54.259200	-6.61E-16

COMB COMB4 ---------- MIN

JOINT	F1	F2	F3	M1	M2	M3
1	11.983687	-1.12E-15	132.671268	1.51E-15	53.147285	7.68E-16
51	-5.971833	-1.97E-15	132.583978	3.97E-15	-54.259200	-6.61E-16

RESTRAINT FORCES (REACTIONS)

FORCES AND MOMENTS ACTING ON JOINTS, IN LOCAL COORDINATES

COMB COMB5 ---------- MAX

JOINT	F1	F2	F3	M1	M2	M3
1	-4.426747	-4.91E-16	114.912150	8.47E-16	24.842588	1.87E-16
51	10.172673	-6.31E-16	114.598205	1.06E-15	-22.263980	-3.38E-16

COMB COMB5 ---------- MIN

JOINT	F1	F2	F3	M1	M2	M3
1	-4.426747	-4.91E-16	114.912150	8.47E-16	24.842588	1.87E-16
51	10.172673	-6.31E-16	114.598205	1.06E-15	-22.263980	-3.38E-16

COMB COMB6 ---------- MAX

JOINT	F1	F2	F3	M1	M2	M3
1	-4.329968	-5.41E-16	114.911760	9.45E-16	26.488595	2.43E-16
51	10.164065	-7.07E-16	114.615470	1.19E-15	-23.714758	-4.21E-16

COMB COMB6 ---------- MIN

JOINT	F1	F2	F3	M1	M2	M3
1	-4.329968	-5.41E-16	114.911760	9.45E-16	26.488595	2.43E-16
51	10.164065	-7.07E-16	114.615470	1.19E-15	-23.714758	-4.21E-16

COMB COMB7 ---------- MAX

JOINT	F1	F2	F3	M1	M2	M3
1	-4.567972	-4.01E-16	114.912089	6.69E-16	22.484114	9.20E-17
51	10.150341	-4.93E-16	114.567902	8.07E-16	-20.261270	-1.94E-16

COMB COMB7 ---------- MIN

JOINT	F1	F2	F3	M1	M2	M3
1	-4.567972	-4.01E-16	114.912089	6.69E-16	22.484114	9.20E-17
51	10.150341	-4.93E-16	114.567902	8.07E-16	-20.261270	-1.94E-16

GLOBAL FORCE BALANCE

TOTAL FORCE AND MOMENT AT THE ORIGIN, IN GLOBAL COORDINATES

LOAD LOAD1 ----------

	FX	FY	FZ	MX	MY	MZ
APPLIED	3.53E-16	-4.20E-32	-22.985350	3.22E-31	3.368220	1.39E-32
SPRINGS	-0.539448	6.01E-16	-0.056117	-1.19E-15	-0.752257	1.29E-15
REACTNS	0.539448	-6.01E-16	23.041467	1.19E-15	-2.615963	-1.29E-15
TOTAL	-1.07E-12	6.20E-28	9.81E-13	-5.66E-27	-6.60E-12	-6.56E-28

LOAD LOAD2 ----------

	FX	FY	FZ	MX	MY	MZ
APPLIED	5.23E-15	-2.93E-31	-206.475868	2.22E-30	-3.391855	1.36E-30
SPRINGS	-4.286501	4.79E-15	-0.419989	-9.41E-15	-5.983365	1.03E-14
REACTNS	4.286501	-4.79E-15	206.895856	9.41E-15	9.375220	-1.03E-14
TOTAL	-5.98E-12	4.64E-27	7.30E-12	-4.40E-26	-3.63E-11	-6.34E-27

LOAD LOAD3 ----------

	FX	FY	FZ	MX	MY	MZ
APPLIED	-5.273250	-7.80E-31	-1.71E-15	1.40E-30	-2.097631	1.56E-29
SPRINGS	4.355274	-4.27E-15	0.426968	8.46E-15	6.262888	-1.04E-14
REACTNS	0.917976	4.27E-15	-0.426968	-8.46E-15	-4.165258	1.04E-14
TOTAL	7.55E-12	-4.45E-27	-7.33E-12	3.98E-26	4.53E-11	4.13E-27

LOAD LOAD4 ----------

	FX	FY	FZ	MX	MY	MZ
APPLIED	.000000	.000000	.000000	2.96E-31	-2.37E-13	-1.26E-32
SPRINGS	-0.090171	1.26E-16	-0.016876	-2.59E-16	-0.114533	2.17E-16
REACTNS	0.090171	-1.26E-16	0.016876	2.59E-16	0.114533	-2.17E-16
TOTAL	-1.80E-12	-3.93E-28	-1.54E-13	3.20E-27	-1.23E-11	3.48E-28

LOAD LOAD5 ----------

	FX	FY	FZ	MX	MY	MZ
APPLIED	.000000	.000000	.000000	-2.96E-31	-1.51E-12	1.26E-32
SPRINGS	0.161557	-2.28E-16	0.030363	4.68E-16	0.204644	-3.88E-16
REACTNS	-0.161557	2.28E-16	-0.030363	-4.68E-16	-0.204644	3.88E-16
TOTAL	2.94E-12	7.12E-28	1.74E-14	-5.58E-27	1.87E-11	-5.68E-28

GLOBAL FORCE BALANCE

TOTAL FORCE AND MOMENT AT THE ORIGIN, IN GLOBAL COORDINATES

COMB COMB1 ---------- MAX

	FX	FY	FZ	MX	MY	MZ
APPLIED	-9.491850	-1.92E-30	-353.370275	6.43E-30	-3.812132	3.02E-29
SPRINGS	0.407530	6.18E-16	0.035341	-1.08E-15	0.900341	-9.45E-16
REACTNS	9.084320	-6.18E-16	353.334934	1.08E-15	2.911792	9.45E-16
TOTAL	2.74E-12	8.58E-29	-4.30E-13	-4.83E-27	1.55E-11	-3.33E-27

COMB COMB1 ---------- MIN

	FX	FY	FZ	MX	MY	MZ
APPLIED	-9.491850	-1.92E-30	-353.370275	6.43E-30	-3.812132	3.02E-29
SPRINGS	0.407530	6.18E-16	0.035341	-1.08E-15	0.900341	-9.45E-16
REACTNS	9.084320	-6.18E-16	353.334934	1.08E-15	2.911792	9.45E-16
TOTAL	2.74E-12	8.58E-29	-4.30E-13	-4.83E-27	1.55E-11	-3.33E-27

COMB COMB2 ---------- MAX

	FX	FY	FZ	MX	MY	MZ
APPLIED	-4.745925	-1.22E-30	-353.370275	5.17E-30	-1.924265	1.61E-29
SPRINGS	-3.512216	4.46E-15	-0.348931	-8.69E-15	-4.736259	8.42E-15
REACTNS	8.258141	-4.46E-15	353.719205	8.69E-15	6.660524	-8.42E-15
TOTAL	-4.05E-12	4.10E-27	6.16E-12	-4.07E-26	-2.53E-11	-7.05E-27

COMB COMB2 ---------- MIN

	FX	FY	FZ	MX	MY	MZ
APPLIED	-4.745925	-1.22E-30	-353.370275	5.17E-30	-1.924265	1.61E-29
SPRINGS	-3.512216	4.46E-15	-0.348931	-8.69E-15	-4.736259	8.42E-15
REACTNS	8.258141	-4.46E-15	353.719205	8.69E-15	6.660524	-8.42E-15
TOTAL	-4.05E-12	4.10E-27	6.16E-12	-4.07E-26	-2.53E-11	-7.05E-27

COMB COMB3 ---------- MAX

	FX	FY	FZ	MX	MY	MZ
APPLIED	-3.559444	-9.14E-31	-265.027706	4.21E-30	-1.443199	1.21E-29
SPRINGS	-2.735604	3.49E-15	-0.280683	-6.81E-15	-3.681044	6.56E-15
REACTNS	6.295048	-3.49E-15	265.308389	6.81E-15	5.124242	-6.56E-15
TOTAL	-5.07E-12	2.63E-27	4.45E-12	-2.69E-26	-3.28E-11	-4.89E-27

G L O B A L F O R C E B A L A N C E

TOTAL FORCE AND MOMENT AT THE ORIGIN, IN GLOBAL COORDINATES

COMB COMB3 ---------- MIN

	FX	FY	FZ	MX	MY	MZ
APPLIED	-3.559444	-9.14E-31	-265.027706	4.21E-30	-1.443199	1.21E-29
SPRINGS	-2.735604	3.49E-15	-0.280683	-6.81E-15	-3.681044	6.56E-15
REACTNS	6.295048	-3.49E-15	265.308389	6.81E-15	5.124242	-6.56E-15
TOTAL	-5.07E-12	2.63E-27	4.45E-12	-2.69E-26	-3.28E-11	-4.59E-27

COMB COMB4 ---------- MAX

	FX	FY	FZ	MX	MY	MZ
APPLIED	-3.559444	-9.14E-31	-265.027706	3.55E-30	-1.443199	1.21E-29
SPRINGS	-2.452410	3.09E-15	-0.227540	-5.99E-15	-3.321970	5.88E-15
REACTNS	6.011854	-3.09E-15	265.255246	5.99E-15	4.765169	-5.88E-15
TOTAL	2.73E-13	3.87E-27	4.64E-12	-3.68E-26	2.13E-12	-5.92E-27

COMB COMB4 ---------- MIN

	FX	FY	FZ	MX	MY	MZ
APPLIED	-3.559444	-9.14E-31	-265.027706	3.55E-30	-1.443199	1.21E-29
SPRINGS	-2.452410	3.09E-15	-0.227540	-5.99E-15	-3.321970	5.88E-15
REACTNS	6.011854	-3.09E-15	265.255246	5.99E-15	4.765169	-5.88E-15
TOTAL	2.73E-13	3.87E-27	4.64E-12	-3.68E-26	2.13E-12	-5.92E-27

COMB COMB5 ---------- MAX

	FX	FY	FZ	MX	MY	MZ
APPLIED	-5.273250	-1.12E-30	-229.461217	3.94E-30	-2.121265	1.70E-29
SPRINGS	-0.470676	1.12E-15	-0.049137	-2.13E-15	-0.472734	1.14E-15
REACTNS	5.743926	-1.12E-15	229.510354	2.13E-15	2.593999	-1.14E-15
TOTAL	5.07E-13	8.08E-28	9.58E-13	-9.86E-27	2.40E-12	-2.86E-27

COMB COMB5 ---------- MIN

	FX	FY	FZ	MX	MY	MZ
APPLIED	-5.273250	-1.12E-30	-229.461217	3.94E-30	-2.121265	1.70E-29
SPRINGS	-0.470676	1.12E-15	-0.049137	-2.13E-15	-0.472734	1.14E-15
REACTNS	5.743926	-1.12E-15	229.510354	2.13E-15	2.593999	-1.14E-15
TOTAL	5.07E-13	8.08E-28	9.58E-13	-9.86E-27	2.40E-12	-2.86E-27

G L O B A L F O R C E B A L A N C E

TOTAL FORCE AND MOMENT AT THE ORIGIN, IN GLOBAL COORDINATES

COMB COMB6 ---------- MAX

	FX	FY	FZ	MX	MY	MZ
APPLIED	-5.273250	-1.12E-30	-229.461217	4.24E-30	-2.121265	1.69E-29
SPRINGS	-0.560846	1.25E-15	-0.066012	-2.39E-15	-0.587267	1.36E-15
REACTNS	5.834096	-1.25E-15	229.527230	2.39E-15	2.708532	-1.36E-15
TOTAL	-1.30E-12	4.15E-28	8.04E-13	-6.66E-27	-9.89E-12	-2.51E-27

COMB COMB6 ---------- MIN

	FX	FY	FZ	MX	MY	MZ
APPLIED	-5.273250	-1.12E-30	-229.461217	4.24E-30	-2.121265	1.69E-29
SPRINGS	-0.560846	1.25E-15	-0.066012	-2.39E-15	-0.587267	1.36E-15
REACTNS	5.834096	-1.25E-15	229.527230	2.39E-15	2.708532	-1.36E-15
TOTAL	-1.30E-12	4.15E-28	8.04E-13	-6.66E-27	-9.89E-12	-2.51E-27

COMB COMB7 ---------- MAX

	FX	FY	FZ	MX	MY	MZ
APPLIED	-5.273250	-1.12E-30	-229.461217	3.64E-30	-2.121265	1.70E-29
SPRINGS	-0.309118	8.95E-16	-0.018774	-1.66E-15	-0.268090	7.55E-16
REACTNS	5.582368	-8.95E-16	229.479992	1.66E-15	2.389356	-7.55E-16
TOTAL	3.45E-12	1.52E-27	9.75E-13	-1.54E-26	2.12E-11	-3.43E-27

COMB COMB7 ---------- MIN

	FX	FY	FZ	MX	MY	MZ
APPLIED	-5.273250	-1.12E-30	-229.461217	3.64E-30	-2.121265	1.70E-29
SPRINGS	-0.309118	8.95E-16	-0.018774	-1.66E-15	-0.268090	7.55E-16
REACTNS	5.582368	-8.95E-16	229.479992	1.66E-15	2.389356	-7.55E-16
TOTAL	3.45E-12	1.52E-27	9.75E-13	-1.54E-26	2.12E-11	-3.43E-27

F R A M E E L E M E N T I N T E R N A L F O R C E S

ELEM 1 ========== LENGTH = 0.503047

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-176.184883	23.383231	-1.83E-14	2.69E-16	-1.89E-14	23.574889
0.50000	-174.717266	27.993251	-2.18E-14	2.69E-16	-1.39E-14	17.111474
1.00000	-173.273828	32.496668	-2.53E-14	2.69E-16	-7.94E-15	9.501830

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-176.184883	23.383231	-1.83E-14	2.69E-16	-1.89E-14	23.574889
0.50000	-174.717266	27.993251	-2.18E-14	2.69E-16	-1.39E-14	17.111474
1.00000	-173.273828	32.496668	-2.53E-14	2.69E-16	-7.94E-15	9.501830

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-168.932907	54.914263	-4.37E-14	-6.34E-16	-5.94E-14	74.401207
0.50000	-167.998417	57.173756	-4.54E-14	-6.34E-16	-4.82E-14	60.303709
1.00000	-167.076018	59.379947	-4.71E-14	-6.34E-16	-3.66E-14	45.644545

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-168.932907	54.914263	-4.37E-14	-6.34E-16	-5.94E-14	74.401207
0.50000	-167.998417	57.173756	-4.54E-14	-6.34E-16	-4.82E-14	60.303709
1.00000	-167.076018	59.379947	-4.71E-14	-6.34E-16	-3.66E-14	45.644545

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-126.674672	41.293974	-3.29E-14	-5.12E-16	-4.61E-14	57.652325
0.50000	-125.973805	42.986594	-3.42E-14	-5.12E-16	-3.77E-14	47.051967
1.00000	-125.282005	44.643237	-3.55E-14	-5.12E-16	-2.89E-14	36.030360

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-126.674672	41.293974	-3.29E-14	-5.12E-16	-4.61E-14	57.652325
0.50000	-125.973805	42.986594	-3.42E-14	-5.12E-16	-3.77E-14	47.051967
1.00000	-125.282005	44.643237	-3.55E-14	-5.12E-16	-2.89E-14	36.030360

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-126.734259	41.032933	-3.25E-14	-4.16E-16	-4.23E-14	53.147285
0.50000	-126.033392	42.727553	-3.38E-14	-4.16E-16	-3.40E-14	42.612585
1.00000	-125.341592	44.382197	-3.51E-14	-4.16E-16	-2.53E-14	31.656635

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-126.734259	41.032933	-3.25E-14	-4.16E-16	-4.23E-14	53.147285
0.50000	-126.033392	42.727553	-3.38E-14	-4.16E-16	-3.40E-14	42.612585
1.00000	-125.341592	44.382197	-3.51E-14	-4.16E-16	-2.53E-14	31.656635

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-113.045369	21.098829	-1.66E-14	5.17E-18	-1.99E-14	24.842888
0.50000	-112.192380	23.651412	-1.86E-14	5.17E-18	-1.55E-14	19.213786
1.00000	-111.352824	26.144772	-2.05E-14	5.17E-18	-1.05E-14	12.950038

COMB COMB5 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-113.045369	21.098829	-1.66E-14	5.17E-18	-1.99E-14	24.842888
0.50000	-112.192380	23.651412	-1.86E-14	5.17E-18	-1.55E-14	19.213786
1.00000	-111.352824	26.144772	-2.05E-14	5.17E-18	-1.05E-14	12.950038

COMB COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-113.023139	21.195075	-1.68E-14	-2.78E-17	-2.13E-14	26.488595
0.50000	-112.170151	23.747658	-1.87E-14	-2.78E-17	-1.68E-14	20.835284
1.00000	-111.330595	26.241018	-2.06E-14	-2.78E-17	-1.18E-14	14.547328

COMB COMB6 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-113.023139	21.195075	-1.68E-14	-2.78E-17	-2.13E-14	26.488595
0.50000	-112.170151	23.747658	-1.87E-14	-2.78E-17	-1.68E-14	20.835284
1.00000	-111.330595	26.241018	-2.06E-14	-2.78E-17	-1.18E-14	14.547328

COMB COMB7 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-113.076105	20.963039	-1.65E-14	5.82E-17	-1.79E-14	22.484114
0.50000	-112.223117	23.515622	-1.84E-14	5.82E-17	-1.35E-14	16.889167
1.00000	-111.383561	26.008982	-2.03E-14	5.82E-17	-8.63E-15	10.659573

COMB COMB7 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-113.076105	20.963039	-1.65E-14	5.82E-17	-1.79E-14	22.484114
0.50000	-112.223117	23.515622	-1.84E-14	5.82E-17	-1.35E-14	16.889167
1.00000	-111.383561	26.008982	-2.03E-14	5.82E-17	-8.63E-15	10.659573

F R A M E E L E M E N T I N T E R N A L F O R C E S

ELEM 2 ========== LENGTH = 0.503047

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-175.506133	16.842744	-1.33E-14	2.07E-16	-7.97E-15	9.501830
0.50000	-174.489589	21.350713	-1.67E-14	2.07E-16	-4.20E-15	4.696268
1.00000	-173.487704	25.748800	-2.01E-14	2.07E-16	4.32E-16	-1.229439

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-175.506133	16.842744	-1.33E-14	2.07E-16	-7.97E-15	9.501830
0.50000	-174.489589	21.350713	-1.67E-14	2.07E-16	-4.20E-15	4.696268
1.00000	-173.487704	25.748800	-2.01E-14	2.07E-16	4.32E-16	-1.229439

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-171.773538	44.446768	-3.55E-14	-7.81E-16	-3.65E-14	45.644545
0.50000	-171.061295	46.673544	-3.72E-14	-7.81E-16	-2.74E-14	34.183951
1.00000	-170.356381	48.845379	-3.89E-14	-7.81E-16	-1.78E-14	22.170129

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-171.773538	44.446768	-3.55E-14	-7.81E-16	-3.65E-14	45.644545
0.50000	-171.061295	46.673544	-3.72E-14	-7.81E-16	-2.74E-14	34.183951
1.00000	-170.356381	48.845379	-3.89E-14	-7.81E-16	-1.78E-14	22.170129

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-128.815411	33.453699	-2.68E-14	-6.31E-16	-2.89E-14	36.030360
0.50000	-128.281229	35.123781	-2.81E-14	-6.31E-16	-2.20E-14	27.405078
1.00000	-127.752544	36.752657	-2.93E-14	-6.31E-16	-1.48E-14	18.364875

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-128.815411	33.453699	-2.68E-14	-6.31E-16	-2.89E-14	36.030360
0.50000	-128.281229	35.123781	-2.81E-14	-6.31E-16	-2.20E-14	27.405078
1.00000	-127.752544	36.752657	-2.93E-14	-6.31E-16	-1.48E-14	18.364875

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-128.850099	33.164408	-2.64E-14	-5.11E-16	-2.53E-14	31.656635
0.50000	-128.315917	34.834490	-2.77E-14	-5.11E-16	-1.85E-14	23.104117
1.00000	-127.787232	36.463366	-2.90E-14	-5.11E-16	-1.13E-14	14.136677

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-128.850099	33.164408	-2.64E-14	-5.11E-16	-2.53E-14	31.656635
0.50000	-128.315917	34.834490	-2.77E-14	-5.11E-16	-1.85E-14	23.104117
1.00000	-127.787232	36.463366	-2.90E-14	-5.11E-16	-1.13E-14	14.136677

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-113.264823	16.115091	-1.28E-14	-5.08E-17	-1.05E-14	12.950038
0.50000	-112.661814	18.614414	-1.47E-14	-5.08E-17	-7.08E-15	8.581125
1.00000	-112.066948	21.052692	-1.66E-14	-5.08E-17	-3.14E-15	3.591192

COMB COMB5 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-113.264823	16.115091	-1.28E-14	-5.08E-17	-1.05E-14	12.950038
0.50000	-112.661814	18.614414	-1.47E-14	-5.08E-17	-7.08E-15	8.581125
1.00000	-112.066948	21.052692	-1.66E-14	-5.08E-17	-3.14E-15	3.591192

COMB COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-113.251719	16.220533	-1.29E-14	-9.12E-17	-1.18E-14	14.547328
0.50000	-112.648710	18.719856	-1.48E-14	-9.12E-17	-8.35E-15	10.151894
1.00000	-112.053844	21.158134	-1.67E-14	-9.12E-17	-4.38E-15	5.135440

COMB COMB6 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-113.251719	16.220533	-1.29E-14	-9.12E-17	-1.18E-14	14.547328
0.50000	-112.648710	18.719856	-1.48E-14	-9.12E-17	-8.35E-15	10.151894
1.00000	-112.053844	21.158134	-1.67E-14	-9.12E-17	-4.38E-15	5.135440

COMB COMB7 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-113.282552	15.963386	-1.26E-14	1.55E-17	-8.64E-15	10.659573
0.50000	-112.679543	18.462709	-1.45E-14	1.55E-17	-5.23E-15	6.328817
1.00000	-112.084677	20.900987	-1.64E-14	1.55E-17	-1.35E-15	1.377042

COMB COMB7 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-113.282552	15.963386	-1.26E-14	1.55E-17	-8.64E-15	10.659573
0.50000	-112.679543	18.462709	-1.45E-14	1.55E-17	-5.23E-15	6.328817
1.00000	-112.084677	20.900987	-1.64E-14	1.55E-17	-1.35E-15	1.377042

F R A M E E L E M E N T I N T E R N A L F O R C E S

ELEM 3 ========== LENGTH = 0.503047

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-175.114624	10.212101	-8.10E-15	1.60E-16	4.15E-16	-1.229439
0.50000	-174.518593	14.573153	-1.14E-14	1.60E-16	2.88E-15	-4.348797
1.00000	-173.927275	18.822586	-1.47E-14	1.60E-16	6.16E-15	-8.551123

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-175.114624	10.212101	-8.10E-15	1.60E-16	4.15E-16	-1.229439
0.50000	-174.518593	14.573153	-1.14E-14	1.60E-16	2.88E-15	-4.348797
1.00000	-173.927275	18.822586	-1.47E-14	1.60E-16	6.16E-15	-8.551123

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-174.109510	34.112527	-2.74E-14	-8.53E-16	-1.77E-14	22.170129
0.50000	-173.605901	36.284373	-2.90E-14	-8.53E-16	-1.06E-14	13.315735
1.00000	-173.104647	38.400410	-3.06E-14	-8.53E-16	-3.14E-15	3.922041

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-174.109510	34.112527	-2.74E-14	-8.53E-16	-1.77E-14	22.170129
0.50000	-173.605901	36.284373	-2.90E-14	-8.53E-16	-1.06E-14	13.315735
1.00000	-173.104647	38.400410	-3.06E-14	-8.53E-16	-3.14E-15	3.922041

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-130.579171	25.726173	-2.07E-14	-6.91E-16	-1.47E-14	18.364875
0.50000	-130.201464	27.355058	-2.19E-14	-6.91E-16	-9.34E-15	11.688420
1.00000	-129.825524	28.942086	-2.31E-14	-6.91E-16	-3.67E-15	4.607489

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-130.579171	25.726173	-2.07E-14	-6.91E-16	-1.47E-14	18.364875
0.50000	-130.201464	27.355058	-2.19E-14	-6.91E-16	-9.34E-15	11.688420
1.00000	-129.825524	28.942086	-2.31E-14	-6.91E-16	-3.67E-15	4.607489

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-130.584756	25.372178	-2.03E-14	-5.55E-16	-1.13E-14	14.136677
0.50000	-130.207049	27.001063	-2.15E-14	-5.55E-16	-6.03E-15	7.549260
1.00000	-129.831109	28.588090	-2.27E-14	-5.55E-16	-4.69E-16	0.557367

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-130.584756	25.372178	-2.03E-14	-5.55E-16	-1.13E-14	14.136677
0.50000	-130.207049	27.001063	-2.15E-14	-5.55E-16	-6.03E-15	7.549260
1.00000	-129.831109	28.588090	-2.27E-14	-5.55E-16	-4.69E-16	0.557367

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-113.522245	11.114720	-8.87E-15	-8.60E-17	-3.14E-15	3.591192
0.50000	-113.152550	13.535898	-1.07E-14	-8.60E-17	-6.70E-16	0.489799
1.00000	-112.785472	15.895066	-1.25E-14	-8.60E-17	2.26E-15	-3.212834

COMB COMB5 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-113.522245	11.114720	-8.87E-15	-8.60E-17	-3.14E-15	3.591192
0.50000	-113.152550	13.535898	-1.07E-14	-8.60E-17	-6.70E-16	0.489799
1.00000	-112.785472	15.895066	-1.25E-14	-8.60E-17	2.26E-15	-3.212834

COMB COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-113.519613	11.240744	-9.01E-15	-1.31E-16	-4.37E-15	5.135440
0.50000	-113.149918	13.661923	-1.09E-14	-1.31E-16	-1.87E-15	2.002348
1.00000	-112.782840	16.021091	-1.27E-14	-1.31E-16	1.09E-15	-1.731983

COMB COMB6 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-113.519613	11.240744	-9.01E-15	-1.31E-16	-4.37E-15	5.135440
0.50000	-113.149918	13.661923	-1.09E-14	-1.31E-16	-1.87E-15	2.002348
1.00000	-112.782840	16.021091	-1.27E-14	-1.31E-16	1.09E-15	-1.731983

COMB COMB7 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-113.524577	10.926082	-8.65E-15	-1.09E-17	-1.35E-15	1.377042
0.50000	-113.154882	13.347261	-1.05E-14	-1.09E-17	1.06E-15	-1.676905
1.00000	-112.787804	15.706428	-1.23E-14	-1.09E-17	3.94E-15	-5.332091

COMB COMB7 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-113.524577	10.926082	-8.65E-15	-1.09E-17	-1.35E-15	1.377042
0.50000	-113.154882	13.347261	-1.05E-14	-1.09E-17	1.06E-15	-1.676905
1.00000	-112.787804	15.706428	-1.23E-14	-1.09E-17	3.94E-15	-5.332091

F R A M E E L E M E N T I N T E R N A L F O R C E S

ELEM 4 ========== LENGTH = 0.503047

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-174.933257	3.412475	-5.78E-16	1.25E-16	6.40E-16	-8.551123
0.50000	-174.771135	7.585615	-1.08E-15	1.25E-16	8.49E-16	-9.936584
1.00000	-174.603630	11.647208	-1.58E-15	1.25E-16	1.18E-15	-12.357754

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-174.933257	3.412475	-5.78E-16	1.25E-16	6.40E-16	-8.551123
0.50000	-174.771135	7.585615	-1.08E-15	1.25E-16	8.49E-16	-9.936584
1.00000	-174.603630	11.647208	-1.58E-15	1.25E-16	1.18E-15	-12.357754

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-175.936650	24.194958	-3.65E-15	-8.62E-16	-5.39E-16	3.922041
0.50000	-175.674232	26.290282	-3.91E-15	-8.62E-16	4.12E-16	-2.428232
1.00000	-175.409122	28.329833	-4.15E-15	-8.62E-16	1.43E-15	-9.298562

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-175.936650	24.194958	-3.65E-15	-8.62E-16	-5.39E-16	3.922041
0.50000	-175.674232	26.290282	-3.91E-15	-8.62E-16	4.12E-16	-2.428232
1.00000	-175.409122	28.329833	-4.15E-15	-8.62E-16	1.43E-15	-9.298562

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-131.964572	18.336991	-2.79E-15	-7.01E-16	-6.37E-16	4.607489
0.50000	-131.767759	19.908484	-2.98E-15	-7.01E-16	8.92E-17	-0.203200
1.00000	-131.568926	21.438147	-3.17E-15	-7.01E-16	8.63E-16	-5.403931

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-131.964572	18.336991	-2.79E-15	-7.01E-16	-6.37E-16	4.607489
0.50000	-131.767759	19.908484	-2.98E-15	-7.01E-16	8.92E-17	-0.203200
1.00000	-131.568926	21.438147	-3.17E-15	-7.01E-16	8.63E-16	-5.403931

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-131.931880	17.844961	-2.65E-15	-5.57E-16	-5.95E-17	0.557367
0.50000	-131.735066	19.416454	-2.84E-15	-5.57E-16	6.31E-16	-4.129565
1.00000	-131.536234	20.946117	-3.02E-15	-5.57E-16	1.37E-15	-9.206539

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-131.931880	17.844961	-2.65E-15	-5.57E-16	-5.95E-17	0.557367
0.50000	-131.735066	19.416454	-2.84E-15	-5.57E-16	6.31E-16	-4.129565
1.00000	-131.536234	20.946117	-3.02E-15	-5.57E-16	1.37E-15	-9.206539

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-113.781251	6.114483	-9.52E-16	-1.04E-16	1.94E-16	-3.212834
0.50000	-113.657162	8.434536	-1.23E-15	-1.04E-16	4.69E-16	-5.043834
1.00000	-113.530083	10.692619	-1.51E-15	-1.04E-16	8.14E-16	-7.450641

COMB COMB5 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-113.781251	6.114483	-9.52E-16	-1.04E-16	1.94E-16	-3.212834
0.50000	-113.657162	8.434536	-1.23E-15	-1.04E-16	4.69E-16	-5.043834
1.00000	-113.530083	10.692619	-1.51E-15	-1.04E-16	8.14E-16	-7.450641

COMB COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-113.791992	6.284058	-9.96E-16	-1.52E-16	-1.27E-17	-1.731983
0.50000	-113.667904	8.604111	-1.28E-15	-1.52E-16	2.74E-16	-3.605635
1.00000	-113.540825	10.862194	-1.55E-15	-1.52E-16	6.31E-16	-6.055094

COMB COMB6 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-113.791992	6.284058	-9.96E-16	-1.52E-16	-1.27E-17	-1.731983
0.50000	-113.667904	8.604111	-1.28E-15	-1.52E-16	2.74E-16	-3.605635
1.00000	-113.540825	10.862194	-1.55E-15	-1.52E-16	6.31E-16	-6.055094

COMB COMB7 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-113.762932	5.846698	-8.71E-16	-2.41E-17	5.01E-16	-5.332091
0.50000	-113.638844	8.166752	-1.15E-15	-2.41E-17	7.56E-16	-7.095737
1.00000	-113.511765	10.424834	-1.43E-15	-2.41E-17	1.08E-15	-9.435190

COMB COMB7 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-113.762932	5.846698	-8.71E-16	-2.41E-17	5.01E-16	-5.332091
0.50000	-113.638844	8.166752	-1.15E-15	-2.41E-17	7.56E-16	-7.095737
1.00000	-113.511765	10.424834	-1.43E-15	-2.41E-17	1.08E-15	-9.435190

F R A M E E L E M E N T I N T E R N A L F O R C E S

ELEM 5 ========== LENGTH = 0.503047

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-174.961576	-3.735254	4.27E-16	9.64E-17	1.17E-15	-12.357754
0.50000	-168.470463	1.147936	-1.65E-16	9.64E-17	1.14E-15	-12.035193
1.00000	-162.151730	5.895495	-7.40E-16	9.64E-17	1.26E-15	-12.923920

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-174.961576	-3.735254	4.27E-16	9.64E-17	1.17E-15	-12.357754
0.50000	-168.470463	1.147936	-1.65E-16	9.64E-17	1.14E-15	-12.035193
1.00000	-162.151730	5.895495	-7.40E-16	9.64E-17	1.26E-15	-12.923920

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-177.356100	14.705649	-1.75E-15	-8.32E-16	1.50E-15	-9.298562
0.50000	-170.592769	17.638147	-2.11E-15	-8.32E-16	1.99E-15	-13.367858
1.00000	-164.009456	20.489735	-2.45E-15	-8.32E-16	2.56E-15	-18.164634

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-177.356100	14.705649	-1.75E-15	-8.32E-16	1.50E-15	-9.298562
0.50000	-170.592769	17.638147	-2.11E-15	-8.32E-16	1.99E-15	-13.367858
1.00000	-164.009456	20.489735	-2.45E-15	-8.32E-16	2.56E-15	-18.164634

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-133.050345	11.306754	-1.35E-15	-6.79E-16	9.25E-16	-5.403931
0.50000	-127.977847	13.506127	-1.62E-15	-6.79E-16	1.30E-15	-8.525705
1.00000	-123.040362	15.644818	-1.88E-15	-6.79E-16	1.74E-15	-12.193089

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-133.050345	11.306754	-1.35E-15	-6.79E-16	9.25E-16	-5.403931
0.50000	-127.977847	13.506127	-1.62E-15	-6.79E-16	1.30E-15	-8.525705
1.00000	-123.040362	15.644818	-1.88E-15	-6.79E-16	1.74E-15	-12.193089

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-132.962083	10.570485	-1.26E-15	-5.32E-16	1.42E-15	-9.206539
0.50000	-127.889585	12.769858	-1.52E-15	-5.32E-16	1.77E-15	-12.143124
1.00000	-122.952100	14.908549	-1.78E-15	-5.32E-16	2.18E-15	-15.625319

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-132.962083	10.570485	-1.26E-15	-5.32E-16	1.42E-15	-9.206539
0.50000	-127.889585	12.769858	-1.52E-15	-5.32E-16	1.77E-15	-12.143124
1.00000	-122.952100	14.908549	-1.78E-15	-5.32E-16	2.18E-15	-15.625319

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-114.060602	1.033843	-1.32E-16	-1.12E-16	8.24E-16	-7.450641
0.50000	-109.794528	3.838815	-4.72E-16	-1.12E-16	9.00E-16	-8.065055
1.00000	-105.641822	6.565980	-8.02E-16	-1.12E-16	1.06E-15	-9.375263

COMB COMB5 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-114.060602	1.033843	-1.32E-16	-1.12E-16	8.24E-16	-7.450641
0.50000	-109.794528	3.838815	-4.72E-16	-1.12E-16	9.00E-16	-8.065055
1.00000	-105.641822	6.565980	-8.02E-16	-1.12E-16	1.06E-15	-9.375263

COMB COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-114.090176	1.280524	-1.63E-16	-1.61E-16	6.45E-16	-6.055094
0.50000	-109.824102	4.085496	-5.03E-16	-1.61E-16	7.29E-16	-6.731554
1.00000	-105.671396	6.812661	-8.33E-16	-1.61E-16	8.97E-16	-8.103808

COMB COMB6 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-114.090176	1.280524	-1.63E-16	-1.61E-16	6.45E-16	-6.055094
0.50000	-109.824102	4.085496	-5.03E-16	-1.61E-16	7.29E-16	-6.731554
1.00000	-105.671396	6.812661	-8.33E-16	-1.61E-16	8.97E-16	-8.103808

COMB COMB7 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-114.011721	0.626063	-8.02E-17	-2.97E-17	1.08E-15	-9.435190
0.50000	-109.745647	3.431035	-4.20E-16	-2.97E-17	1.15E-15	-9.947038
1.00000	-105.592941	6.158200	-7.50E-16	-2.97E-17	1.29E-15	-11.154679

COMB COMB7 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-114.011721	0.626063	-8.02E-17	-2.97E-17	1.08E-15	-9.435190
0.50000	-109.745647	3.431035	-4.20E-16	-2.97E-17	1.15E-15	-9.947038
1.00000	-105.592941	6.158200	-7.50E-16	-2.97E-17	1.29E-15	-11.154679

F R A M E E L E M E N T I N T E R N A L F O R C E S

ELEM [illegible] LENGTH = 0.503048

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-162.021628	-8.771118	1.04E-15	6.80E-17	1.25E-15	-12.923920
0.50000	-156.313363	-3.619907	4.13E-16	6.80E-17	1.07E-15	-11.368691
1.00000	-150.761623	1.383007	-1.93E-16	6.80E-17	1.04E-15	-11.090577

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-162.021628	-8.771118	1.04E-15	6.80E-17	1.25E-15	-12.923920
0.50000	-156.313363	-3.619907	4.13E-16	6.80E-17	1.07E-15	-11.368691
1.00000	-150.761623	1.383007	-1.93E-16	6.80E-17	1.04E-15	-11.090577

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-165.189644	5.595742	-6.50E-16	-7.96E-16	2.64E-15	-18.164634
0.50000	-159.058964	8.935344	-1.05E-15	-7.96E-16	2.85E-15	-19.994076
1.00000	-153.097170	12.179667	-1.45E-15	-7.96E-16	3.16E-15	-22.651598

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-165.189644	5.595742	-6.50E-16	-7.96E-16	2.64E-15	-18.164634
0.50000	-159.058964	8.935344	-1.05E-15	-7.96E-16	2.85E-15	-19.994076
1.00000	-153.097170	12.179667	-1.45E-15	-7.96E-16	3.16E-15	-22.651598

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-123.950427	4.470185	-5.22E-16	-6.53E-16	1.80E-15	-12.193089
0.50000	-119.352417	6.974887	-8.25E-16	-6.53E-16	1.97E-15	-13.633932
1.00000	-114.881072	9.408128	-1.12E-15	-6.53E-16	2.21E-15	-15.695834

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-123.950427	4.470185	-5.22E-16	-6.53E-16	1.80E-15	-12.193089
0.50000	-119.352417	6.974887	-8.25E-16	-6.53E-16	1.97E-15	-13.633932
1.00000	-114.881072	9.408128	-1.12E-15	-6.53E-16	2.21E-15	-15.695834

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-123.796040	3.744894	-4.30E-16	-5.03E-16	2.23E-15	-15.625319
0.50000	-119.198030	6.249596	-7.33E-16	-5.03E-16	2.38E-15	-16.883734
1.00000	-114.726685	8.682838	-1.03E-15	-5.03E-16	2.60E-15	-18.763209

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-123.796040	3.744894	-4.30E-16	-5.03E-16	2.23E-15	-15.625319
0.50000	-119.198030	6.249596	-7.33E-16	-5.03E-16	2.38E-15	-16.883734
1.00000	-114.726685	8.682838	-1.03E-15	-5.03E-16	2.60E-15	-18.763209

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-105.803138	-3.000449	3.57E-16	-1.18E-16	1.07E-15	-9.375263
0.50000	-102.017231	0.004653	-7.28E-18	-1.18E-16	1.03E-15	-9.000304
1.00000	-98.335283	2.923404	-3.61E-16	-1.18E-16	1.07E-15	-9.370408

COMB COMB5 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-105.803138	-3.000449	3.57E-16	-1.18E-16	1.07E-15	-9.375263
0.50000	-102.017231	0.004653	-7.28E-18	-1.18E-16	1.03E-15	-9.000304
1.00000	-98.335283	2.923404	-3.61E-16	-1.18E-16	1.07E-15	-9.370408

COMB COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-105.854867	-2.757446	3.26E-16	-1.68E-16	9.12E-16	-8.103808
0.50000	-102.068960	0.247656	-3.80E-17	-1.68E-16	8.76E-16	-7.789971
1.00000	-98.387012	3.166407	-3.92E-16	-1.68E-16	9.30E-16	-8.221195

COMB COMB6 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-105.854867	-2.757446	3.26E-16	-1.68E-16	9.12E-16	-8.103808
0.50000	-102.068960	0.247656	-3.80E-17	-1.68E-16	8.76E-16	-7.789971
1.00000	-98.387012	3.166407	-3.92E-16	-1.68E-16	9.30E-16	-8.221195

COMB COMB7 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-105.717633	-3.402149	4.08E-16	-3.48E-17	1.30E-15	-11.154679
0.50000	-101.931727	-0.397047	4.37E-17	-3.48E-17	1.24E-15	-10.678684
1.00000	-98.249779	2.521704	-3.10E-16	-3.48E-17	1.27E-15	-10.947750

COMB COMB7 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-105.717633	-3.402149	4.08E-16	-3.48E-17	1.30E-15	-11.154679
0.50000	-101.931727	-0.397047	4.37E-17	-3.48E-17	1.24E-15	-10.678684
1.00000	-98.249779	2.521704	-3.10E-16	-3.48E-17	1.27E-15	-10.947750

F R A M E E L E M E N T I N T E R N A L F O R C E S

ELEM 7 ========== LENGTH = 0.503047

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-150.270604	-12.236220	1.46E-15	4.02E-17	1.03E-15	-11.090577
0.50000	-145.332347	-6.910268	8.11E-16	4.02E-17	7.49E-16	-8.685970
1.00000	-140.533156	-1.742105	1.85E-16	4.02E-17	6.24E-16	-7.601237

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-150.270604	-12.236220	1.46E-15	4.02E-17	1.03E-15	-11.090577
0.50000	-145.332347	-6.910268	8.11E-16	4.02E-17	7.49E-16	-8.685970
1.00000	-140.533156	-1.742105	1.85E-16	4.02E-17	6.24E-16	-7.601237

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-153.571535	-1.694564	2.33E-16	-7.55E-16	3.23E-15	-22.651598
0.50000	-148.082776	1.967410	-2.10E-16	-7.55E-16	3.23E-15	-22.688149
1.00000	-142.749750	5.521972	-6.41E-16	-7.55E-16	3.34E-15	-23.632345

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-153.571535	-1.694564	2.33E-16	-7.55E-16	3.23E-15	-22.651598
0.50000	-148.082776	1.967410	-2.10E-16	-7.55E-16	3.23E-15	-22.688149
1.00000	-142.749750	5.521972	-6.41E-16	-7.55E-16	3.34E-15	-23.632345

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-115.261294	-1.003916	1.41E-16	-6.22E-16	2.27E-15	-15.695834
0.50000	-111.144725	1.742564	-1.92E-16	-6.22E-16	2.28E-15	-15.790406
1.00000	-107.144955	4.408486	-5.14E-16	-6.22E-16	2.37E-15	-16.565711

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-115.261294	-1.003916	1.41E-16	-6.22E-16	2.27E-15	-15.695834
0.50000	-111.144725	1.742564	-1.92E-16	-6.22E-16	2.28E-15	-15.790406
1.00000	-107.144955	4.408486	-5.14E-16	-6.22E-16	2.37E-15	-16.565711

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-115.042044	-1.712303	2.31E-16	-4.72E-16	2.64E-15	-18.763209
0.50000	-110.925475	1.034178	-1.02E-16	-4.72E-16	2.63E-15	-18.679605
1.00000	-106.925706	3.700100	-4.25E-16	-4.72E-16	2.69E-15	-19.276734

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-115.042044	-1.712303	2.31E-16	-4.72E-16	2.64E-15	-18.763209
0.50000	-110.925475	1.034178	-1.02E-16	-4.72E-16	2.63E-15	-18.679605
1.00000	-106.925706	3.700100	-4.25E-16	-4.72E-16	2.69E-15	-19.276734

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-98.197537	-5.968086	7.16E-16	-1.23E-16	1.08E-15	-9.370408
0.50000	-94.887607	-2.821822	3.35E-16	-1.23E-16	9.52E-16	-8.266912
1.00000	-91.671108	0.231433	-3.47E-17	-1.23E-16	9.15E-16	-7.943147

COMB COMB5 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-98.197537	-5.968086	7.16E-16	-1.23E-16	1.08E-15	-9.370408
0.50000	-94.887607	-2.821822	3.35E-16	-1.23E-16	9.52E-16	-8.266912
1.00000	-91.671108	0.231433	-3.47E-17	-1.23E-16	9.15E-16	-7.943147

COMB COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-98.270997	-5.730747	6.86E-16	-1.73E-16	9.46E-16	-8.221195
0.50000	-94.961067	-2.584482	3.05E-16	-1.73E-16	8.21E-16	-7.177395
1.00000	-91.744568	0.468772	-6.48E-17	-1.73E-16	7.91E-16	-6.913327

COMB COMB6 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-98.270997	-5.730747	6.86E-16	-1.73E-16	9.46E-16	-8.221195
0.50000	-94.961067	-2.584482	3.05E-16	-1.73E-16	8.21E-16	-7.177395
1.00000	-91.744568	0.468772	-6.48E-17	-1.73E-16	7.91E-16	-6.913327

COMB COMB7 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-98.076108	-6.360423	7.66E-16	-3.94E-17	1.28E-15	-10.947750
0.50000	-94.766179	-3.214159	3.85E-16	-3.94E-17	1.13E-15	-9.745572
1.00000	-91.549679	-0.160905	1.51E-17	-3.94E-17	1.08E-15	-9.323125

COMB COMB7 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-98.076108	-6.360423	7.66E-16	-3.94E-17	1.28E-15	-10.947750
0.50000	-94.766179	-3.214159	3.85E-16	-3.94E-17	1.13E-15	-9.745572
1.00000	-91.549679	-0.160905	1.51E-17	-3.94E-17	1.08E-15	-9.323125

F R A M E E L E M E N T I N T E R N A L F O R C E S

ELEM 8 ========== LENGTH = 0.503047

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-139.801704	-14.425208	1.72E-15	1.33E-17	6.22E-16	-7.601237
0.50000	-135.609364	-9.009528	1.07E-15	1.33E-17	2.72E-16	-4.657458
1.00000	-131.536811	-3.757620	4.29E-16	1.33E-17	8.44E-17	-3.055370

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-139.801704	-14.425208	1.72E-15	1.33E-17	6.22E-16	-7.601237
0.50000	-135.609364	-9.009528	1.07E-15	1.33E-17	2.72E-16	-4.657458
1.00000	-131.536811	-3.757620	4.29E-16	1.33E-17	8.44E-17	-3.055370

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-142.665192	-7.390968	9.23E-16	-7.08E-16	3.41E-15	-23.632345
0.50000	-137.816922	-3.486838	4.50E-16	-7.08E-16	3.23E-15	-22.266767
1.00000	-133.107057	0.300508	-8.53E-18	-7.08E-16	3.18E-15	-21.868567

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-142.665192	-7.390968	9.23E-16	-7.08E-16	3.41E-15	-23.632345
0.50000	-137.816922	-3.486838	4.50E-16	-7.08E-16	3.23E-15	-22.266767
1.00000	-133.107057	0.300508	-8.53E-18	-7.08E-16	3.18E-15	-21.868567

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-107.105310	-5.284773	6.59E-16	-5.87E-16	2.42E-15	-16.565711
0.50000	-103.468432	-2.356675	3.05E-16	-5.87E-16	2.30E-15	-15.606535
1.00000	-99.936709	0.483835	-3.92E-17	-5.87E-16	2.27E-15	-15.372892

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-107.105310	-5.284773	6.59E-16	-5.87E-16	2.42E-15	-16.565711
0.50000	-103.468432	-2.356675	3.05E-16	-5.87E-16	2.30E-15	-15.606535
1.00000	-99.936709	0.483835	-3.92E-17	-5.87E-16	2.27E-15	-15.372892

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-106.822988	-5.970467	7.47E-16	-4.38E-16	2.73E-15	-19.276734
0.50000	-103.186111	-3.042369	3.92E-16	-4.38E-16	2.59E-15	-18.145090
1.00000	-99.654387	-0.201859	4.80E-17	-4.38E-16	2.54E-15	-17.738979

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-106.822988	-5.970467	7.47E-16	-4.38E-16	2.73E-15	-19.276734
0.50000	-103.186111	-3.042369	3.92E-16	-4.38E-16	2.59E-15	-18.145090
1.00000	-99.654387	-0.201859	4.80E-17	-4.38E-16	2.54E-15	-17.738979

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-91.317489	-8.047464	9.68E-16	-1.27E-16	9.26E-16	-7.943147
0.50000	-88.471976	-4.814341	5.76E-16	-1.27E-16	7.32E-16	-6.327657
1.00000	-85.708076	-1.678748	1.97E-16	-1.27E-16	6.35E-16	-5.513178

COMB COMB5 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-91.317489	-8.047464	9.68E-16	-1.27E-16	9.26E-16	-7.943147
0.50000	-88.471976	-4.814341	5.76E-16	-1.27E-16	7.32E-16	-6.327657
1.00000	-85.708076	-1.678748	1.97E-16	-1.27E-16	6.35E-16	-5.513178

COMB COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-91.412081	-7.817728	9.39E-16	-1.76E-16	8.07E-16	-6.913327
0.50000	-88.566568	-4.584604	5.47E-16	-1.76E-16	6.20E-16	-5.355621
1.00000	-85.802668	-1.449012	1.67E-16	-1.76E-16	5.31E-16	-4.598926

COMB COMB6 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-91.412081	-7.817728	9.39E-16	-1.76E-16	8.07E-16	-6.913327
0.50000	-88.566568	-4.584604	5.47E-16	-1.76E-16	6.20E-16	-5.355621
1.00000	-85.802668	-1.449012	1.67E-16	-1.76E-16	5.31E-16	-4.598926

COMB COMB7 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-91.161129	-8.427233	1.02E-15	-4.35E-17	1.09E-15	-9.323125
0.50000	-88.315615	-5.194110	6.25E-16	-4.35E-17	8.79E-16	-7.612114
1.00000	-85.551716	-2.058517	2.45E-16	-4.35E-17	7.70E-16	-6.702114

COMB COMB7 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-91.161129	-8.427233	1.02E-15	-4.35E-17	1.09E-15	-9.323125
0.50000	-88.315615	-5.194110	6.25E-16	-4.35E-17	8.79E-16	-7.612114
1.00000	-85.551716	-2.058517	2.45E-16	-4.35E-17	7.70E-16	-6.702114

F R A M E E L E M E N T I N T E R N A L F O R C E S

ELEM 9 ========== LENGTH = 0.503060

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-130.671160	-15.527404	1.85E-15	-1.23E-17	8.44E-17	-3.055370
0.50000	-127.186695	-10.099661	1.20E-15	-1.23E-17	-2.99E-16	0.164152
1.00000	-123.801965	-4.837255	5.60E-16	-1.23E-17	-5.20E-16	2.039228

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-130.671160	-15.527404	1.85E-15	-1.23E-17	8.44E-17	-3.055370
0.50000	-127.186695	-10.099661	1.20E-15	-1.23E-17	-2.99E-16	0.164152
1.00000	-123.801965	-4.837255	5.60E-16	-1.23E-17	-5.20E-16	2.039228

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-132.598675	-11.626281	1.44E-15	-6.58E-16	3.24E-15	-21.868567
0.50000	-128.372839	-7.556778	9.43E-16	-6.58E-16	2.94E-15	-19.458579
1.00000	-124.270056	-3.609890	4.65E-16	-6.58E-16	2.76E-15	-18.056774

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-132.598675	-11.626281	1.44E-15	-6.58E-16	3.24E-15	-21.868567
0.50000	-128.372839	-7.556778	9.43E-16	-6.58E-16	2.94E-15	-19.458579
1.00000	-124.270056	-3.609890	4.65E-16	-6.58E-16	2.76E-15	-18.056774

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-99.578150	-8.471831	1.05E-15	-5.48E-16	2.32E-15	-15.372892
0.50000	-96.408773	-5.419704	6.76E-16	-5.48E-16	2.10E-15	-13.627751
1.00000	-93.331686	-2.459538	3.17E-16	-5.48E-16	1.98E-15	-12.638745

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-99.578150	-8.471831	1.05E-15	-5.48E-16	2.32E-15	-15.372892
0.50000	-96.408773	-5.419704	6.76E-16	-5.48E-16	2.10E-15	-13.627751
1.00000	-93.331686	-2.459538	3.17E-16	-5.48E-16	1.98E-15	-12.638745

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-99.235530	-9.129473	1.13E-15	-4.01E-16	2.57E-15	-17.738979
0.50000	-96.066153	-6.077346	7.60E-16	-4.01E-16	2.34E-15	-15.828421
1.00000	-92.989066	-3.117180	4.01E-16	-4.01E-16	2.19E-15	-14.673999

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-99.235530	-9.129473	1.13E-15	-4.01E-16	2.57E-15	-17.738979
0.50000	-96.066153	-6.077346	7.60E-16	-4.01E-16	2.34E-15	-15.828421
1.00000	-92.989066	-3.117180	4.01E-16	-4.01E-16	2.19E-15	-14.673999

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-85.212985	-9.350918	1.13E-15	-1.29E-16	6.47E-16	-5.513178
0.50000	-82.811272	-6.081202	7.30E-16	-1.29E-16	4.14E-16	-3.574440
1.00000	-80.478696	-2.910833	3.46E-16	-1.29E-16	2.79E-16	-2.445639

COMB COMB5 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-85.212985	-9.350918	1.13E-15	-1.29E-16	6.47E-16	-5.513178
0.50000	-82.811272	-6.081202	7.30E-16	-1.29E-16	4.14E-16	-3.574440
1.00000	-80.478696	-2.910833	3.46E-16	-1.29E-16	2.79E-16	-2.445639

COMB COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-85.327780	-9.130580	1.10E-15	-1.78E-16	5.47E-16	-4.598926
0.50000	-82.926066	-5.860864	7.02E-16	-1.78E-16	3.21E-16	-2.715609
1.00000	-80.593490	-2.690496	3.18E-16	-1.78E-16	1.93E-16	-1.642230

COMB COMB6 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-85.327780	-9.130580	1.10E-15	-1.78E-16	5.47E-16	-4.598926
0.50000	-82.926066	-5.860864	7.02E-16	-1.78E-16	3.21E-16	-2.715609
1.00000	-80.593490	-2.690496	3.18E-16	-1.78E-16	1.93E-16	-1.642230

COMB COMB7 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-85.023229	-9.715151	1.17E-15	-4.71E-17	7.74E-16	-6.702114
0.50000	-82.621515	-6.445435	7.76E-16	-4.71E-17	5.30E-16	-4.671760
1.00000	-80.288939	-3.275067	3.92E-16	-4.71E-17	3.83E-16	-3.451344

COMB COMB7 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-85.023229	-9.715151	1.17E-15	-4.71E-17	7.74E-16	-6.702114
0.50000	-82.621515	-6.445435	7.76E-16	-4.71E-17	5.30E-16	-4.671760
1.00000	-80.288939	-3.275067	3.92E-16	-4.71E-17	3.83E-16	-3.451344

F R A M E E L E M E N T I N T E R N A L F O R C E S

ELEM 10 ========== LENGTH = 0.503126

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-123.115504	-13.888779	1.66E-15	-3.22E-17	-5.18E-16	2.039228
0.50000	-120.230667	-8.573704	1.01E-15	-3.22E-17	-8.53E-16	4.861131
1.00000	-117.429811	-3.424155	3.89E-16	-3.22E-17	-1.03E-15	6.366716

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-123.115504	-13.888779	1.66E-15	-3.22E-17	-5.18E-16	2.039228
0.50000	-120.230667	-8.573704	1.01E-15	-3.22E-17	-8.53E-16	4.861131
1.00000	-117.429811	-3.424155	3.89E-16	-3.22E-17	-1.03E-15	6.366716

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-123.672204	-12.698981	1.57E-15	-6.14E-16	2.81E-15	-18.056774
0.50000	-120.000651	-8.603434	1.07E-15	-6.14E-16	2.48E-15	-15.379964
1.00000	-116.438442	-4.634099	5.89E-16	-6.14E-16	2.27E-15	-13.717614

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-123.672204	-12.698981	1.57E-15	-6.14E-16	2.81E-15	-18.056774
0.50000	-120.000651	-8.603434	1.07E-15	-6.14E-16	2.48E-15	-15.379964
1.00000	-116.438442	-4.634099	5.89E-16	-6.14E-16	2.27E-15	-13.717614

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-92.901099	-9.286477	1.14E-15	-5.14E-16	2.02E-15	-12.638745
0.50000	-90.147435	-6.214817	7.72E-16	-5.14E-16	1.77E-15	-10.690949
1.00000	-87.475778	-3.237815	4.12E-16	-5.14E-16	1.63E-15	-9.503998

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-92.901099	-9.286477	1.14E-15	-5.14E-16	2.02E-15	-12.638745
0.50000	-90.147435	-6.214817	7.72E-16	-5.14E-16	1.77E-15	-10.690949
1.00000	-87.475778	-3.237815	4.12E-16	-5.14E-16	1.63E-15	-9.503998

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-92.511247	-9.917268	1.22E-15	-3.70E-16	2.22E-15	-14.673999
0.50000	-89.757583	-6.845608	8.53E-16	-3.70E-16	1.96E-15	-12.567519
1.00000	-87.085926	-3.868607	4.92E-16	-3.70E-16	1.79E-15	-11.221884

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-92.511247	-9.917268	1.22E-15	-3.70E-16	2.22E-15	-14.673999
0.50000	-89.757583	-6.845608	8.53E-16	-3.70E-16	1.96E-15	-12.567519
1.00000	-87.085926	-3.868607	4.92E-16	-3.70E-16	1.79E-15	-11.221884

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-80.049564	-8.795493	1.06E-15	-1.30E-16	2.88E-16	-2.445639
0.50000	-78.028713	-5.572917	6.68E-16	-1.30E-16	7.11E-17	-0.640452
1.00000	-76.067153	-2.450451	2.90E-16	-1.30E-16	-4.91E-17	0.366608

COMB COMB5 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-80.049564	-8.795493	1.06E-15	-1.30E-16	2.88E-16	-2.445639
0.50000	-78.028713	-5.572917	6.68E-16	-1.30E-16	7.11E-17	-0.640452
1.00000	-76.067153	-2.450451	2.90E-16	-1.30E-16	-4.91E-17	0.366608

COMB COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-80.180183	-8.584152	1.03E-15	-1.78E-16	2.06E-16	-1.642230
0.50000	-78.159332	-5.361576	6.41E-16	-1.78E-16	-4.50E-18	0.109791
1.00000	-76.197772	-2.239110	2.63E-16	-1.78E-16	-1.18E-16	1.063686

COMB COMB6 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-80.180183	-8.584152	1.03E-15	-1.78E-16	2.06E-16	-1.642230
0.50000	-78.159332	-5.361576	6.41E-16	-1.78E-16	-4.50E-18	0.109791
1.00000	-76.197772	-2.239110	2.63E-16	-1.78E-16	-1.18E-16	1.063686

COMB COMB7 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-79.833648	-9.144856	1.10E-15	-4.95E-17	3.86E-16	-3.451344
0.50000	-77.812797	-5.922280	7.13E-16	-4.95E-17	1.58E-16	-1.558271
1.00000	-75.851237	-2.799813	3.35E-16	-4.95E-17	2.67E-17	-0.463324

COMB COMB7 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-79.833648	-9.144856	1.10E-15	-4.95E-17	3.86E-16	-3.451344
0.50000	-77.812797	-5.922280	7.13E-16	-4.95E-17	1.58E-16	-1.558271
1.00000	-75.851237	-2.799813	3.35E-16	-4.95E-17	2.67E-17	-0.463324

F R A M E E L E M E N T I N T E R N A L F O R C E S

ELEM 11 ========== LENGTH = 0.503126

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-116.943879	-11.207785	1.33E-15	-4.93E-17	-1.03E-15	6.366716
0.50000	-114.561480	-6.049596	7.07E-16	-4.93E-17	-1.28E-15	8.533967
1.00000	-112.248405	-1.054443	1.02E-16	-4.93E-17	-1.38E-15	9.424055

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-116.943879	-11.207785	1.33E-15	-4.93E-17	-1.03E-15	6.366716
0.50000	-114.561480	-6.049596	7.07E-16	-4.93E-17	-1.28E-15	8.533967
1.00000	-112.248405	-1.054443	1.02E-16	-4.93E-17	-1.38E-15	9.424055

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-115.874418	-12.349288	1.52E-15	-5.72E-16	2.31E-15	-13.717614
0.50000	-112.681171	-8.281704	1.03E-15	-5.72E-16	1.99E-15	-11.125275
1.00000	-109.583942	-4.341255	5.54E-16	-5.72E-16	1.79E-15	-9.540246

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-115.874418	-12.349288	1.52E-15	-5.72E-16	2.31E-15	-13.717614
0.50000	-112.681171	-8.281704	1.03E-15	-5.72E-16	1.99E-15	-11.125275
1.00000	-109.583942	-4.341255	5.54E-16	-5.72E-16	1.79E-15	-9.540246

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-87.068210	-9.034481	1.11E-15	-4.82E-16	1.66E-15	-9.503998
0.50000	-84.673276	-5.983793	7.44E-16	-4.82E-16	1.43E-15	-7.616971
1.00000	-82.350354	-3.028456	3.86E-16	-4.82E-16	1.28E-15	-6.485426

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-87.068210	-9.034481	1.11E-15	-4.82E-16	1.66E-15	-9.503998
0.50000	-84.673276	-5.983793	7.44E-16	-4.82E-16	1.43E-15	-7.616971
1.00000	-82.350354	-3.028456	3.86E-16	-4.82E-16	1.28E-15	-6.485426

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-86.637367	-9.638016	1.19E-15	-3.41E-16	1.81E-15	-11.221884
0.50000	-84.242432	-6.587328	8.21E-16	-3.41E-16	1.56E-15	-9.183030
1.00000	-81.919510	-3.631991	4.63E-16	-3.41E-16	1.40E-15	-7.899658

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-86.637367	-9.638016	1.19E-15	-3.41E-16	1.81E-15	-11.221884
0.50000	-84.242432	-6.587328	8.21E-16	-3.41E-16	1.56E-15	-9.183030
1.00000	-81.919510	-3.631991	4.63E-16	-3.41E-16	1.40E-15	-7.899658

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-75.736964	-7.491917	9.01E-16	-1.30E-16	-4.05E-17	0.366608
0.50000	-74.037844	-4.347030	5.20E-16	-1.30E-16	-2.19E-16	1.853656
1.00000	-72.388748	-1.301277	1.51E-16	-1.30E-16	-3.03E-16	2.561999

COMB COMB5 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-75.736964	-7.491917	9.01E-16	-1.30E-16	-4.05E-17	0.366608
0.50000	-74.037844	-4.347030	5.20E-16	-1.30E-16	-2.19E-16	1.853656
1.00000	-72.388748	-1.301277	1.51E-16	-1.30E-16	-3.03E-16	2.561999

COMB COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-75.881316	-7.289708	8.75E-16	-1.77E-16	-1.06E-16	1.063686
0.50000	-74.182197	-4.144821	4.94E-16	-1.77E-16	-2.78E-16	2.499865
1.00000	-72.533101	-1.099068	1.25E-16	-1.77E-16	-3.56E-16	3.157340

COMB COMB6 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-75.881316	-7.289708	8.75E-16	-1.77E-16	-1.06E-16	1.063686
0.50000	-74.182197	-4.144821	4.94E-16	-1.77E-16	-2.78E-16	2.499865
1.00000	-72.533101	-1.099068	1.25E-16	-1.77E-16	-3.56E-16	3.157340

COMB COMB7 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-75.498344	-7.826184	9.43E-16	-5.14E-17	3.00E-17	-0.463324
0.50000	-73.799225	-4.681297	5.63E-16	-5.14E-17	-1.59E-16	1.107813
1.00000	-72.150128	-1.635544	1.94E-16	-5.14E-17	-2.54E-16	1.900245

COMB COMB7 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-75.498344	-7.826184	9.43E-16	-5.14E-17	3.00E-17	-0.463324
0.50000	-73.799225	-4.681297	5.63E-16	-5.14E-17	-1.59E-16	1.107813
1.00000	-72.150128	-1.635544	1.94E-16	-5.14E-17	-2.54E-16	1.900245

F R A M E E L E M E N T I N T E R N A L F O R C E S

ELEM 12 ========== LENGTH = 0.503125

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-111.931109	-8.499597	1.00E-15	-6.53E-17	-1.38E-15	9.424055
0.50000	-110.011145	-3.523928	4.01E-16	-6.53E-17	-1.56E-15	10.933075
1.00000	-108.146710	1.293142	-1.82E-16	-6.53E-17	-1.58E-15	11.210292

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-111.931109	-8.499597	1.00E-15	-6.53E-17	-1.38E-15	9.424055
0.50000	-110.011145	-3.523928	4.01E-16	-6.53E-17	-1.56E-15	10.933075
1.00000	-108.146710	1.293142	-1.82E-16	-6.53E-17	-1.58E-15	11.210292

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-109.054443	-11.602384	1.43E-15	-5.29E-16	1.83E-15	-9.540246
0.50000	-106.310144	-7.594125	9.48E-16	-5.29E-16	1.53E-15	-7.128325
1.00000	-103.648842	-3.712230	4.77E-16	-5.29E-16	1.35E-15	-5.708884

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-109.054443	-11.602384	1.43E-15	-5.29E-16	1.83E-15	-9.540246
0.50000	-106.310144	-7.594125	9.48E-16	-5.29E-16	1.53E-15	-7.128325
1.00000	-103.648842	-3.712230	4.77E-16	-5.29E-16	1.35E-15	-5.708884

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-81.967965	-8.485579	1.05E-15	-4.48E-16	1.31E-15	-6.485426
0.50000	-79.909740	-5.479384	6.83E-16	-4.48E-16	1.10E-15	-4.730875
1.00000	-77.913764	-2.567963	3.30E-16	-4.48E-16	9.70E-16	-3.720685

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-81.967965	-8.485579	1.05E-15	-4.48E-16	1.31E-15	-6.485426
0.50000	-79.909740	-5.479384	6.83E-16	-4.48E-16	1.10E-15	-4.730875
1.00000	-77.913764	-2.567963	3.30E-16	-4.48E-16	9.70E-16	-3.720685

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-81.498027	-9.059199	1.12E-15	-3.11E-16	1.42E-15	-7.899658
0.50000	-79.439802	-6.053004	7.57E-16	-3.11E-16	1.18E-15	-6.000805
1.00000	-77.443826	-3.141583	4.04E-16	-3.11E-16	1.04E-15	-4.846314

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-81.498027	-9.059199	1.12E-15	-3.11E-16	1.42E-15	-7.899658
0.50000	-79.439802	-6.053004	7.57E-16	-3.11E-16	1.18E-15	-6.000805
1.00000	-77.443826	-3.141583	4.04E-16	-3.11E-16	1.04E-15	-4.846314

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-72.142904	-6.101271	7.32E-16	-1.29E-16	-2.94E-16	2.561999
0.50000	-70.741537	-3.051794	3.63E-16	-1.29E-16	-4.32E-16	3.711258
1.00000	-69.381380	-0.099256	5.31E-18	-1.29E-16	-4.78E-16	4.105539

COMB COMB5 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-72.142904	-6.101271	7.32E-16	-1.29E-16	-2.94E-16	2.561999
0.50000	-70.741537	-3.051794	3.63E-16	-1.29E-16	-4.32E-16	3.711258
1.00000	-69.381380	-0.099256	5.31E-18	-1.29E-16	-4.78E-16	4.105539

COMB COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-72.300355	-5.909085	7.08E-16	-1.75E-16	-3.44E-16	3.157340
0.50000	-70.898988	-2.859608	3.38E-16	-1.75E-16	-4.75E-16	4.258252
1.00000	-69.538831	0.092930	-1.93E-17	-1.75E-16	-5.15E-16	4.604186

COMB COMB6 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-72.300355	-5.909085	7.08E-16	-1.75E-16	-3.44E-16	3.157340
0.50000	-70.898988	-2.859608	3.38E-16	-1.75E-16	-4.75E-16	4.258252
1.00000	-69.538831	0.092930	-1.93E-17	-1.75E-16	-5.15E-16	4.604186

COMB COMB7 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-71.882632	-6.418970	7.73E-16	-5.28E-17	-2.51E-16	1.900245
0.50000	-70.481265	-3.369492	4.04E-16	-5.28E-17	-3.98E-16	3.129425
1.00000	-69.121109	-0.416955	4.61E-17	-5.26E-17	-4.55E-16	3.603627

COMB COMB7 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-71.882632	-6.418970	7.73E-16	-5.28E-17	-2.51E-16	1.900245
0.50000	-70.481265	-3.369492	4.04E-16	-5.28E-17	-3.98E-16	3.129425
1.00000	-69.121109	-0.416955	4.61E-17	-5.26E-17	-4.55E-16	3.603627

F R A M E E L E M E N T I N T E R N A L F O R C E S

ELEM 13 ========== LENGTH = 0.503127

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-107.994213	-5.884973	6.87E-16	-8.01E-17	-1.58E-15	11.210292
0.50000	-106.496704	-1.111092	1.09E-16	-8.01E-17	-1.68E-15	12.087080
1.00000	-105.041280	3.510238	-4.51E-16	-8.01E-17	-1.63E-15	11.782067

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-107.994213	-5.884973	6.87E-16	-8.01E-17	-1.58E-15	11.210292
0.50000	-106.496704	-1.111092	1.09E-16	-8.01E-17	-1.68E-15	12.087080
1.00000	-105.041280	3.510238	-4.51E-16	-8.01E-17	-1.63E-15	11.782067

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-103.174163	-10.580893	1.31E-15	-4.84E-16	1.38E-15	-5.708884
0.50000	-100.848034	-6.657949	8.34E-16	-4.84E-16	1.11E-15	-3.543144
1.00000	-98.591874	-2.858923	3.74E-16	-4.84E-16	9.62E-16	-2.348731

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-103.174163	-10.580893	1.31E-15	-4.84E-16	1.38E-15	-5.708884
0.50000	-100.848034	-6.657949	8.34E-16	-4.84E-16	1.11E-15	-3.543144
1.00000	-98.591874	-2.858923	3.74E-16	-4.84E-16	9.62E-16	-2.348731

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-77.571709	-7.731689	9.56E-16	-4.12E-16	9.98E-16	-3.720685
0.50000	-75.827113	-4.789481	5.99E-16	-4.12E-16	8.03E-16	-2.147693
1.00000	-74.134992	-1.940212	2.54E-16	-4.12E-16	6.96E-16	-1.303198

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-77.571709	-7.731689	9.56E-16	-4.12E-16	9.98E-16	-3.720685
0.50000	-75.827113	-4.789481	5.99E-16	-4.12E-16	8.03E-16	-2.147693
1.00000	-74.134992	-1.940212	2.54E-16	-4.12E-16	6.96E-16	-1.303198

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-77.064748	-8.272866	1.03E-15	-2.80E-16	1.06E-15	-4.846314
0.50000	-75.320152	-5.330658	6.69E-16	-2.80E-16	8.45E-16	-3.137182
1.00000	-73.628031	-2.481389	3.24E-16	-2.80E-16	7.20E-16	-2.156546

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-77.064748	-8.272866	1.03E-15	-2.80E-16	1.06E-15	-4.846314
0.50000	-75.320152	-5.330658	6.69E-16	-2.80E-16	8.45E-16	-3.137182
1.00000	-73.628031	-2.481389	3.24E-16	-2.80E-16	7.20E-16	-2.156546

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-69.221918	-4.702319	5.63E-16	-1.28E-16	-4.69E-16	4.105539
0.50000	-68.094069	-1.762024	2.07E-16	-1.28E-16	-5.66E-16	4.916677
1.00000	-66.998778	1.084583	-1.38E-16	-1.28E-16	-5.74E-16	4.999894

COMB COMB5 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-69.221918	-4.702319	5.63E-16	-1.28E-16	-4.69E-16	4.105539
0.50000	-68.094069	-1.762024	2.07E-16	-1.28E-16	-5.66E-16	4.916677
1.00000	-66.998778	1.084583	-1.38E-16	-1.28E-16	-5.74E-16	4.999894

COMB COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-69.391774	-4.521003	5.39E-16	-1.71E-16	-5.04E-16	4.604186
0.50000	-68.263924	-1.580708	1.83E-16	-1.71E-16	-5.94E-16	5.369712
1.00000	-67.168633	1.265899	-1.61E-16	-1.71E-16	-5.97E-16	5.407316

COMB COMB6 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-69.391774	-4.521003	5.39E-16	-1.71E-16	-5.04E-16	4.604186
0.50000	-68.263924	-1.580708	1.83E-16	-1.71E-16	-5.94E-16	5.369712
1.00000	-67.168633	1.265899	-1.61E-16	-1.71E-16	-5.97E-16	5.407316

COMB COMB7 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-68.941142	-5.002049	6.01E-16	-5.39E-17	-4.51E-16	3.603627
0.50000	-67.813292	-2.061754	2.45E-16	-5.39E-17	-5.57E-16	4.490166
1.00000	-66.718001	0.784853	-9.94E-17	-5.39E-17	-5.75E-16	4.648784

COMB COMB7 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-68.941142	-5.002049	6.01E-16	-5.39E-17	-4.51E-16	3.603627
0.50000	-67.813292	-2.061754	2.45E-16	-5.39E-17	-5.57E-16	4.490166
1.00000	-66.718001	0.784853	-9.94E-17	-5.39E-17	-5.75E-16	4.648784

F R A M E E L E M E N T I N T E R N A L F O R C E S

ELEM 14 ========== LENGTH = 0.503125

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-105.042729	-3.466614	3.94E-16	-9.37E-17	-1.63E-15	11.782067
0.50000	-103.927783	1.092200	-1.58E-16	-9.37E-17	-1.66E-15	12.077702
1.00000	-102.842657	5.506440	-6.93E-16	-9.37E-17	-1.55E-15	11.244641

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-105.042729	-3.466614	3.94E-16	-9.37E-17	-1.63E-15	11.782067
0.50000	-103.927783	1.092200	-1.58E-16	-9.37E-17	-1.66E-15	12.077702
1.00000	-102.842657	5.506440	-6.93E-16	-9.37E-17	-1.55E-15	11.244641

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-98.184961	-9.393846	1.17E-15	-4.38E-16	9.92E-16	-2.348731
0.50000	-96.245022	-5.576743	7.03E-16	-4.38E-16	7.58E-16	-0.468210
1.00000	-94.362597	-1.879315	2.55E-16	-4.38E-16	6.37E-16	0.467078

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-98.184961	-9.393846	1.17E-15	-4.38E-16	9.92E-16	-2.348731
0.50000	-96.245022	-5.576743	7.03E-16	-4.38E-16	7.58E-16	-0.468210
1.00000	-94.362597	-1.879315	2.55E-16	-4.38E-16	6.37E-16	0.467078

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-73.842920	-6.854532	8.50E-16	-3.76E-16	7.22E-16	-1.303198
0.50000	-72.387966	-3.991704	5.03E-16	-3.76E-16	5.52E-16	0.059181
1.00000	-70.976147	-1.218633	1.67E-16	-3.76E-16	4.68E-16	0.712636

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-73.842920	-6.854532	8.50E-16	-3.76E-16	7.22E-16	-1.303198
0.50000	-72.387966	-3.991704	5.03E-16	-3.76E-16	5.52E-16	0.059181
1.00000	-70.976147	-1.218633	1.67E-16	-3.76E-16	4.68E-16	0.712636

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-73.301171	-7.360881	9.15E-16	-2.49E-16	7.38E-16	-2.156546
0.50000	-71.846217	-4.498054	5.68E-16	-2.49E-16	5.51E-16	-0.666789
1.00000	-70.434398	-1.724983	2.32E-16	-2.49E-16	4.51E-16	0.114045

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-73.301171	-7.360881	9.15E-16	-2.49E-16	7.38E-16	-2.156546
0.50000	-71.846217	-4.498054	5.68E-16	-2.49E-16	5.51E-16	-0.666789
1.00000	-70.434398	-1.724983	2.32E-16	-2.49E-16	4.51E-16	0.114045

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-66.923114	-3.362939	4.01E-16	-1.25E-16	-5.66E-16	4.999894
0.50000	-66.044363	-0.541808	5.89E-17	-1.25E-16	-6.23E-16	5.489174
1.00000	-65.190170	2.190115	-2.72E-16	-1.25E-16	-5.96E-16	5.279950

COMB COMB5 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-66.923114	-3.362939	4.01E-16	-1.25E-16	-5.66E-16	4.999894
0.50000	-66.044363	-0.541808	5.89E-17	-1.25E-16	-6.23E-16	5.489174
1.00000	-65.190170	2.190115	-2.72E-16	-1.25E-16	-5.96E-16	5.279950

COMB COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-67.104625	-3.193291	3.79E-16	-1.67E-16	-5.86E-16	5.407316
0.50000	-66.225873	-0.372160	3.70E-17	-1.67E-16	-6.38E-16	5.853919
1.00000	-65.371681	2.359762	-2.94E-16	-1.67E-16	-6.05E-16	5.602018

COMB COMB6 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-67.104625	-3.193291	3.79E-16	-1.67E-16	-5.86E-16	5.407316
0.50000	-66.225873	-0.372160	3.70E-17	-1.67E-16	-6.38E-16	5.853919
1.00000	-65.371681	2.359762	-2.94E-16	-1.67E-16	-6.05E-16	5.602018

COMB COMB7 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-66.623070	-3.643380	4.37E-16	-5.46E-17	-5.72E-16	4.648784
0.50000	-65.744319	-0.822249	9.52E-17	-5.46E-17	-6.39E-16	5.208613
1.00000	-64.890126	1.909674	-2.36E-16	-5.46E-17	-6.21E-16	5.069938

COMB COMB7 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-66.623070	-3.643380	4.37E-16	-5.46E-17	-5.72E-16	4.648784
0.50000	-65.744319	-0.822249	9.52E-17	-5.46E-17	-6.39E-16	5.208613
1.00000	-64.890126	1.909674	-2.36E-16	-5.46E-17	-6.21E-16	5.069938

F R A M E E L E M E N T I N T E R N A L F O R C E S

ELEM 15 ========== LENGTH = 0.503125

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-102.981390	-1.329016	1.35E-16	-1.06E-16	-1.54E-15	11.244641
0.50000	-102.210804	3.007682	-3.90E-16	-1.06E-16	-1.51E-15	11.030673
1.00000	-101.458845	7.209289	-8.99E-16	-1.06E-16	-1.35E-15	9.742695

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-102.981390	-1.329016	1.35E-16	-1.06E-16	-1.54E-15	11.244641
0.50000	-102.210804	3.007682	-3.90E-16	-1.06E-16	-1.51E-15	11.030673
1.00000	-101.458845	7.209289	-8.99E-16	-1.06E-16	-1.35E-15	9.742695

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-94.029991	-8.135869	1.01E-15	-3.91E-16	6.65E-16	0.467078
0.50000	-92.444303	-4.439509	5.66E-16	-3.91E-16	4.67E-16	2.046446
1.00000	-90.904296	-0.856987	1.32E-16	-3.91E-16	3.79E-16	2.710225

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-94.029991	-8.135869	1.01E-15	-3.91E-16	6.65E-16	0.467078
0.50000	-92.444303	-4.439509	5.66E-16	-3.91E-16	4.67E-16	2.046446
1.00000	-90.904296	-0.856987	1.32E-16	-3.91E-16	3.79E-16	2.710225

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-70.738905	-5.925017	7.37E-16	-3.38E-16	4.92E-16	0.712636
0.50000	-69.549640	-3.152747	4.01E-16	-3.38E-16	3.49E-16	1.852664
1.00000	-68.394634	-0.465856	7.58E-17	-3.38E-16	2.89E-16	2.306001

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-70.738905	-5.925017	7.37E-16	-3.38E-16	4.92E-16	0.712636
0.50000	-69.549640	-3.152747	4.01E-16	-3.38E-16	3.49E-16	1.852664
1.00000	-68.394634	-0.465856	7.58E-17	-3.38E-16	2.89E-16	2.306001

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-70.164755	-6.394307	7.98E-16	-2.17E-16	4.66E-16	0.114045
0.50000	-68.975489	-3.622037	4.62E-16	-2.17E-16	3.08E-16	1.372129
1.00000	-67.820484	-0.935146	1.37E-16	-2.17E-16	2.33E-16	1.943522

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-70.164755	-6.394307	7.98E-16	-2.17E-16	4.66E-16	0.114045
0.50000	-68.975489	-3.622037	4.62E-16	-2.17E-16	3.08E-16	1.372129
1.00000	-67.820484	-0.935146	1.37E-16	-2.17E-16	2.33E-16	1.943522

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-65.191838	-2.139896	2.52E-16	-1.22E-16	-5.88E-16	5.279950
0.50000	-64.538552	0.556020	-7.41E-17	-1.22E-16	-6.10E-16	5.477422
1.00000	-63.902437	3.168202	-3.90E-16	-1.22E-16	-5.52E-16	5.007203

COMB COMB5 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-65.191838	-2.139896	2.52E-16	-1.22E-16	-5.88E-16	5.279950
0.50000	-64.538552	0.556020	-7.41E-17	-1.22E-16	-6.10E-16	5.477422
1.00000	-63.902437	3.168202	-3.90E-16	-1.22E-16	-5.52E-16	5.007203

COMB COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-65.384204	-1.982665	2.32E-16	-1.62E-16	-5.94E-16	5.602018
0.50000	-64.730919	0.713251	-9.44E-17	-1.62E-16	-6.11E-16	5.759937
1.00000	-64.094803	3.325433	-4.11E-16	-1.62E-16	-5.48E-16	5.250165

COMB COMB6 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-65.384204	-1.982665	2.32E-16	-1.62E-16	-5.94E-16	5.602018
0.50000	-64.730919	0.713251	-9.44E-17	-1.62E-16	-6.11E-16	5.759937
1.00000	-64.094803	3.325433	-4.11E-16	-1.62E-16	-5.48E-16	5.250165

COMB COMB7 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-64.873848	-2.399812	2.86E-16	-5.49E-17	-6.17E-16	5.069938
0.50000	-64.220563	0.296104	-4.02E-17	-5.49E-17	-6.48E-16	5.332795
1.00000	-63.584448	2.908286	-3.57E-16	-5.49E-17	-5.98E-16	4.927961

COMB COMB7 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-64.873848	-2.399812	2.86E-16	-5.49E-17	-6.17E-16	5.069938
0.50000	-64.220563	0.296104	-4.02E-17	-5.49E-17	-6.48E-16	5.332795
1.00000	-63.584448	2.908286	-3.57E-16	-5.49E-17	-5.98E-16	4.927961

F R A M E E L E M E N T I N T E R N A L F O R C E S

ELEM 16 ═══════ LENGTH = 0.503126

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-101.713607	0.461659	-8.18E-17	-1.17E-16	-1.34E-15	9.742695
0.50000	-101.251176	4.574592	-5.80E-16	-1.17E-16	-1.26E-15	9.106631
1.00000	-100.797432	8.563317	-1.06E-15	-1.17E-16	-1.05E-15	7.451482

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-101.713607	0.461659	-8.18E-17	-1.17E-16	-1.34E-15	9.742695
0.50000	-101.251176	4.574592	-5.80E-16	-1.17E-16	-1.26E-15	9.106631
1.00000	-100.797432	8.563317	-1.06E-15	-1.17E-16	-1.05E-15	7.451482

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-90.647123	-6.886553	8.62E-16	-3.43E-16	4.04E-16	2.710225
0.50000	-89.384322	-3.320591	4.30E-16	-3.43E-16	2.41E-16	3.991870
1.00000	-88.156178	0.138912	1.10E-17	-3.43E-16	1.86E-16	4.389801

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-90.647123	-6.886553	8.62E-16	-3.43E-16	4.04E-16	2.710225
0.50000	-89.384322	-3.320591	4.30E-16	-3.43E-16	2.41E-16	3.991870
1.00000	-88.156178	0.138912	1.10E-17	-3.43E-16	1.86E-16	4.389801

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-68.213013	-5.002779	6.25E-16	-2.99E-16	3.10E-16	2.306001
0.50000	-67.265913	-2.328307	3.01E-16	-2.99E-16	1.94E-16	3.226447
1.00000	-66.344805	0.266320	-1.28E-17	-2.99E-16	1.58E-16	3.484108

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-68.213013	-5.002779	6.25E-16	-2.99E-16	3.10E-16	2.306001
0.50000	-67.265913	-2.328307	3.01E-16	-2.99E-16	1.94E-16	3.226447
1.00000	-66.344805	0.266320	-1.28E-17	-2.99E-16	1.58E-16	3.484108

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-67.608991	-5.432940	6.81E-16	-1.86E-16	2.46E-16	1.943522
0.50000	-66.661891	-2.758469	3.58E-16	-1.86E-16	1.16E-16	2.972181
1.00000	-65.740782	-0.163842	4.34E-17	-1.86E-16	6.56E-17	3.338054

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-67.608991	-5.432940	6.81E-16	-1.86E-16	2.46E-16	1.943522
0.50000	-66.661891	-2.758469	3.58E-16	-1.86E-16	1.16E-16	2.972181
1.00000	-65.740782	-0.163842	4.34E-17	-1.86E-16	6.56E-17	3.338054

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-63.971833	-1.078674	1.24E-16	-1.18E-16	-5.44E-16	5.007203
0.50000	-63.521411	1.489455	-1.87E-16	-1.18E-16	-5.36E-16	4.953918
1.00000	-63.081503	3.980260	-4.89E-16	-1.18E-16	-4.50E-16	4.264283

COMB COMB5 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-63.971833	-1.078674	1.24E-16	-1.18E-16	-5.44E-16	5.007203
0.50000	-63.521411	1.489455	-1.87E-16	-1.18E-16	-5.36E-16	4.953918
1.00000	-63.081503	3.980260	-4.89E-16	-1.18E-16	-4.50E-16	4.264283

COMB COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-64.174208	-0.934553	1.05E-16	-1.56E-16	-5.37E-16	5.250165
0.50000	-63.723786	1.633576	-2.06E-16	-1.56E-16	-5.24E-16	5.160624
1.00000	-63.283877	4.124381	-5.08E-16	-1.56E-16	-4.34E-16	4.434734

COMB COMB6 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-64.174208	-0.934553	1.05E-16	-1.56E-16	-5.37E-16	5.250165
0.50000	-63.723786	1.633576	-2.06E-16	-1.56E-16	-5.24E-16	5.160624
1.00000	-63.283877	4.124381	-5.08E-16	-1.56E-16	-4.34E-16	4.434734

COMB COMB7 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-63.637299	-1.316919	1.55E-16	-5.49E-17	-5.94E-16	4.927961
0.50000	-63.186877	1.251210	-1.56E-16	-5.49E-17	-5.94E-16	4.934610
1.00000	-62.746969	3.742015	-4.58E-16	-5.49E-17	-5.16E-16	4.304909

COMB COMB7 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-63.637299	-1.316919	1.55E-16	-5.49E-17	-5.94E-16	4.927961
0.50000	-63.186877	1.251210	-1.56E-16	-5.49E-17	-5.94E-16	4.934610
1.00000	-62.746969	3.742015	-4.58E-16	-5.49E-17	-5.16E-16	4.304909

F R A M E E L E M E N T I N T E R N A L F O R C E S

ELEM 17 ═══════ LENGTH = 0.503126

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-101.143485	1.856930	-2.51E-16	-1.27E-16	-1.04E-15	7.451482
0.50000	-100.955873	5.749345	-7.22E-16	-1.27E-16	-9.20E-16	6.492407
1.00000	-100.768833	9.529505	-1.18E-15	-1.27E-16	-6.81E-16	4.568219

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-101.143485	1.856930	-2.51E-16	-1.27E-16	-1.04E-15	7.451482
0.50000	-100.955873	5.749345	-7.22E-16	-1.27E-16	-9.20E-16	6.492407
1.00000	-100.768833	9.529505	-1.18E-15	-1.27E-16	-6.81E-16	4.568219

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-87.971157	-5.710216	7.19E-16	-2.95E-16	2.07E-16	4.389801
0.50000	-87.001297	-2.279398	3.04E-16	-2.95E-16	7.88E-17	5.392701
1.00000	-86.056363	1.053536	-9.97E-17	-2.95E-16	5.34E-17	5.544808

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-87.971157	-5.710216	7.19E-16	-2.95E-16	2.07E-16	4.389801
0.50000	-87.001297	-2.279398	3.04E-16	-2.95E-16	7.88E-17	5.392701
1.00000	-86.056363	1.053536	-9.97E-17	-2.95E-16	5.34E-17	5.544808

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-66.216294	-4.135988	5.20E-16	-2.60E-16	1.76E-16	3.484108
0.50000	-65.488899	-1.562875	2.09E-16	-2.60E-16	8.48E-17	4.199386
1.00000	-64.780199	0.936826	-9.40E-17	-2.60E-16	7.06E-17	4.276568

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-66.216294	-4.135988	5.20E-16	-2.60E-16	1.76E-16	3.484108
0.50000	-65.488899	-1.562875	2.09E-16	-2.60E-16	8.48E-17	4.199386
1.00000	-64.780199	0.936826	-9.40E-17	-2.60E-16	7.06E-17	4.276568

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-65.585063	-4.525127	5.72E-16	-1.54E-16	7.69E-17	3.338054
0.50000	-64.857669	-1.952014	2.60E-16	-1.54E-16	-2.75E-17	4.151225
1.00000	-64.148968	0.547687	-4.28E-17	-1.54E-16	-5.47E-17	4.326300

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-65.585063	-4.525127	5.72E-16	-1.54E-16	7.69E-17	3.338054
0.50000	-64.857669	-1.952014	2.60E-16	-1.54E-16	-2.75E-17	4.151225
1.00000	-64.148968	0.547687	-4.28E-17	-1.54E-16	-5.47E-17	4.326300

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-63.206588	-0.213724	1.92E-17	-1.14E-16	-4.43E-16	4.264283
0.50000	-62.938020	2.227228	-2.76E-16	-1.14E-16	-4.10E-16	4.009555
1.00000	-62.674392	4.597982	-5.64E-16	-1.14E-16	-3.04E-16	3.149575

COMB COMB5 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-63.206588	-0.213724	1.92E-17	-1.14E-16	-4.43E-16	4.264283
0.50000	-62.938020	2.227228	-2.76E-16	-1.14E-16	-4.10E-16	4.009555
1.00000	-62.674392	4.597982	-5.64E-16	-1.14E-16	-3.04E-16	3.149575

COMB COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-63.418079	-0.083347	2.06E-18	-1.49E-16	-4.24E-16	4.434734
0.50000	-63.149511	2.357604	-2.94E-16	-1.49E-16	-3.87E-16	4.147208
1.00000	-62.885883	4.728358	-5.81E-16	-1.49E-16	-2.77E-16	3.254430

COMB COMB6 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-63.418079	-0.083347	2.06E-18	-1.49E-16	-4.24E-16	4.434734
0.50000	-63.149511	2.357604	-2.94E-16	-1.49E-16	-3.87E-16	4.147208
1.00000	-62.885883	4.728358	-5.81E-16	-1.49E-16	-2.77E-16	3.254430

COMB COMB7 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-62.856984	-0.429249	4.76E-17	-5.44E-17	-5.13E-16	4.304909
0.50000	-62.588417	2.011703	-2.48E-16	-5.44E-17	-4.87E-16	4.104398
1.00000	-62.324789	4.382457	-5.35E-16	-5.44E-17	-3.89E-16	3.298636

COMB COMB7 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-62.856984	-0.429249	4.76E-17	-5.44E-17	-5.13E-16	4.304909
0.50000	-62.588417	2.011703	-2.48E-16	-5.44E-17	-4.87E-16	4.104398
1.00000	-62.324789	4.382457	-5.35E-16	-5.44E-17	-3.89E-16	3.298636

F R A M E E L E M E N T I N T E R N A L F O R C E S

ELEM 18 ========== LENGTH = 0.503126

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-101.179059	2.822623	-3.68E-16	-1.35E-16	-6.72E-16	4.568219
0.50000	-101.236710	6.501979	-8.13E-16	-1.35E-16	-5.23E-16	3.393285
1.00000	-101.288091	10.082195	-1.25E-15	-1.35E-16	-2.64E-16	1.305189

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-101.179059	2.822623	-3.68E-16	-1.35E-16	-6.72E-16	4.568219
0.50000	-101.236710	6.501979	-8.13E-16	-1.35E-16	-5.23E-16	3.393285
1.00000	-101.288091	10.082195	-1.25E-15	-1.35E-16	-2.64E-16	1.305189

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-85.938638	-4.658515	5.92E-16	-2.46E-16	7.14E-17	5.544808
0.50000	-85.232069	-1.363185	1.93E-16	-2.46E-16	-2.72E-17	6.300391
1.00000	-84.543648	1.844299	-1.95E-16	-2.46E-16	-2.66E-17	6.238003

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-85.938638	-4.658515	5.92E-16	-2.46E-16	7.14E-17	5.544808
0.50000	-85.232069	-1.363185	1.93E-16	-2.46E-16	-2.72E-17	6.300391
1.00000	-84.543648	1.844299	-1.95E-16	-2.46E-16	-2.66E-17	6.238003

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-64.699613	-3.363322	4.27E-16	-2.21E-16	8.66E-17	4.276568
0.50000	-64.171186	-0.891825	1.27E-16	-2.21E-16	1.71E-17	4.810410
1.00000	-63.654870	1.513789	-1.64E-16	-2.21E-16	2.18E-17	4.730774

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-64.699613	-3.363322	4.27E-16	-2.21E-16	8.66E-17	4.276568
0.50000	-64.171186	-0.891825	1.27E-16	-2.21E-16	1.71E-17	4.810410
1.00000	-63.654870	1.513789	-1.64E-16	-2.21E-16	2.18E-17	4.730774

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-64.043954	-3.709722	4.73E-16	-1.23E-16	-4.54E-17	4.326300
0.50000	-63.515527	-1.238225	1.73E-16	-1.23E-16	-1.27E-16	4.947284
1.00000	-62.999211	1.167389	-1.18E-16	-1.23E-16	-1.33E-16	4.954789

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-64.043954	-3.709722	4.73E-16	-1.23E-16	-4.54E-17	4.326300
0.50000	-63.515527	-1.238225	1.73E-16	-1.23E-16	-1.27E-16	4.947284
1.00000	-62.999211	1.167389	-1.18E-16	-1.23E-16	-1.33E-16	4.954789

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-62.841359	0.429484	-5.87E-17	-1.08E-16	-2.97E-16	3.149575
0.50000	-62.735810	2.746637	-3.39E-16	-1.08E-16	-2.47E-16	2.748777
1.00000	-62.630395	5.001531	-6.12E-16	-1.08E-16	-1.27E-16	1.772873

COMB COMB5 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-62.841359	0.429484	-5.87E-17	-1.08E-16	-2.97E-16	3.149575
0.50000	-62.735810	2.746637	-3.39E-16	-1.08E-16	-2.47E-16	2.748777
1.00000	-62.630395	5.001531	-6.12E-16	-1.08E-16	-1.27E-16	1.772873

COMB COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-63.061034	0.545541	-7.41E-17	-1.41E-16	-2.68E-16	3.254430
0.50000	-62.955485	2.862694	-3.55E-16	-1.41E-16	-2.14E-16	2.824436
1.00000	-62.850069	5.117589	-6.28E-16	-1.41E-16	-8.98E-17	1.819337

COMB COMB6 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-63.061034	0.545541	-7.41E-17	-1.41E-16	-2.68E-16	3.254430
0.50000	-62.955485	2.862694	-3.55E-16	-1.41E-16	-2.14E-16	2.824436
1.00000	-62.850069	5.117589	-6.28E-16	-1.41E-16	-8.98E-17	1.819337

COMB COMB7 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-62.478226	0.237630	-3.32E-17	-5.36E-17	-3.85E-16	3.298636
0.50000	-62.372677	2.554782	-3.14E-16	-5.36E-17	-3.41E-16	2.946101
1.00000	-62.267262	4.809677	-5.87E-16	-5.36E-17	-2.28E-16	2.018461

COMB COMB7 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-62.478226	0.237630	-3.32E-17	-5.36E-17	-3.85E-16	3.298636
0.50000	-62.372677	2.554782	-3.14E-16	-5.36E-17	-3.41E-16	2.946101
1.00000	-62.267262	4.809677	-5.87E-16	-5.36E-17	-2.28E-16	2.018461

F R A M E E L E M E N T I N T E R N A L F O R C E S

ELEM 19 ========== LENGTH = 0.503127

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-101.733840	3.339752	-4.30E-16	-1.42E-16	-2.55E-16	1.305189
0.50000	-102.010838	6.817337	-8.51E-16	-1.42E-16	-9.34E-17	0.025828
1.00000	-102.276881	10.209429	-1.26E-15	-1.42E-16	1.73E-16	-2.117651

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-101.733840	3.339752	-4.30E-16	-1.42E-16	-2.55E-16	1.305189
0.50000	-102.010838	6.817337	-8.51E-16	-1.42E-16	-9.34E-17	0.025828
1.00000	-102.276881	10.209429	-1.26E-15	-1.42E-16	1.73E-16	-2.117651

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-84.479727	-3.769037	4.84E-16	-1.97E-16	-1.19E-17	6.238003
0.50000	-84.015221	-0.605224	1.01E-16	-1.97E-16	-8.53E-17	6.786596
1.00000	-83.559747	2.481554	-2.73E-16	-1.97E-16	-6.36E-17	6.548943

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-84.479727	-3.769037	4.84E-16	-1.97E-16	-1.19E-17	6.238003
0.50000	-84.015221	-0.605224	1.01E-16	-1.97E-16	-8.53E-17	6.786596
1.00000	-83.559747	2.481554	-2.73E-16	-1.97E-16	-6.36E-17	6.548943

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-63.615047	-2.712898	3.48E-16	-1.81E-16	3.51E-17	4.730774
0.50000	-63.266668	-0.340038	6.06E-17	-1.81E-16	-1.61E-17	5.113571
1.00000	-62.925062	1.975045	-2.20E-16	-1.81E-16	4.08E-18	4.906683

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-63.615047	-2.712898	3.48E-16	-1.81E-16	3.51E-17	4.730774
0.50000	-63.266668	-0.340038	6.06E-17	-1.81E-16	-1.61E-17	5.113571
1.00000	-62.925062	1.975045	-2.20E-16	-1.81E-16	4.08E-18	4.906683

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-62.937850	-3.015034	3.89E-16	-9.16E-17	-1.26E-16	4.954789
0.50000	-62.589471	-0.642174	1.01E-16	-9.16E-17	-1.88E-16	5.413592
1.00000	-62.247865	1.672910	-1.79E-16	-9.16E-17	-1.78E-16	5.282711

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-62.937850	-3.015034	3.89E-16	-9.16E-17	-1.26E-16	4.954789
0.50000	-62.589471	-0.642174	1.01E-16	-9.16E-17	-1.88E-16	5.413592
1.00000	-62.247865	1.672910	-1.79E-16	-9.16E-17	-1.78E-16	5.282711

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-62.824233	0.835131	-1.08E-16	-1.02E-16	-1.20E-16	1.772873
0.50000	-62.865003	3.034443	-3.74E-16	-1.02E-16	-5.91E-17	1.285025
1.00000	-62.902409	5.179826	-6.34E-16	-1.02E-16	6.78E-17	0.250670

COMB COMB5 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-62.824233	0.835131	-1.08E-16	-1.02E-16	-1.20E-16	1.772873
0.50000	-62.865003	3.034443	-3.74E-16	-1.02E-16	-5.91E-17	1.285025
1.00000	-62.902409	5.179826	-6.34E-16	-1.02E-16	6.78E-17	0.250670

COMB COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-63.051124	0.936357	-1.21E-16	-1.32E-16	-8.07E-17	1.819337
0.50000	-63.091894	3.135669	-3.88E-16	-1.32E-16	-1.66E-17	1.306024
1.00000	-63.129300	5.281052	-6.48E-16	-1.32E-16	1.14E-16	0.246208

COMB COMB6 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-63.051124	0.936357	-1.21E-16	-1.32E-16	-8.07E-17	1.819337
0.50000	-63.091894	3.135669	-3.88E-16	-1.32E-16	-1.66E-17	1.306024
1.00000	-63.129300	5.281052	-6.48E-16	-1.32E-16	1.14E-16	0.246208

COMB COMB7 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-62.449171	0.667792	-8.53E-17	-5.23E-17	-2.24E-16	2.018461
0.50000	-62.489941	2.867104	-3.52E-16	-5.23E-17	-1.69E-16	1.572710
1.00000	-62.527347	5.012487	-6.11E-16	-5.23E-17	-4.79E-17	0.580451

COMB COMB7 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-62.449171	0.667792	-8.53E-17	-5.23E-17	-2.24E-16	2.018461
0.50000	-62.489941	2.867104	-3.52E-16	-5.23E-17	-1.69E-16	1.572710
1.00000	-62.527347	5.012487	-6.11E-16	-5.23E-17	-4.79E-17	0.580451

F R A M E E L E M E N T I N T E R N A L F O R C E S

ELEM 20 ========== LENGTH = 0.503126

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-102.728890	3.401193	-4.38E-16	-1.47E-16	1.82E-16	-2.117651
0.50000	-103.204163	6.690993	-8.36E-16	-1.47E-16	3.43E-16	-3.388543
1.00000	-103.665317	9.909802	-1.23E-15	-1.47E-16	6.02E-16	-5.478134

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-102.728890	3.401193	-4.38E-16	-1.47E-16	1.82E-16	-2.117651
0.50000	-103.204163	6.690993	-8.36E-16	-1.47E-16	3.43E-16	-3.388543
1.00000	-103.665317	9.909802	-1.23E-15	-1.47E-16	6.02E-16	-5.478134

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-83.540277	-3.067833	3.99E-16	-1.48E-16	-5.21E-17	6.548643
0.50000	-83.294113	-0.028300	3.13E-17	-1.48E-16	-1.06E-16	6.937023
1.00000	-83.051123	2.946240	-3.29E-16	-1.48E-16	-6.85E-17	6.568609

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-83.540277	-3.067833	3.99E-16	-1.48E-16	-5.21E-17	6.548643
0.50000	-83.294113	-0.028300	3.13E-17	-1.48E-16	-1.06E-16	6.937023
1.00000	-83.051123	2.946240	-3.29E-16	-1.48E-16	-6.85E-17	6.568609

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-62.917453	-2.204181	2.86E-16	-1.41E-16	1.48E-17	4.906683
0.50000	-62.732830	0.075469	1.03E-17	-1.41E-16	-2.24E-17	5.173418
1.00000	-62.550588	2.306374	-2.60E-16	-1.41E-16	9.09E-18	4.872783

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-62.917453	-2.204181	2.86E-16	-1.41E-16	1.48E-17	4.906683
0.50000	-62.732830	0.075469	1.03E-17	-1.41E-16	-2.24E-17	5.173418
1.00000	-62.550588	2.306374	-2.60E-16	-1.41E-16	9.09E-18	4.872783

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-62.221702	-2.460721	3.22E-16	-6.08E-17	-1.73E-16	5.282711
0.50000	-62.037080	-0.181072	4.54E-17	-6.08E-17	-2.19E-16	5.613982
1.00000	-61.854837	2.049834	-2.25E-16	-6.08E-17	-1.96E-16	5.377883

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-62.221702	-2.460721	3.22E-16	-6.08E-17	-1.73E-16	5.282711
0.50000	-62.037080	-0.181072	4.54E-17	-6.08E-17	-2.19E-16	5.613982
1.00000	-61.854837	2.049834	-2.25E-16	-6.08E-17	-1.96E-16	5.377883

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-63.107476	0.995041	-1.27E-16	-9.56E-17	7.44E-17	0.250670
0.50000	-63.280760	3.084327	-3.80E-16	-9.56E-17	1.38E-16	-0.263378
1.00000	-63.448121	5.128640	-6.28E-16	-9.56E-17	2.65E-16	-1.297379

COMB COMB5 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-63.107476	0.995041	-1.27E-16	-9.56E-17	7.44E-17	0.250670
0.50000	-63.280760	3.084327	-3.80E-16	-9.56E-17	1.38E-16	-0.263378
1.00000	-63.448121	5.128640	-6.28E-16	-9.56E-17	2.65E-16	-1.297379

COMB COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-63.340583	1.080991	-1.39E-16	-1.22E-16	1.22E-16	0.246204
0.50000	-63.513867	3.170277	-3.92E-16	-1.22E-16	1.89E-16	-0.289466
1.00000	-63.681228	5.214590	-6.40E-16	-1.22E-16	3.19E-16	-1.345089

COMB COMB6 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-63.340583	1.080991	-1.39E-16	-1.22E-16	1.22E-16	0.246204
0.50000	-63.513867	3.170277	-3.92E-16	-1.22E-16	1.89E-16	-0.289466
1.00000	-63.681228	5.214590	-6.40E-16	-1.22E-16	3.19E-16	-1.345089

COMB COMB7 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-62.722138	0.852955	-1.08E-16	-5.07E-17	-4.44E-17	0.580451
0.50000	-62.895422	2.942241	-3.61E-16	-5.07E-17	1.46E-17	0.102147
1.00000	-63.062783	4.986555	-6.08E-16	-5.07E-17	1.37E-16	-0.896111

COMB COMB7 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-62.722138	0.852955	-1.08E-16	-5.07E-17	-4.44E-17	0.580451
0.50000	-62.895422	2.942241	-3.61E-16	-5.07E-17	1.46E-17	0.102147
1.00000	-63.062783	4.986555	-6.08E-16	-5.07E-17	1.37E-16	-0.896111

F R A M E E L E M E N T I N T E R N A L F O R C E S

ELEM 21 ========== LENGTH = 0.503126

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-104.094396	3.009783	-3.90E-16	-1.50E-16	6.12E-16	-5.478134
0.50000	-104.751394	6.128248	-7.68E-16	-1.50E-16	7.58E-16	-6.628708
1.00000	-105.393460	9.190139	-1.14E-15	-1.50E-16	9.98E-16	-8.556692

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-104.094396	3.009783	-3.90E-16	-1.50E-16	6.12E-16	-5.478134
0.50000	-104.751394	6.128248	-7.68E-16	-1.50E-16	7.58E-16	-6.628708
1.00000	-105.393460	9.190139	-1.14E-15	-1.50E-16	9.98E-16	-8.556692

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-83.063596	-2.570684	3.39E-16	-9.98E-17	-6.03E-17	6.568609
0.50000	-83.017550	0.355089	-1.51E-17	-9.98E-17	-1.01E-16	6.846191
1.00000	-82.970728	3.228167	-3.63E-16	-9.98E-17	-5.32E-17	6.394352

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-83.063596	-2.570684	3.39E-16	-9.98E-17	-6.03E-17	6.568609
0.50000	-83.017550	0.355089	-1.51E-17	-9.98E-17	-1.01E-16	6.846191
1.00000	-82.970728	3.228167	-3.63E-16	-9.98E-17	-5.32E-17	6.394352

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-62.565780	-1.848932	2.43E-16	-1.01E-16	1.71E-17	4.872783
0.50000	-62.531246	0.345397	-2.24E-17	-1.01E-16	-1.06E-17	5.061076
1.00000	-62.496129	2.500206	-2.83E-16	-1.01E-16	2.80E-17	4.702303

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-62.565780	-1.848932	2.43E-16	-1.01E-16	1.71E-17	4.872783
0.50000	-62.531246	0.345397	-2.24E-17	-1.01E-16	-1.06E-17	5.061076
1.00000	-62.496129	2.500206	-2.83E-16	-1.01E-16	2.80E-17	4.702303

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-61.854541	-2.058744	2.73E-16	-3.05E-17	-1.93E-16	5.377883
0.50000	-61.820007	0.135586	7.10E-18	-3.05E-17	-2.28E-16	5.618956
1.00000	-61.784890	2.290394	-2.54E-16	-3.05E-17	-1.97E-16	5.312964

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-61.854541	-2.058744	2.73E-16	-3.05E-17	-1.93E-16	5.377883
0.50000	-61.820007	0.135586	7.10E-18	-3.05E-17	-2.28E-16	5.618956
1.00000	-61.784890	2.290394	-2.54E-16	-3.05E-17	-1.97E-16	5.312964

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-63.648592	0.907564	-1.17E-16	-8.82E-17	2.71E-16	-1.297379
0.50000	-63.943330	2.896394	-3.57E-16	-8.82E-17	3.31E-16	-1.776597
1.00000	-64.231027	4.849215	-5.94E-16	-8.82E-17	4.51E-16	-2.751624

COMB COMB5 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-63.648592	0.907564	-1.17E-16	-8.82E-17	2.71E-16	-1.297379
0.50000	-63.943330	2.896394	-3.57E-16	-8.82E-17	3.31E-16	-1.776597
1.00000	-64.231027	4.849215	-5.94E-16	-8.82E-17	4.51E-16	-2.751624

COMB COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-63.886888	0.977858	-1.26E-16	-1.11E-16	3.27E-16	-1.345089
0.50000	-64.181626	2.966688	-3.67E-16	-1.11E-16	3.89E-16	-1.841990
1.00000	-64.469324	4.919509	-6.04E-16	-1.11E-16	5.11E-16	-2.834701

COMB COMB6 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-63.886888	0.977858	-1.26E-16	-1.11E-16	3.27E-16	-1.345089
0.50000	-64.181626	2.966688	-3.67E-16	-1.11E-16	3.89E-16	-1.841990
1.00000	-64.469324	4.919509	-6.04E-16	-1.11E-16	5.11E-16	-2.834701

COMB COMB7 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-63.254676	0.791359	-1.00E-16	-4.88E-17	1.40E-16	-0.896111
0.50000	-63.549414	2.780188	-3.41E-16	-4.88E-17	1.95E-16	-1.346097
1.00000	-63.837111	4.733010	-5.78E-16	-4.88E-17	3.11E-16	-2.291891

COMB COMB7 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-63.254676	0.791359	-1.00E-16	-4.88E-17	1.40E-16	-0.896111
0.50000	-63.549414	2.780188	-3.41E-16	-4.88E-17	1.95E-16	-1.346097
1.00000	-63.837111	4.733010	-5.78E-16	-4.88E-17	3.11E-16	-2.291891

F R A M E E L E M E N T I N T E R N A L F O R C E S

ELEM 22 ========== LENGTH = 0.503126

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-105.770974	2.177451	-2.90E-16	-1.53E-16	1.01E-15	-8.556692
0.50000	-106.598506	5.141870	-6.49E-16	-1.53E-16	1.13E-15	-9.478200
1.00000	-107.411796	8.064388	-1.00E-15	-1.53E-16	1.33E-15	-11.140209

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-105.770974	2.177451	-2.90E-16	-1.53E-16	1.01E-15	-8.556692
0.50000	-106.598506	5.141870	-6.49E-16	-1.53E-16	1.13E-15	-9.478200
1.00000	-107.411796	8.064388	-1.00E-15	-1.53E-16	1.33E-15	-11.140209

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-83.002093	-2.283724	3.04E-16	-5.17E-17	-4.81E-17	6.394352
0.50000	-83.142247	0.540555	-3.76E-17	-5.17E-17	-8.16E-17	6.612784
1.00000	-83.279095	3.325164	-3.75E-16	-5.17E-17	-2.96E-17	6.125690

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-83.002093	-2.283724	3.04E-16	-5.17E-17	-4.81E-17	6.394352
0.50000	-83.142247	0.540555	-3.76E-17	-5.17E-17	-8.16E-17	6.612784
1.00000	-83.279095	3.325164	-3.75E-16	-5.17E-17	-2.96E-17	6.125690

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-62.524309	-1.651673	2.19E-16	-6.08E-17	3.33E-17	4.702303
0.50000	-62.629424	0.466536	-3.71E-17	-6.08E-17	1.05E-17	4.850751
1.00000	-62.732059	2.554993	-2.90E-16	-6.08E-17	5.17E-17	4.470055

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-62.524309	-1.651673	2.19E-16	-6.08E-17	3.33E-17	4.702303
0.50000	-62.629424	0.466536	-3.71E-17	-6.08E-17	1.05E-17	4.850751
1.00000	-62.732059	2.554993	-2.90E-16	-6.08E-17	5.17E-17	4.470055

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-61.800717	-1.813835	2.43E-16	-7.72E-19	-1.96E-16	5.312964
0.50000	-61.905832	0.304375	-1.33E-17	-7.72E-19	-2.25E-16	5.502207
1.00000	-62.008467	2.392831	-2.66E-16	-7.72E-19	-1.90E-16	5.162304

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-61.800717	-1.813835	2.43E-16	-7.72E-19	-1.96E-16	5.312964
0.50000	-61.905832	0.304375	-1.33E-17	-7.72E-19	-2.25E-16	5.502207
1.00000	-62.008467	2.392831	-2.66E-16	-7.72E-19	-1.90E-16	5.162304

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-64.411232	0.577057	-7.66E-17	-8.02E-17	4.56E-16	-2.751624
0.50000	-64.819646	2.475715	-3.07E-16	-8.02E-17	5.05E-16	-3.136164
1.00000	-65.220861	4.347583	-5.33E-16	-8.02E-17	6.10E-16	-3.994989

COMB COMB5 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-64.411232	0.577057	-7.66E-17	-8.02E-17	4.56E-16	-2.751624
0.50000	-64.819646	2.475715	-3.07E-16	-8.02E-17	5.05E-16	-3.136164
1.00000	-65.220861	4.347583	-5.33E-16	-8.02E-17	6.10E-16	-3.994989

COMB COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-64.653667	0.631386	-8.45E-17	-9.98E-17	5.18E-16	-2.834701
0.50000	-65.062081	2.530044	-3.14E-16	-9.98E-17	5.68E-16	-3.232908
1.00000	-65.463296	4.401913	-5.41E-16	-9.98E-17	6.76E-16	-4.105400

COMB COMB6 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-64.653667	0.631386	-8.45E-17	-9.98E-17	5.18E-16	-2.834701
0.50000	-65.062081	2.530044	-3.14E-16	-9.98E-17	5.68E-16	-3.232908
1.00000	-65.463296	4.401913	-5.41E-16	-9.98E-17	6.76E-16	-4.105400

COMB COMB7 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-64.010474	0.487242	-6.34E-17	-4.64E-17	3.14E-16	-2.291891
0.50000	-64.418888	2.385900	-2.93E-16	-4.64E-17	3.59E-16	-2.653837
1.00000	-64.820103	4.257769	-5.20E-16	-4.64E-17	4.62E-16	-3.490067

COMB COMB7 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-64.010474	0.487242	-6.34E-17	-4.64E-17	3.14E-16	-2.291891
0.50000	-64.418888	2.385900	-2.93E-16	-4.64E-17	3.59E-16	-2.653837
1.00000	-64.820103	4.257769	-5.20E-16	-4.64E-17	4.62E-16	-3.490067

F R A M E E L E M E N T I N T E R N A L F O R C E S

ELEM 23 ========== LENGTH = 0.503126

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-107.710175	0.920081	-1.37E-16	-1.53E-16	1.34E-15	-11.140209
0.50000	-108.701537	3.748580	-4.80E-16	-1.53E-16	1.42E-15	-11.728009
1.00000	-109.681395	6.549674	-8.19E-16	-1.53E-16	1.59E-15	-13.023939

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-107.710175	0.920081	-1.37E-16	-1.53E-16	1.34E-15	-11.140209
0.50000	-108.701537	3.748580	-4.80E-16	-1.53E-16	1.42E-15	-11.728009
1.00000	-109.681395	6.549674	-8.19E-16	-1.53E-16	1.59E-15	-13.023939

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-83.316210	-2.207549	2.95E-16	-4.32E-18	-2.78E-17	6.125690
0.50000	-83.632600	0.529464	-3.63E-17	-4.32E-18	-6.03E-17	6.336214
1.00000	-83.944959	3.240082	-3.65E-16	-4.32E-18	-9.79E-18	5.861496

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-83.316210	-2.207549	2.95E-16	-4.32E-18	-2.78E-17	6.125690
0.50000	-83.632600	0.529464	-3.63E-17	-4.32E-18	-6.03E-17	6.336214
1.00000	-83.944959	3.240082	-3.65E-16	-4.32E-18	-9.79E-18	5.861496

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-62.763351	-1.612772	2.15E-16	-2.13E-17	5.44E-17	4.470055
0.50000	-63.000644	0.439988	-3.39E-17	-2.13E-17	3.17E-17	4.617159
1.00000	-63.234912	2.472952	-2.80E-16	-2.13E-17	7.13E-17	4.250331

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-62.763351	-1.612772	2.15E-16	-2.13E-17	5.44E-17	4.470055
0.50000	-63.000644	0.439988	-3.39E-17	-2.13E-17	3.17E-17	4.617159
1.00000	-63.234912	2.472952	-2.80E-16	-2.13E-17	7.13E-17	4.250331

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-62.030594	-1.726567	2.33E-16	2.81E-17	-1.91E-16	5.162304
0.50000	-62.267887	0.326192	-1.60E-17	2.81E-17	-2.18E-16	5.338034
1.00000	-62.502156	2.359156	-2.62E-16	2.81E-17	-1.83E-16	4.999833

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-62.030594	-1.726567	2.33E-16	2.81E-17	-1.91E-16	5.162304
0.50000	-62.267887	0.326192	-1.60E-17	2.81E-17	-2.18E-16	5.338034
1.00000	-62.502156	2.359156	-2.62E-16	2.81E-17	-1.83E-16	4.999833

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-65.365603	0.010742	-8.02E-18	-7.16E-17	6.15E-16	-3.994989
0.50000	-65.882727	1.830268	-2.28E-16	-7.16E-17	6.45E-16	-4.226919
1.00000	-66.393782	3.632188	-4.47E-16	-7.16E-17	7.30E-16	-4.914381

COMB COMB5 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-65.365603	0.010742	-8.02E-18	-7.16E-17	6.15E-16	-3.994989
0.50000	-65.882727	1.830268	-2.28E-16	-7.16E-17	6.45E-16	-4.226919
1.00000	-66.393782	3.632188	-4.47E-16	-7.16E-17	7.30E-16	-4.914381

COMB COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-65.611109	0.048867	-1.40E-17	-8.77E-17	6.82E-16	-4.105400
0.50000	-66.128232	1.868393	-2.34E-16	-8.77E-17	7.14E-16	-4.346921
1.00000	-66.639287	3.670312	-4.53E-16	-8.77E-17	8.00E-16	-5.043973

COMB COMB6 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-65.611109	0.048867	-1.40E-17	-8.77E-17	6.82E-16	-4.105400
0.50000	-66.128232	1.868393	-2.34E-16	-8.77E-17	7.14E-16	-4.346921
1.00000	-66.639287	3.670312	-4.53E-16	-8.77E-17	8.00E-16	-5.043973

COMB COMB7 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-64.959769	-0.052285	1.95E-18	-4.37E-17	4.65E-16	-3.490067
0.50000	-65.476893	1.767241	-2.18E-16	-4.37E-17	4.92E-16	-3.706142
1.00000	-65.987948	3.569161	-4.37E-16	-4.37E-17	5.74E-16	-4.377749

COMB COMB7 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-64.959769	-0.052285	1.95E-18	-4.37E-17	4.65E-16	-3.490067
0.50000	-65.476893	1.767241	-2.18E-16	-4.37E-17	4.92E-16	-3.706142
1.00000	-65.987948	3.569161	-4.37E-16	-4.37E-17	5.74E-16	-4.377749

F R A M E E L E M E N T I N T E R N A L F O R C E S

ELEM 24 ========== LENGTH = 0.503126

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-109.874275	-0.741728	6.40E-17	-1.53E-16	1.60E-15	-13.023939
0.50000	-111.027962	1.968431	-2.64E-16	-1.53E-16	1.62E-15	-13.178522
1.00000	-112.174747	4.664680	-5.91E-16	-1.53E-16	1.73E-15	-14.013162

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-109.874275	-0.741728	6.40E-17	-1.53E-16	1.60E-15	-13.023939
0.50000	-111.027962	1.968431	-2.64E-16	-1.53E-16	1.62E-15	-13.178522
1.00000	-112.174747	4.664680	-5.91E-16	-1.53E-16	1.73E-15	-14.013162

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-83.974966	-2.336506	3.11E-16	4.21E-17	-1.10E-17	5.861496
0.50000	-84.462198	0.328046	-1.19E-17	4.21E-17	-4.86E-17	6.113842
1.00000	-84.946438	2.978955	-3.33E-16	4.21E-17	-5.21E-18	5.697572

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-83.974966	-2.336506	3.11E-16	4.21E-17	-1.10E-17	5.861496
0.50000	-84.462198	0.328046	-1.19E-17	4.21E-17	-4.86E-17	6.113842
1.00000	-84.946438	2.978955	-3.33E-16	4.21E-17	-5.21E-18	5.697572

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-63.259655	-1.727909	2.29E-16	1.76E-17	7.14E-17	4.250331
0.50000	-63.625079	0.270505	-1.33E-17	1.76E-17	4.43E-17	4.433435
1.00000	-63.988259	2.258687	-2.54E-16	1.76E-17	7.80E-17	4.115076

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-63.259655	-1.727909	2.29E-16	1.76E-17	7.14E-17	4.250331
0.50000	-63.625079	0.270505	-1.33E-17	1.76E-17	4.43E-17	4.433435
1.00000	-63.988259	2.258687	-2.54E-16	1.76E-17	7.80E-17	4.115076

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-62.520963	-1.792838	2.41E-16	5.61E-17	-1.85E-16	4.999833
0.50000	-62.886387	0.205576	-1.38E-18	5.61E-17	-2.16E-16	5.199271
1.00000	-63.249567	2.193758	-2.42E-16	5.61E-17	-1.85E-16	4.897246

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-62.520963	-1.792838	2.41E-16	5.61E-17	-1.85E-16	4.999833
0.50000	-62.886387	0.205576	-1.38E-18	5.61E-17	-2.16E-16	5.199271
1.00000	-63.249567	2.193758	-2.42E-16	5.61E-17	-1.85E-16	4.897246

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-66.488476	-0.780806	8.78E-17	-6.25E-17	7.35E-16	-4.914381
0.50000	-67.112603	0.970482	-1.24E-16	-6.25E-17	7.39E-16	-4.938424
1.00000	-67.732981	2.712788	-3.35E-16	-6.25E-17	7.97E-16	-5.401916

COMB COMB5 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-66.488476	-0.780806	8.78E-17	-6.25E-17	7.35E-16	-4.914381
0.50000	-67.112603	0.970482	-1.24E-16	-6.25E-17	7.39E-16	-4.938424
1.00000	-67.732981	2.712788	-3.35E-16	-6.25E-17	7.97E-16	-5.401916

COMB COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-66.735970	-0.759054	8.39E-17	-7.49E-17	8.05E-16	-5.043973
0.50000	-67.360096	0.992234	-1.28E-16	-7.49E-17	8.11E-16	-5.073488
1.00000	-67.980475	2.734539	-3.39E-16	-7.49E-17	8.70E-16	-5.542452

COMB COMB6 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-66.735970	-0.759054	8.39E-17	-7.49E-17	8.05E-16	-5.043973
0.50000	-67.360096	0.992234	-1.28E-16	-7.49E-17	8.11E-16	-5.073488
1.00000	-67.980475	2.734539	-3.39E-16	-7.49E-17	8.70E-16	-5.542452

COMB COMB7 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-66.079354	-0.816769	9.45E-17	-4.07E-17	5.77E-16	-4.377749
0.50000	-66.703481	0.934519	-1.18E-16	-4.07E-17	5.80E-16	-4.392745
1.00000	-67.323860	2.676825	-3.29E-16	-4.07E-17	6.36E-16	-4.847189

COMB COMB7 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-66.079354	-0.816769	9.45E-17	-4.07E-17	5.77E-16	-4.377749
0.50000	-66.703481	0.934519	-1.18E-16	-4.07E-17	5.80E-16	-4.392745
1.00000	-67.323860	2.676825	-3.29E-16	-4.07E-17	6.36E-16	-4.847189

F R A M E E L E M E N T I N T E R N A L F O R C E S

ELEM 25 ========== LENGTH = 0.503126

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-112.237068	-2.788124	3.12E-16	-1.50E-16	1.74E-15	-14.013162
0.25000	-112.234554	-1.485470	1.54E-16	-1.50E-16	1.71E-15	-13.744392
0.50000	-112.232040	-0.182817	-3.72E-18	-1.50E-16	1.70E-15	-13.639473
0.75000	-112.229526	1.119837	-1.61E-16	-1.50E-16	1.71E-15	-13.698402
1.00000	-112.227012	2.422256	-3.19E-16	-1.50E-16	1.74E-15	-13.921182

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-112.237068	-2.788124	3.12E-16	-1.50E-16	1.74E-15	-14.013162
0.25000	-112.234554	-1.485470	1.54E-16	-1.50E-16	1.71E-15	-13.744392
0.50000	-112.232040	-0.182817	-3.72E-18	-1.50E-16	1.70E-15	-13.639473
0.75000	-112.229526	1.119837	-1.61E-16	-1.50E-16	1.71E-15	-13.698402
1.00000	-112.227012	2.422256	-3.19E-16	-1.50E-16	1.74E-15	-13.921182

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-84.956911	-2.663602	3.50E-16	8.75E-17	-9.51E-18	5.697572
0.25000	-84.954397	-1.360948	1.93E-16	8.75E-17	-4.37E-17	5.950679
0.50000	-84.951883	-0.058295	3.49E-17	8.75E-17	-5.80E-17	6.039936
0.75000	-84.949369	1.244359	-1.23E-16	8.75E-17	-5.25E-17	5.965344
1.00000	-84.946855	2.546778	-2.81E-16	8.75E-17	-2.71E-17	5.726902

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-84.956911	-2.663602	3.50E-16	8.75E-17	-9.51E-18	5.697572
0.25000	-84.954397	-1.360948	1.93E-16	8.75E-17	-4.37E-17	5.950679
0.50000	-84.951883	-0.058295	3.49E-17	8.75E-17	-5.80E-17	6.039936
0.75000	-84.949369	1.244359	-1.23E-16	8.75E-17	-5.25E-17	5.965344
1.00000	-84.946855	2.546778	-2.81E-16	8.75E-17	-2.71E-17	5.726902

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-63.997124	-1.991758	2.61E-16	5.58E-17	7.56E-17	4.115076
0.25000	-63.995238	-1.014767	1.42E-16	5.58E-17	5.02E-17	4.304158
0.50000	-63.993353	-0.037777	2.40E-17	5.58E-17	3.98E-17	4.370354
0.75000	-63.991467	0.939213	-9.43E-17	5.58E-17	4.42E-17	4.313662
1.00000	-63.989582	1.916028	-2.13E-16	5.58E-17	6.35E-17	4.134083

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-63.997124	-1.991758	2.61E-16	5.58E-17	7.56E-17	4.115076
0.25000	-63.995238	-1.014767	1.42E-16	5.58E-17	5.02E-17	4.304158
0.50000	-63.993353	-0.037777	2.40E-17	5.58E-17	3.98E-17	4.370354

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
0.75000	-63.991467	0.939213	-9.43E-17	5.58E-17	4.42E-17	4.313662
1.00000	-63.989582	1.916028	-2.13E-16	5.58E-17	6.35E-17	4.134083

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-63.255751	-2.007533	2.67E-16	8.31E-17	-1.89E-16	4.897246
0.25000	-63.253866	-1.030543	1.48E-16	8.31E-17	-2.16E-16	5.088313
0.50000	-63.251980	-0.053553	3.00E-17	8.31E-17	-2.27E-16	5.156492
0.75000	-63.250095	0.923437	-8.83E-17	8.31E-17	-2.23E-16	5.101784
1.00000	-63.248210	1.900252	-2.07E-16	8.31E-17	-2.05E-16	4.924190

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-63.255751	-2.007533	2.67E-16	8.31E-17	-1.89E-16	4.897246
0.25000	-63.253866	-1.030543	1.48E-16	8.31E-17	-2.16E-16	5.088313
0.50000	-63.251980	-0.053553	3.00E-17	8.31E-17	-2.27E-16	5.156492
0.75000	-63.250095	0.923437	-8.83E-17	8.31E-17	-2.23E-16	5.101784
1.00000	-63.248210	1.900252	-2.07E-16	8.31E-17	-2.05E-16	4.924190

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-67.763723	-1.787111	2.10E-16	-5.29E-17	8.01E-16	-5.401916
0.25000	-67.762091	-0.941232	1.07E-16	-5.29E-17	7.81E-16	-5.230328
0.50000	-67.760458	-0.095353	4.83E-18	-5.29E-17	7.74E-16	-5.165136
0.75000	-67.758826	0.750526	-9.76E-17	-5.29E-17	7.80E-16	-5.206341
1.00000	-67.757194	1.596253	-2.00E-16	-5.29E-17	7.98E-16	-5.353941

COMB COMB5 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-67.763723	-1.787111	2.10E-16	-5.29E-17	8.01E-16	-5.401916
0.25000	-67.762091	-0.941232	1.07E-16	-5.29E-17	7.81E-16	-5.230328
0.50000	-67.760458	-0.095353	4.83E-18	-5.29E-17	7.74E-16	-5.165136
0.75000	-67.758826	0.750526	-9.76E-17	-5.29E-17	7.80E-16	-5.206341
1.00000	-67.757194	1.596253	-2.00E-16	-5.29E-17	7.98E-16	-5.353941

COMB COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-68.012115	-1.781827	2.08E-16	-6.16E-17	8.74E-16	-5.542452
0.25000	-68.010482	-0.935949	1.05E-16	-6.16E-17	8.55E-16	-5.371529
0.50000	-68.008850	-0.090070	2.87E-18	-6.16E-17	8.48E-16	-5.307002
0.75000	-68.007217	0.755809	-9.96E-17	-6.16E-17	8.54E-16	-5.348870
1.00000	-68.005585	1.601536	-2.02E-16	-6.16E-17	8.73E-16	-5.497135

COMB COMB6 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-68.012115	-1.781827	2.08E-16	-6.16E-17	8.74E-16	-5.542452

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
0.25000	-68.010482	-0.935049	1.05E-16	-6.16E-17	6.53E-16	-5.371524
0.50000	-68.048550	-0.000070	2.87E-18	-6.16E-17	6.48E-16	-5.397002
0.75000	-68.067217	0.755809	-9.96E-17	-6.16E-17	8.54E-16	-5.348670
1.00000	-68.005585	1.601536	-2.02E-16	-6.16E-17	8.73E-16	-5.497135

COMB COMB7 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-67.353117	-1.795850	2.13E-16	-3.74E-17	6.39E-16	-4.847189
0.25000	-67.351485	-0.949971	1.11E-16	-3.74E-17	6.18E-16	-4.674503
0.50000	-67.349852	-0.104092	8.22E-18	-3.74E-17	6.11E-16	-4.608212
0.75000	-67.348220	0.741787	-9.42E-17	-3.74E-17	6.16E-16	-4.648317
1.00000	-67.346588	1.587514	-1.97E-16	-3.74E-17	6.35E-16	-4.794818

COMB COMB7 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-67.353117	-1.795850	2.13E-16	-3.74E-17	6.39E-16	-4.847189
0.25000	-67.351485	-0.949971	1.11E-16	-3.74E-17	6.18E-16	-4.674503
0.50000	-67.349852	-0.104092	8.22E-18	-3.74E-17	6.11E-16	-4.608212
0.75000	-67.348220	0.741787	-9.42E-17	-3.74E-17	6.16E-16	-4.648317
1.00000	-67.346588	1.587514	-1.97E-16	-3.74E-17	6.35E-16	-4.794818

ELEM 26 ========== LENGTH = 0.503126

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-112.140432	-5.029237	5.83E-16	-1.46E-16	1.75E-15	-13.921182
0.50000	-110.983432	-2.337791	2.57E-16	-1.46E-16	1.64E-15	-12.994286
1.00000	-109.820323	0.365847	-7.02E-17	-1.46E-16	1.62E-15	-12.746022

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-112.140432	-5.029237	5.83E-16	-1.46E-16	1.75E-15	-13.921182
0.50000	-110.983432	-2.337791	2.57E-16	-1.46E-16	1.64E-15	-12.994286
1.00000	-109.820323	0.365847	-7.02E-17	-1.46E-16	1.62E-15	-12.746022

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-84.928649	-3.094977	4.03E-16	1.32E-16	-3.44E-17	5.726902
0.50000	-84.434263	-0.446308	8.19E-17	1.32E-16	-9.53E-17	6.172586
1.00000	-83.937203	2.214332	-2.40E-16	1.32E-16	-7.54E-17	5.950427

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-84.928649	-3.094977	4.03E-16	1.32E-16	-3.44E-17	5.726902
0.50000	-84.434263	-0.446308	8.19E-17	1.32E-16	-9.53E-17	6.172586
1.00000	-83.937203	2.214332	-2.40E-16	1.32E-16	-7.54E-17	5.950427

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-63.975706	-2.333842	3.02E-16	9.32E-17	5.85E-17	4.134083
0.50000	-63.604917	-0.347341	6.15E-17	9.32E-17	1.28E-17	4.471518
1.00000	-63.232122	1.648139	-1.80E-16	9.32E-17	2.77E-17	4.308071

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-63.975706	-2.333842	3.02E-16	9.32E-17	5.85E-17	4.134083
0.50000	-63.604917	-0.347341	6.15E-17	9.32E-17	1.28E-17	4.471518
1.00000	-63.232122	1.648139	-1.80E-16	9.32E-17	2.77E-17	4.308071

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-63.234920	-2.300394	3.02E-16	1.09E-16	-2.11E-16	4.924190
0.50000	-62.864131	-0.313892	6.15E-17	1.09E-16	-2.57E-16	5.253210
1.00000	-62.491336	1.681588	-1.80E-16	1.09E-16	-2.42E-16	5.081349

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-63.234920	-2.300394	3.02E-16	1.09E-16	-2.11E-16	4.924190
0.50000	-62.864131	-0.313892	6.15E-17	1.09E-16	-2.57E-16	5.253210
1.00000	-62.491336	1.681588	-1.80E-16	1.09E-16	-2.42E-16	5.081349

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-67.713799	-2.902890	3.45E-16	-4.28E-17	8.02E-16	-5.353941
0.50000	-67.086800	-1.163223	1.34E-16	-4.28E-17	7.41E-16	-4.842331
1.00000	-66.456479	0.584321	-7.75E-17	-4.28E-17	7.34E-16	-4.769367

COMB COMB5 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-67.713799	-2.902890	3.45E-16	-4.28E-17	8.02E-16	-5.353941
0.50000	-67.086800	-1.163223	1.34E-16	-4.28E-17	7.41E-16	-4.842331
1.00000	-66.456479	0.584321	-7.75E-17	-4.28E-17	7.34E-16	-4.769367

COMB COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-67.961994	-2.914099	3.45E-16	-4.77E-17	8.77E-16	-5.497135
0.50000	-67.334995	-1.174431	1.34E-16	-4.77E-17	8.16E-16	-4.982706
1.00000	-66.704674	0.573112	-7.74E-17	-4.77E-17	8.09E-16	-4.906922

COMB COMB6 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-67.961994	-2.914099	3.45E-16	-4.77E-17	8.77E-16	-5.497135

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
0.50000	-67.334995	-1.174431	1.34E-16	-4.77E-17	8.16E-16	-4.982706
1.00000	-66.704674	0.573112	-7.74E-17	-4.77E-17	8.09E-16	-4.906922

COMB COMB7 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-67.303518	-2.884367	3.45E-16	-3.37E-17	6.37E-16	-4.794818
0.50000	-66.676519	-1.144699	1.34E-16	-3.37E-17	5.77E-16	-4.287868
1.00000	-66.046198	0.602844	-7.74E-17	-3.37E-17	5.70E-16	-4.219564

COMB COMB7 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-67.303518	-2.884367	3.45E-16	-3.37E-17	6.37E-16	-4.794818
0.50000	-66.676519	-1.144699	1.34E-16	-3.37E-17	5.77E-16	-4.287868
1.00000	-66.046198	0.602844	-7.74E-17	-3.37E-17	5.70E-16	-4.219564

ELEM 27 ========== LENGTH = 0.503126

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-109.602607	-6.921405	8.12E-16	-1.41E-16	1.63E-15	-12.746022
0.50000	-108.613078	-4.126655	4.74E-16	-1.41E-16	1.47E-15	-11.355826
1.00000	-107.612526	-1.305689	1.32E-16	-1.41E-16	1.39E-15	-10.672016

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-109.602607	-6.921405	8.12E-16	-1.41E-16	1.63E-15	-12.746022
0.50000	-108.613078	-4.126655	4.74E-16	-1.41E-16	1.47E-15	-11.355826
1.00000	-107.612526	-1.305689	1.32E-16	-1.41E-16	1.39E-15	-10.672016

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-83.899165	-3.359680	4.35E-16	1.74E-16	-8.56E-17	5.950427
0.50000	-83.576763	-0.652735	1.07E-16	1.74E-16	-1.54E-16	6.455649
1.00000	-83.250452	2.079490	-2.24E-16	1.74E-16	-1.39E-16	6.276694

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-83.899165	-3.359680	4.35E-16	1.74E-16	-8.56E-17	5.950427
0.50000	-83.576763	-0.652735	1.07E-16	1.74E-16	-1.54E-16	6.455649
1.00000	-83.250452	2.079490	-2.24E-16	1.74E-16	-1.39E-16	6.276694

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-63.202141	-2.550868	3.28E-16	1.29E-16	2.03E-17	4.308071
0.50000	-62.960340	-0.520659	8.25E-17	1.29E-16	-3.14E-17	4.694813

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
1.00000	-62.715606	1.528509	-1.66E-16	1.29E-16	-2.10E-17	4.568422

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-63.202141	-2.550868	3.28E-16	1.29E-16	2.03E-17	4.308071
0.50000	-62.960340	-0.520659	8.25E-17	1.29E-16	-3.14E-17	4.694813
1.00000	-62.715606	1.528509	-1.66E-16	1.29E-16	-2.10E-17	4.568422

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-62.465207	-2.468343	3.22E-16	1.33E-16	-2.50E-16	5.081349
0.50000	-62.223406	-0.438134	7.66E-17	1.33E-16	-3.00E-16	5.447331
1.00000	-61.978673	1.611034	-1.72E-16	1.33E-16	-2.88E-16	5.300180

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-62.465207	-2.468343	3.22E-16	1.33E-16	-2.50E-16	5.081349
0.50000	-62.223406	-0.438134	7.66E-17	1.33E-16	-3.00E-16	5.447331
1.00000	-61.978673	1.611034	-1.72E-16	1.33E-16	-2.88E-16	5.300180

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-66.348810	-3.826274	4.57E-16	-3.24E-17	7.37E-16	-4.769367
0.50000	-65.831406	-2.027973	2.39E-16	-3.24E-17	6.49E-16	-4.032655
1.00000	-65.308178	-0.212824	1.91E-17	-3.24E-17	6.17E-16	-3.750469

COMB COMB5 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-66.348810	-3.826274	4.57E-16	-3.24E-17	7.37E-16	-4.769367
0.50000	-65.831406	-2.027973	2.39E-16	-3.24E-17	6.49E-16	-4.032655
1.00000	-65.308178	-0.212824	1.91E-17	-3.24E-17	6.17E-16	-3.750469

COMB COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-66.595715	-3.853926	4.59E-16	-3.33E-17	8.12E-16	-4.906922
0.50000	-66.078310	-2.055624	2.41E-16	-3.33E-17	7.24E-16	-4.163254
1.00000	-65.555082	-0.240475	2.11E-17	-3.33E-17	6.91E-16	-3.874111

COMB COMB6 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-66.595715	-3.853926	4.59E-16	-3.33E-17	8.12E-16	-4.906922
0.50000	-66.078310	-2.055624	2.41E-16	-3.33E-17	7.24E-16	-4.163254
1.00000	-65.555082	-0.240475	2.11E-17	-3.33E-17	6.91E-16	-3.874111

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB7 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-65.940663	-3.780570	4.53E-16	-2.98E-17	5.72E-16	-4.219564
0.50000	-65.423258	-1.982269	2.36E-16	-2.98E-17	4.85E-16	-3.494349
1.00000	-64.900030	-0.167119	1.59E-17	-2.98E-17	4.53E-16	-3.223660

COMB COMB7 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-65.940663	-3.780570	4.53E-16	-2.98E-17	5.72E-16	-4.219564
0.50000	-65.423258	-1.982269	2.36E-16	-2.98E-17	4.85E-16	-3.494349
1.00000	-64.900030	-0.167119	1.59E-17	-2.98E-17	4.53E-16	-3.223660

ELEM 28 ========== LENGTH = 0.503126

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-107.288800	-8.442396	9.97E-16	-1.34E-16	1.40E-15	-10.672016
0.50000	-106.465832	-5.527057	6.44E-16	-1.34E-16	1.19E-15	-8.914063
1.00000	-105.628933	-2.571259	2.86E-16	-1.34E-16	1.08E-15	-7.894625

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-107.288800	-8.442396	9.97E-16	-1.34E-16	1.40E-15	-10.672016
0.50000	-106.465832	-5.527057	6.44E-16	-1.34E-16	1.19E-15	-8.914063
1.00000	-105.628933	-2.571259	2.86E-16	-1.34E-16	1.08E-15	-7.894625

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-83.204993	-3.448368	4.45E-16	2.15E-16	-1.52E-16	6.276694
0.50000	-83.057842	-0.668096	1.09E-16	2.15E-16	-2.22E-16	6.795278
1.00000	-82.907346	2.150518	-2.33E-16	2.15E-16	-2.06E-16	6.609593

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-83.204993	-3.448368	4.45E-16	2.15E-16	-1.52E-16	6.276694
0.50000	-83.057842	-0.668096	1.09E-16	2.15E-16	-2.22E-16	6.795278
1.00000	-82.907346	2.150518	-2.33E-16	2.15E-16	-2.06E-16	6.609593

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-62.678836	-2.635744	3.39E-16	1.64E-16	-3.07E-17	4.568422
0.50000	-62.568473	-0.550540	8.61E-17	1.64E-16	-8.42E-17	4.969805
1.00000	-62.455601	1.563421	-1.70E-16	1.64E-16	-7.38E-17	4.842986

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-62.678836	-2.635744	3.39E-16	1.64E-16	-3.07E-17	4.568422
0.50000	-62.568473	-0.550540	8.61E-17	1.64E-16	-8.42E-17	4.969805
1.00000	-62.455601	1.563421	-1.70E-16	1.64E-16	-7.38E-17	4.842986

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-61.949001	-2.504508	3.27E-16	1.57E-16	-2.98E-16	5.300180
0.50000	-61.838638	-0.419305	7.43E-17	1.57E-16	-3.48E-16	5.668548
1.00000	-61.725766	1.694656	-1.82E-16	1.57E-16	-3.35E-16	5.508715

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-61.949001	-2.504508	3.27E-16	1.57E-16	-2.98E-16	5.300180
0.50000	-61.838638	-0.419305	7.43E-17	1.57E-16	-3.48E-16	5.668548
1.00000	-61.725766	1.694656	-1.82E-16	1.57E-16	-3.35E-16	5.508715

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-65.150166	-4.545245	5.44E-16	-2.15E-17	6.18E-16	-3.750469
0.50000	-64.742548	-2.677505	3.18E-16	-2.15E-17	5.10E-16	-2.841434
1.00000	-64.327869	-0.783889	8.82E-17	-2.15E-17	4.59E-16	-2.405531

COMB COMB5 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-65.150166	-4.545245	5.44E-16	-2.15E-17	6.18E-16	-3.750469
0.50000	-64.742548	-2.677505	3.18E-16	-2.15E-17	5.10E-16	-2.841434
1.00000	-64.327869	-0.783889	8.82E-17	-2.15E-17	4.59E-16	-2.405531

COMB COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-65.394692	-4.589216	5.48E-16	-1.86E-17	6.93E-16	-3.874111
0.50000	-64.987074	-2.721476	3.22E-16	-1.86E-17	5.83E-16	-2.954016
1.00000	-64.572395	-0.827861	9.22E-17	-1.86E-17	5.31E-16	-2.507050

COMB COMB6 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-65.394692	-4.589216	5.48E-16	-1.86E-17	6.93E-16	-3.874111
0.50000	-64.987074	-2.721476	3.22E-16	-1.86E-17	5.83E-16	-2.954016
1.00000	-64.572395	-0.827861	9.22E-17	-1.86E-17	5.31E-16	-2.507050

COMB COMB7 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-64.745950	-4.472563	5.37E-16	-2.55E-17	4.55E-16	-3.223660

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
0.50000	-64.338332	-2.604823	3.11E-16	-2.55E-17	3.48E-16	-2.332910
1.00000	-63.923653	-0.711207	8.17E-17	-2.55E-17	2.99E-16	-1.915291

COMB COMB7 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-64.745950	-4.472563	5.37E-16	-2.55E-17	4.55E-16	-3.223660
0.50000	-64.338332	-2.604823	3.11E-16	-2.55E-17	3.48E-16	-2.332910
1.00000	-63.923653	-0.711207	8.17E-17	-2.55E-17	2.99E-16	-1.915291

ELEM 29 ========== LENGTH = 0.503126

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-105.225584	-9.573891	1.13E-15	-1.25E-16	1.09E-15	-7.894625
0.50000	-104.573392	-6.520301	7.64E-16	-1.25E-16	8.48E-16	-5.869111
1.00000	-103.906222	-3.411572	3.87E-16	-1.25E-16	7.03E-16	-4.618739

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-105.225584	-9.573891	1.13E-15	-1.25E-16	1.09E-15	-7.894625
0.50000	-104.573392	-6.520301	7.64E-16	-1.25E-16	8.48E-16	-5.869111
1.00000	-103.906222	-3.411572	3.87E-16	-1.25E-16	7.03E-16	-4.618739

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-82.867345	-3.354979	4.34E-16	2.54E-16	-2.22E-16	6.609593
0.50000	-82.903252	-0.487136	8.69E-17	2.54E-16	-2.88E-16	7.093943
1.00000	-82.938099	2.432090	-2.67E-16	2.54E-16	-2.65E-16	6.850353

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-82.867345	-3.354979	4.34E-16	2.54E-16	-2.22E-16	6.609593
0.50000	-82.903252	-0.487136	8.69E-17	2.54E-16	-2.88E-16	7.093943
1.00000	-82.938099	2.432090	-2.67E-16	2.54E-16	-2.65E-16	6.850353

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-62.421712	-2.583845	3.32E-16	1.98E-16	-8.58E-17	4.842986
0.50000	-62.448642	-0.432963	7.18E-17	1.98E-16	-1.37E-16	5.223257
1.00000	-62.474778	1.756457	-1.93E-16	1.98E-16	-1.22E-16	5.057572

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-62.421712	-2.583845	3.32E-16	1.98E-16	-8.58E-17	4.842986
0.50000	-62.448642	-0.432963	7.18E-17	1.98E-16	-1.37E-16	5.223257

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
1.00000	-62.474778	1.756457	-1.93E-16	1.98E-16	-1.22E-16	5.057572

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-61.702192	-2.404476	3.15E-16	1.78E-16	-3.46E-16	5.508715
0.50000	-61.729123	-0.253593	5.42E-17	1.78E-16	-3.93E-16	5.843864
1.00000	-61.755258	1.935826	-2.11E-16	1.78E-16	-3.73E-16	5.633056

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-61.702192	-2.404476	3.15E-16	1.78E-16	-3.46E-16	5.508715
0.50000	-61.729123	-0.253593	5.42E-17	1.78E-16	-3.93E-16	5.843864
1.00000	-61.755258	1.935826	-2.11E-16	1.78E-16	-3.73E-16	5.633056

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-64.134115	-5.050205	6.05E-16	-1.03E-17	4.60E-16	-2.405531
0.50000	-63.839694	-3.102199	3.69E-16	-1.03E-17	3.37E-16	-1.379369
1.00000	-63.538159	-1.119093	1.29E-16	-1.03E-17	2.75E-16	-0.847692

COMB COMB5 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-64.134115	-5.050205	6.05E-16	-1.03E-17	4.60E-16	-2.405531
0.50000	-63.839694	-3.102199	3.69E-16	-1.03E-17	3.37E-16	-1.379369
1.00000	-63.538159	-1.119093	1.29E-16	-1.03E-17	2.75E-16	-0.847692

COMB COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-64.375184	-5.110304	6.11E-16	-3.44E-18	5.32E-16	-2.507050
0.50000	-64.080764	-3.162298	3.75E-16	-3.44E-18	4.08E-16	-1.465770
1.00000	-63.779228	-1.179191	1.35E-16	-3.44E-18	3.43E-16	-0.918974

COMB COMB6 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-64.375184	-5.110304	6.11E-16	-3.44E-18	5.32E-16	-2.507050
0.50000	-64.080764	-3.162298	3.75E-16	-3.44E-18	4.08E-16	-1.465770
1.00000	-63.779228	-1.179191	1.35E-16	-3.44E-18	3.43E-16	-0.918974

COMB COMB7 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-63.735611	-4.950864	5.95E-16	-2.10E-17	3.00E-16	-1.915291
0.50000	-63.441191	-3.002858	3.59E-16	-2.10E-17	1.80E-16	-0.914119
1.00000	-63.139655	-1.019752	1.19E-16	-2.10E-17	1.20E-16	-0.407433

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB7 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-63.735611	-4.950664	5.95E-16	-2.10E-17	3.00E-16	-1.915291
0.50000	-63.441191	-3.002858	3.59E-16	-2.10E-17	1.80E-16	-0.914119
1.00000	-63.139555	-1.019752	1.19E-16	-2.10E-17	1.20E-16	-0.407433

ELEM 30 ========== LENGTH = 0.503126

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-103.450917	-10.298038	1.22E-15	-1.16E-16	7.11E-16	-4.618739
0.50000	-102.978699	-7.088479	8.33E-16	-1.16E-16	4.52E-16	-2.430369
1.00000	-102.492450	-3.809286	4.35E-16	-1.16E-16	2.93E-16	-1.058204

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-103.450917	-10.298038	1.22E-15	-1.16E-16	7.11E-16	-4.618739
0.50000	-102.978699	-7.088479	8.33E-16	-1.16E-16	4.52E-16	-2.430369
1.00000	-102.492450	-3.809286	4.35E-16	-1.16E-16	2.93E-16	-1.058204

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-82.916713	-3.076056	4.00E-16	2.91E-16	-2.83E-16	6.850353
0.50000	-83.147830	-0.107450	4.09E-17	2.91E-16	-3.39E-16	7.252123
1.00000	-83.381870	2.924984	-3.26E-16	2.91E-16	-3.03E-16	6.899038

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-82.916713	-3.076056	4.00E-16	2.91E-16	-2.83E-16	6.850353
0.50000	-83.147830	-0.107450	4.09E-17	2.91E-16	-3.39E-16	7.252123
1.00000	-83.381870	2.924984	-3.26E-16	2.91E-16	-3.03E-16	6.899038

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-62.453654	-2.392498	3.09E-16	2.30E-16	-1.36E-16	5.057572
0.50000	-62.626992	-0.166043	3.95E-17	2.30E-16	-1.80E-16	5.380397
1.00000	-62.802522	2.108282	-2.36E-16	2.30E-16	-1.55E-16	5.137081

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-62.453654	-2.392498	3.09E-16	2.30E-16	-1.36E-16	5.057572
0.50000	-62.626992	-0.166043	3.95E-17	2.30E-16	-1.80E-16	5.380397
1.00000	-62.802522	2.108282	-2.36E-16	2.30E-16	-1.55E-16	5.137081

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-61.747621	-2.165785	2.86E-16	1.98E-16	-3.85E-16	5.633056
0.50000	-61.920959	0.060670	1.62E-17	1.98E-16	-4.24E-16	5.898849
1.00000	-62.096489	2.334995	-2.59E-16	1.98E-16	-3.93E-16	5.598500

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-61.747621	-2.165785	2.86E-16	1.98E-16	-3.85E-16	5.633056
0.50000	-61.920959	0.060670	1.62E-17	1.98E-16	-4.24E-16	5.898849
1.00000	-62.096489	2.334995	-2.59E-16	1.98E-16	-3.93E-16	5.598500

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-63.323905	-5.332265	6.39E-16	1.11E-18	2.75E-16	-0.847692
0.50000	-63.149209	-3.293336	3.92E-16	1.11E-18	1.45E-16	0.238179
1.00000	-62.968582	-1.210280	1.40E-16	1.11E-18	7.82E-17	0.805555

COMB COMB5 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-63.323905	-5.332265	6.39E-16	1.11E-18	2.75E-16	-0.847692
0.50000	-63.149209	-3.293336	3.92E-16	1.11E-18	1.45E-16	0.238179
1.00000	-62.968582	-1.210280	1.40E-16	1.11E-18	7.82E-17	0.805555

COMB COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-63.560456	-5.408225	6.47E-16	1.20E-17	3.43E-16	-0.918974
0.50000	-63.385759	-3.369297	4.00E-16	1.20E-17	2.11E-16	0.186005
1.00000	-63.205133	-1.286240	1.48E-16	1.20E-17	1.42E-16	0.772491

COMB COMB6 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-63.560456	-5.408225	6.47E-16	1.20E-17	3.43E-16	-0.918974
0.50000	-63.385759	-3.369297	4.00E-16	1.20E-17	2.11E-16	0.186005
1.00000	-63.205133	-1.286240	1.48E-16	1.20E-17	1.42E-16	0.772491

COMB COMB7 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-62.932871	-5.206703	6.26E-16	-1.63E-17	1.21E-16	-0.407433
0.50000	-62.758174	-3.167774	3.79E-16	-1.63E-17	-5.36E-18	0.646851
1.00000	-62.577547	-1.084717	1.27E-16	-1.63E-17	-6.91E-17	1.182641

COMB COMB7 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-62.932871	-5.206703	6.26E-16	-1.63E-17	1.21E-16	-0.407433

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
0.50000	-62.758174	-3.167774	3.79E-16	-1.63E-17	-5.36E-18	0.646851
1.00000	-62.577547	-1.084717	1.27E-16	-1.63E-17	-6.91E-17	1.182641

ELEM 31 ========== LENGTH = 0.503125

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-102.013896	-10.600847	1.26E-15	-1.05E-16	3.00E-16	-1.058204
0.50000	-101.735967	-7.218835	8.48E-16	-1.05E-16	3.47E-17	1.184945
1.00000	-101.446957	-3.752904	4.29E-16	-1.05E-16	-1.26E-16	2.566710

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-102.013896	-10.600847	1.26E-15	-1.05E-16	3.00E-16	-1.058204
0.50000	-101.735967	-7.218835	8.48E-16	-1.05E-16	3.47E-17	1.184945
1.00000	-101.446957	-3.752904	4.29E-16	-1.05E-16	-1.26E-16	2.566710

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-83.392214	-2.613507	3.44E-16	3.25E-16	-3.24E-16	6.899038
0.50000	-83.834856	0.466866	-2.87E-17	3.25E-16	-3.63E-16	7.170638
1.00000	-84.286077	3.622926	-4.11E-16	3.25E-16	-3.08E-16	6.657774

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-83.392214	-2.613507	3.44E-16	3.25E-16	-3.24E-16	6.899038
0.50000	-83.834856	0.466866	-2.87E-17	3.25E-16	-3.63E-16	7.170638
1.00000	-84.286077	3.622926	-4.11E-16	3.25E-16	-3.08E-16	6.657774

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-62.804024	-2.063053	2.69E-16	2.61E-16	-1.71E-16	5.137081
0.50000	-63.136006	0.247226	-1.05E-17	2.61E-16	-2.04E-16	5.366673
1.00000	-63.474421	2.614271	-2.97E-16	2.61E-16	-1.66E-16	5.007916

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-62.804024	-2.063053	2.69E-16	2.61E-16	-1.71E-16	5.137081
0.50000	-63.136006	0.247226	-1.05E-17	2.61E-16	-2.04E-16	5.366673
1.00000	-63.474421	2.614271	-2.97E-16	2.61E-16	-1.66E-16	5.007916

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-62.114588	-1.789997	2.40E-16	2.17E-16	-4.07E-16	5.598500
0.50000	-62.446569	0.520282	-3.95E-17	2.17E-16	-4.32E-16	5.759401

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
1.00000	-62.784985	2.887327	-3.26E-16	2.17E-16	-3.86E-16	5.331954

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-62.114588	-1.789997	2.40E-16	2.17E-16	-4.07E-16	5.598500
0.50000	-62.446569	0.520282	-3.95E-17	2.17E-16	-4.32E-16	5.759401
1.00000	-62.784985	2.887327	-3.26E-16	2.17E-16	-3.86E-16	5.331954

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-62.749545	-5.385320	6.45E-16	1.28E-17	7.77E-17	0.805555
0.50000	-62.704243	-3.245793	3.86E-16	1.28E-17	-5.22E-17	1.892302
1.00000	-62.655435	-1.053317	1.21E-16	1.28E-17	-1.16E-16	2.434138

COMB COMB5 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-62.749545	-5.385320	6.45E-16	1.28E-17	7.77E-17	0.805555
0.50000	-62.704243	-3.245793	3.86E-16	1.28E-17	-5.22E-17	1.892302
1.00000	-62.655435	-1.053317	1.21E-16	1.28E-17	-1.16E-16	2.434138

COMB COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-62.980535	-5.476808	6.55E-16	2.76E-17	1.41E-16	0.772491
0.50000	-62.935233	-3.337280	3.96E-16	2.76E-17	8.65E-18	1.882252
1.00000	-62.886425	-1.144805	1.31E-16	2.76E-17	-5.77E-17	2.447103

COMB COMB6 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-62.980535	-5.476808	6.55E-16	2.76E-17	1.41E-16	0.772491
0.50000	-62.935233	-3.337280	3.96E-16	2.76E-17	8.65E-18	1.882252
1.00000	-62.886425	-1.144805	1.31E-16	2.76E-17	-5.77E-17	2.447103

COMB COMB7 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-62.367703	-5.234091	6.29E-16	-1.13E-17	-6.82E-17	1.182641
0.50000	-62.322401	-3.094564	3.70E-16	-1.13E-17	-1.94E-16	2.231344
1.00000	-62.273593	-0.902088	1.05E-16	-1.13E-17	-2.54E-16	2.735137

COMB COMB7 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-62.367703	-5.234091	6.29E-16	-1.13E-17	-6.82E-17	1.182641
0.50000	-62.322401	-3.094564	3.70E-16	-1.13E-17	-1.94E-16	2.231344
1.00000	-62.273593	-0.902088	1.05E-16	-1.13E-17	-2.54E-16	2.735137

F R A M E E L E M E N T I N T E R N A L F O R C E S

ELEM 32 ========== LENGTH = 0.503126

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-100.974416	-10.475531	1.24E-15	-9.20E-17	-1.20E-16	2.566710
0.50000	-100.909985	-6.906303	8.11E-16	-9.20E-17	-3.78E-16	4.755079
1.00000	-100.839092	-3.239368	3.66E-16	-9.20E-17	-5.26E-16	6.033229

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-100.974416	-10.475531	1.24E-15	-9.20E-17	-1.20E-16	2.566710
0.50000	-100.909985	-6.906303	8.11E-16	-9.20E-17	-3.78E-16	4.755079
1.00000	-100.839092	-3.239368	3.66E-16	-9.20E-17	-5.26E-16	6.033229

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-84.340728	-1.977347	2.67E-16	3.58E-16	-3.31E-16	6.657774
0.50000	-85.015076	1.223231	-1.20E-16	3.58E-16	-3.50E-16	6.754452
1.00000	-85.705067	4.510486	-5.18E-16	3.58E-16	-2.70E-16	6.035040

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-84.340728	-1.977347	2.67E-16	3.58E-16	-3.31E-16	6.657774
0.50000	-85.015076	1.223231	-1.20E-16	3.58E-16	-3.50E-16	6.754452
1.00000	-85.705067	4.510486	-5.18E-16	3.58E-16	-2.70E-16	6.035040

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-63.508008	-1.602949	2.14E-16	2.89E-16	-1.84E-16	5.007916
0.50000	-64.013769	0.797485	-7.72E-17	2.89E-16	-2.01E-16	5.110596
1.00000	-64.531263	3.262927	-3.76E-16	2.89E-16	-1.44E-16	4.601210

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-63.508008	-1.602949	2.14E-16	2.89E-16	-1.84E-16	5.007916
0.50000	-64.013769	0.797485	-7.72E-17	2.89E-16	-2.01E-16	5.110596
1.00000	-64.531263	3.262927	-3.76E-16	2.89E-16	-1.44E-16	4.601210

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-62.838208	-1.284751	1.79E-16	2.34E-16	-4.01E-16	5.331954
0.50000	-63.343969	1.115683	-1.12E-16	2.34E-16	-4.10E-16	5.354587
1.00000	-63.861463	3.581124	-4.10E-16	2.34E-16	-3.45E-16	4.765154

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-62.838208	-1.284751	1.79E-16	2.34E-16	-4.01E-16	5.331954
0.50000	-63.343969	1.115683	-1.12E-16	2.34E-16	-4.10E-16	5.354587
1.00000	-63.861463	3.581124	-4.10E-16	2.34E-16	-3.45E-16	4.765154

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-62.447486	-5.208117	6.24E-16	2.46E-17	-1.17E-16	2.434138
0.50000	-62.544235	-2.959592	3.52E-16	2.46E-17	-2.40E-16	3.462776
1.00000	-62.640935	-0.649689	7.20E-17	2.46E-17	-2.94E-16	3.918021

COMB COMB5 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-62.447486	-5.208117	6.24E-16	2.46E-17	-1.17E-16	2.434138
0.50000	-62.544235	-2.959592	3.52E-16	2.46E-17	-2.40E-16	3.462776
1.00000	-62.640935	-0.649689	7.20E-17	2.46E-17	-2.94E-16	3.918021

COMB COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-62.671897	-5.314729	6.36E-16	4.34E-17	-6.01E-17	2.447103
0.50000	-62.768646	-3.066203	3.63E-16	4.34E-17	-1.86E-16	3.502561
1.00000	-62.865346	-0.756301	8.36E-17	4.34E-17	-2.42E-16	3.984625

COMB COMB6 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-62.671897	-5.314729	6.36E-16	4.34E-17	-6.01E-17	2.447103
0.50000	-62.768646	-3.066203	3.63E-16	4.34E-17	-1.86E-16	3.502561
1.00000	-62.865346	-0.756301	8.36E-17	4.34E-17	-2.42E-16	3.984625

COMB COMB7 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-62.076519	-5.031887	6.05E-16	-6.19E-18	-2.53E-16	2.735137
0.50000	-62.173268	-2.783361	3.33E-16	-6.19E-18	-3.72E-16	3.719442
1.00000	-62.269969	-0.473459	5.30E-17	-6.19E-18	-4.20E-16	4.130353

COMB COMB7 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-62.076519	-5.031887	6.05E-16	-6.19E-18	-2.53E-16	2.735137
0.50000	-62.173268	-2.783361	3.33E-16	-6.19E-18	-3.72E-16	3.719442
1.00000	-62.269969	-0.473459	5.30E-17	-6.19E-18	-4.20E-16	4.130353

F R A M E E L E M E N T I N T E R N A L F O R C E S

ELEM 33 ========== LENGTH = 0.503126

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-100.401972	-9.922701	1.18E-15	-7.83E-17	-5.21E-16	6.033229
0.50000	-100.574518	-6.154106	7.19E-16	-7.83E-17	-7.59E-16	8.057722
1.00000	-100.747007	-2.274767	2.50E-16	-7.83E-17	-8.82E-16	9.120200

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-100.401972	-9.922701	1.18E-15	-7.83E-17	-5.21E-16	6.033229
0.50000	-100.574518	-6.154106	7.19E-16	-7.83E-17	-7.59E-16	8.057722
1.00000	-100.747007	-2.274767	2.50E-16	-7.83E-17	-8.82E-16	9.120200

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-85.815482	-1.185811	1.71E-16	3.87E-16	-2.94E-16	6.035040
0.50000	-86.744936	2.140069	-2.31E-16	3.87E-16	-2.87E-16	5.917044
1.00000	-87.698486	5.562565	-6.46E-16	3.87E-16	-1.77E-16	4.950187

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-85.815482	-1.185811	1.71E-16	3.87E-16	-2.94E-16	6.035040
0.50000	-86.744936	2.140069	-2.31E-16	3.87E-16	-2.87E-16	5.917044
1.00000	-87.698486	5.562565	-6.46E-16	3.87E-16	-1.77E-16	4.950187

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-64.605560	-1.025782	1.44E-16	3.16E-16	-1.64E-16	4.601210
0.50000	-65.302650	1.468627	-1.58E-16	3.16E-16	-1.63E-16	4.547032
1.00000	-66.017813	4.035499	-4.69E-16	3.16E-16	-8.40E-17	3.856209

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-64.605560	-1.025782	1.44E-16	3.16E-16	-1.64E-16	4.601210
0.50000	-65.302650	1.468627	-1.58E-16	3.16E-16	-1.63E-16	4.547032
1.00000	-66.017813	4.035499	-4.69E-16	3.16E-16	-8.40E-17	3.856209

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-63.958347	-0.663846	1.04E-16	2.49E-16	-3.61E-16	4.765154
0.50000	-64.655438	1.830564	-1.98E-16	2.49E-16	-3.49E-16	4.619927
1.00000	-65.370600	4.397436	-5.09E-16	2.49E-16	-2.60E-16	3.838053

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-63.958347	-0.663846	1.04E-16	2.49E-16	-3.61E-16	4.765154
0.50000	-64.655438	1.830564	-1.98E-16	2.49E-16	-3.49E-16	4.619927
1.00000	-65.370600	4.397436	-5.09E-16	2.49E-16	-2.60E-16	3.838053

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-62.459803	-4.804357	5.75E-16	3.65E-17	-2.96E-16	3.918021
0.50000	-62.713835	-2.440267	2.89E-16	3.65E-17	-4.05E-16	4.830717
1.00000	-62.972360	-0.006915	-5.88E-18	3.65E-17	-4.40E-16	5.139954

COMB COMB5 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-62.459803	-4.804357	5.75E-16	3.65E-17	-2.96E-16	3.918021
0.50000	-62.713835	-2.440267	2.89E-16	3.65E-17	-4.05E-16	4.830717
1.00000	-62.972360	-0.006915	-5.88E-18	3.65E-17	-4.40E-16	5.139954

COMB COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-62.676646	-4.925623	5.88E-16	5.92E-17	-2.46E-16	3.984625
0.50000	-62.930678	-2.561533	3.02E-16	5.92E-17	-3.58E-16	4.927827
1.00000	-63.189203	-0.128181	7.49E-18	5.92E-17	-3.97E-16	5.267571

COMB COMB6 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-62.676646	-4.925623	5.88E-16	5.92E-17	-2.46E-16	3.984625
0.50000	-62.930678	-2.561533	3.02E-16	5.92E-17	-3.58E-16	4.927827
1.00000	-63.189203	-0.128181	7.49E-18	5.92E-17	-3.97E-16	5.267571

COMB COMB7 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-62.101346	-4.603902	5.53E-16	-8.72E-19	-4.20E-16	4.130353
0.50000	-62.355378	-2.239812	2.67E-16	-8.72E-19	-5.23E-16	4.992622
1.00000	-62.613903	0.193540	-2.78E-17	-8.72E-19	-5.54E-16	5.251433

COMB COMB7 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-62.101346	-4.603902	5.53E-16	-8.72E-19	-4.20E-16	4.130353
0.50000	-62.355378	-2.239812	2.67E-16	-8.72E-19	-5.23E-16	4.992622
1.00000	-62.613903	0.193540	-2.78E-17	-8.72E-19	-5.54E-16	5.251433

F R A M E E L E M E N T I N T E R N A L F O R C E S

ELEM 34 LENGTH = 0.503126

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-100.374091	-8.954098	1.06E-15	-6.33E-17	-8.77E-16	9.120200
0.50000	-100.811437	-4.977300	5.77E-16	-6.33E-17	-1.08E-15	10.875098
1.00000	-101.257098	-0.877615	8.04E-17	-6.33E-17	-1.17E-15	11.614073

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-100.374091	-8.954098	1.06E-15	-6.33E-17	-8.77E-16	9.120200
0.50000	-100.811437	-4.977300	5.77E-16	-6.33E-17	-1.08E-15	10.875098
1.00000	-101.257098	-0.877615	8.04E-17	-6.33E-17	-1.17E-15	11.614073

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-87.874311	-0.268295	6.04E-17	4.15E-16	-2.04E-16	4.950187
0.50000	-89.085271	3.184184	-3.58E-16	4.15E-16	-1.67E-16	4.585640
1.00000	-90.330231	6.742141	-7.89E-16	4.15E-16	-2.26E-17	3.339266

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-87.874311	-0.268295	6.04E-17	4.15E-16	-2.04E-16	4.950187
0.50000	-89.085271	3.184184	-3.58E-16	4.15E-16	-1.67E-16	4.585640
1.00000	-90.330231	6.742141	-7.89E-16	4.15E-16	-2.26E-17	3.339266

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-66.140093	-0.353530	6.22E-17	3.41E-16	-1.06E-16	3.856209
0.50000	-67.048312	2.235829	-2.51E-16	3.41E-16	-8.23E-17	3.621114
1.00000	-67.982033	4.904297	-5.75E-16	3.41E-16	2.14E-17	2.724649

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-66.140093	-0.353530	6.22E-17	3.41E-16	-1.06E-16	3.856209
0.50000	-67.048312	2.235829	-2.51E-16	3.41E-16	-8.23E-17	3.621114
1.00000	-67.982033	4.904297	-5.75E-16	3.41E-16	2.14E-17	2.724649

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-65.518320	0.050550	1.74E-17	2.62E-16	-2.77E-16	3.838053
0.50000	-66.426540	2.639909	-2.96E-16	2.62E-16	-2.42E-16	3.501307
1.00000	-67.360260	5.308377	-6.19E-16	2.62E-16	-1.27E-16	2.503190

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-65.518320	0.050550	1.74E-17	2.62E-16	-2.77E-16	3.838053
0.50000	-66.426540	2.639909	-2.96E-16	2.62E-16	-2.42E-16	3.501307
1.00000	-67.360260	5.308377	-6.19E-16	2.62E-16	-1.27E-16	2.503190

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-62.633145	-4.164978	5.00E-16	4.85E-17	-4.43E-16	5.139954
0.50000	-63.282256	-1.700999	1.99E-16	4.85E-17	-5.31E-16	5.881912
1.00000	-63.701589	0.859512	-1.11E-16	4.85E-17	-5.43E-16	5.989333

COMB COMB5 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-62.633145	-4.164978	5.00E-16	4.85E-17	-4.43E-16	5.139954
0.50000	-63.282256	-1.700999	1.99E-16	4.85E-17	-5.31E-16	5.881912
1.00000	-63.701589	0.859512	-1.11E-16	4.85E-17	-5.43E-16	5.989333

COMB COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-63.041464	-4.320364	5.15E-16	7.51E-17	-4.01E-16	5.267571
0.50000	-63.470578	-1.836385	2.14E-16	7.51E-17	-4.93E-16	6.043586
1.00000	-63.909909	0.724126	-9.57E-17	7.51E-17	-5.09E-16	6.185066

COMB COMB6 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-63.041464	-4.320364	5.15E-16	7.51E-17	-4.01E-16	5.267571
0.50000	-63.470578	-1.836385	2.14E-16	7.51E-17	-4.93E-16	6.043586
1.00000	-63.909909	0.724126	-9.57E-17	7.51E-17	-5.09E-16	6.185066

COMB COMB7 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-62.488778	-3.961182	4.75E-16	4.60E-18	-5.54E-16	5.251433
0.50000	-62.917891	-1.477202	1.75E-16	4.60E-18	-6.36E-16	5.937091
1.00000	-63.357222	1.083308	-1.36E-16	4.60E-18	-6.41E-16	5.988214

COMB COMB7 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-62.488778	-3.961182	4.75E-16	4.60E-18	-5.54E-16	5.251433
0.50000	-62.917891	-1.477202	1.75E-16	4.60E-18	-6.36E-16	5.937091
1.00000	-63.357222	1.083308	-1.36E-16	4.60E-18	-6.41E-16	5.988214

F R A M E E L E M E N T I N T E R N A L F O R C E S

ELEM 35 LENGTH = 0.503126

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-100.975764	-7.593760	8.94E-16	-4.72E-17	-1.16E-15	11.614073
0.50000	-101.709681	-3.403980	3.86E-16	-4.72E-17	-1.32E-15	13.000197
1.00000	-102.461414	0.919540	-1.37E-16	-4.72E-17	-1.36E-15	13.315453

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-100.975764	-7.593760	8.94E-16	-4.72E-17	-1.16E-15	11.614073
0.50000	-101.709681	-3.403980	3.86E-16	-4.72E-17	-1.32E-15	13.000197
1.00000	-102.461414	0.919540	-1.37E-16	-4.72E-17	-1.36E-15	13.315453

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-90.578519	0.734169	-6.10E-17	4.39E-16	-5.10E-17	3.339266
0.50000	-92.099871	4.310245	-4.94E-16	4.39E-16	1.86E-17	2.707145
1.00000	-93.665919	7.999112	-9.41E-16	4.39E-16	1.99E-16	1.161183

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-90.578519	0.734169	-6.10E-17	4.39E-16	-5.10E-17	3.339266
0.50000	-92.099871	4.310245	-4.94E-16	4.39E-16	1.86E-17	2.707145
1.00000	-93.665919	7.999112	-9.41E-16	4.39E-16	1.99E-16	1.161183

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-68.157627	0.383104	-2.70E-17	3.63E-16	-1.97E-18	2.724649
0.50000	-69.298641	3.065161	-3.52E-16	3.63E-16	4.55E-17	2.292700
1.00000	-70.473177	5.831812	-6.87E-16	3.63E-16	1.76E-16	1.175371

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-68.157627	0.383104	-2.70E-17	3.63E-16	-1.97E-18	2.724649
0.50000	-69.298641	3.065161	-3.52E-16	3.63E-16	4.55E-17	2.292700
1.00000	-70.473177	5.831812	-6.87E-16	3.63E-16	1.76E-16	1.175371

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-67.564034	0.827546	-7.67E-17	2.73E-16	-1.45E-16	2.503190
0.50000	-68.705048	3.509604	-4.02E-16	2.73E-16	-8.51E-17	1.959436
1.00000	-69.879584	6.276254	-7.37E-16	2.73E-16	5.79E-17	0.730302

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-67.564034	0.827546	-7.67E-17	2.73E-16	-1.45E-16	2.503190
0.50000	-68.705048	3.509604	-4.02E-16	2.73E-16	-8.51E-17	1.959436
1.00000	-69.879584	6.276254	-7.37E-16	2.73E-16	5.79E-17	0.730302

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-63.618257	-3.368775	4.01E-16	6.06E-17	-5.46E-16	5.989333
0.50000	-64.242542	-0.763264	8.57E-17	6.06E-17	-6.08E-16	6.510811
1.00000	-64.883437	1.925162	-2.40E-16	6.06E-17	-5.89E-16	6.366376

COMB COMB5 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-63.618257	-3.368775	4.01E-16	6.06E-17	-5.46E-16	5.989333
0.50000	-64.242542	-0.763264	8.57E-17	6.06E-17	-6.08E-16	6.510811
1.00000	-64.883437	1.925162	-2.40E-16	6.06E-17	-5.89E-16	6.366376

COMB COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-63.817135	-3.517684	4.18E-16	9.09E-17	-5.14E-16	6.185066
0.50000	-64.441419	-0.912173	1.02E-16	9.09E-17	-5.80E-16	6.744003
1.00000	-65.082315	1.776253	-2.23E-16	9.09E-17	-5.65E-16	6.637029

COMB COMB6 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-63.817135	-3.517684	4.18E-16	9.09E-17	-5.14E-16	6.185066
0.50000	-64.441419	-0.912173	1.02E-16	9.09E-17	-5.80E-16	6.744003
1.00000	-65.082315	1.776253	-2.23E-16	9.09E-17	-5.65E-16	6.637029

COMB COMB7 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-63.289496	-3.122625	3.74E-16	1.02E-17	-6.41E-16	5.988214
0.50000	-63.913781	-0.517113	5.82E-17	1.02E-17	-6.96E-16	6.447769
1.00000	-64.554677	2.171313	-2.67E-16	1.02E-17	-6.70E-16	6.241412

COMB COMB7 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-63.289496	-3.122625	3.74E-16	1.02E-17	-6.41E-16	5.988214
0.50000	-63.913781	-0.517113	5.82E-17	1.02E-17	-6.96E-16	6.447769
1.00000	-64.554677	2.171313	-2.67E-16	1.02E-17	-6.70E-16	6.241412

F R A M E E L E M E N T I N T E R N A L F O R C E S

ELEM 36 ========== LENGTH = 0.503126

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-102.295651	-5.880656	6.86E-16	-3.01E-17	-1.35E-15	13.315453
0.50000	-103.361600	-1.478026	1.53E-16	-3.01E-17	-1.46E-15	14.244047
1.00000	-104.455586	3.067684	-3.97E-16	-3.01E-17	-1.43E-15	14.047050

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-102.295651	-5.880656	6.86E-16	-3.01E-17	-1.35E-15	13.315453
0.50000	-103.361600	-1.478026	1.53E-16	-3.01E-17	-1.46E-15	14.244047
1.00000	-104.455586	3.067684	-3.97E-16	3.01E-17	-1.43E-15	14.047050

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-93.990257	1.766885	-1.86E-16	4.61E-16	1.69E-16	1.161183
0.50000	-95.852223	5.458498	-6.33E-16	4.61E-16	2.72E-16	0.254858
1.00000	-97.770679	9.268700	-1.09E-15	4.61E-16	4.89E-16	-1.595103

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-93.990257	1.766885	-1.86E-16	4.61E-16	1.69E-16	1.161183
0.50000	-95.852223	5.458498	-6.33E-16	4.61E-16	2.72E-16	0.254858
1.00000	-97.770679	9.268700	-1.09E-15	4.61E-16	4.89E-16	-1.595103

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-70.704822	1.143166	-1.19E-16	3.84E-16	1.51E-16	1.175371
0.50000	-72.101297	3.911876	-4.54E-16	3.84E-16	2.23E-16	0.541411
1.00000	-73.540139	6.769527	-8.00E-16	3.84E-16	3.81E-16	-0.800276

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-70.704822	1.143166	-1.19E-16	3.84E-16	1.51E-16	1.175371
0.50000	-72.101297	3.911876	-4.54E-16	3.84E-16	2.23E-16	0.541411
1.00000	-73.540139	6.769527	-8.00E-16	3.84E-16	3.81E-16	-0.800276

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-70.142025	1.626012	-1.73E-16	2.82E-16	3.94E-17	0.730302
0.50000	-71.538500	4.394722	-5.09E-16	2.82E-16	1.25E-16	-0.025124
1.00000	-72.977342	7.252374	-8.55E-16	2.82E-16	2.96E-16	-1.488277

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-70.142025	1.626012	-1.73E-16	2.82E-16	3.94E-17	0.730302
0.50000	-71.538500	4.394722	-5.09E-16	2.82E-16	1.25E-16	-0.025124
1.00000	-72.977342	7.252374	-8.55E-16	2.82E-16	2.96E-16	-1.488277

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-64.868199	-2.384004	2.82E-16	7.25E-17	-5.93E-16	6.366376
0.50000	-65.709237	0.341467	-4.81E-17	7.25E-17	-6.23E-16	6.625147
1.00000	-66.574279	3.155252	-3.89E-16	7.25E-17	-5.68E-16	6.187147

COMB COMB5 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-64.868199	-2.384004	2.82E-16	7.25E-17	-5.93E-16	6.366376
0.50000	-65.709237	0.341467	-4.81E-17	7.25E-17	-6.23E-16	6.625147
1.00000	-66.574279	3.155252	-3.89E-16	7.25E-17	-5.68E-16	6.187147

COMB COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-65.056759	-2.545780	3.00E-16	1.07E-16	-5.71E-16	6.637029
0.50000	-65.897797	0.179691	-2.98E-17	1.07E-16	-6.06E-16	6.936496
1.00000	-66.762839	2.993476	-3.71E-16	1.07E-16	-5.55E-16	6.539193

COMB COMB6 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-65.056759	-2.545780	3.00E-16	1.07E-16	-5.71E-16	6.637029
0.50000	-65.897797	0.179691	-2.98E-17	1.07E-16	-6.06E-16	6.936496
1.00000	-66.762839	2.993476	-3.71E-16	1.07E-16	-5.55E-16	6.539193

COMB COMB7 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-64.556495	-2.116583	2.52E-16	1.59E-17	-6.71E-16	6.241412
0.50000	-65.397532	0.608888	-7.81E-17	1.59E-17	-6.93E-16	6.432909
1.00000	-66.262575	3.422674	-4.19E-16	1.59E-17	-6.30E-16	5.927636

COMB COMB7 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-64.556495	-2.116583	2.52E-16	1.59E-17	-6.71E-16	6.241412
0.50000	-65.397532	0.608888	-7.81E-17	1.59E-17	-6.93E-16	6.432909
1.00000	-66.262575	3.422674	-4.19E-16	1.59E-17	-6.30E-16	5.927636

F R A M E E L E M E N T I N T E R N A L F O R C E S

ELEM 37 ========== LENGTH = 0.503126

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-104.428969	-3.869187	4.43E-16	-1.19E-17	-1.43E-15	14.047050
0.50000	-105.862099	0.740849	-1.16E-16	-1.19E-17	-1.47E-15	14.443717
1.00000	-107.336220	5.502107	-6.92E-16	-1.19E-17	-1.37E-15	13.661589

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-104.428969	-3.869187	4.43E-16	-1.19E-17	-1.43E-15	14.047050
0.50000	-105.862099	0.740849	-1.16E-16	-1.19E-17	-1.47E-15	14.443717
1.00000	-107.336220	5.502107	-6.92E-16	-1.19E-17	-1.37E-15	13.661589

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-98.170197	2.761677	-3.07E-16	4.79E-16	4.57E-16	-1.595103
0.50000	-100.404104	6.555692	-7.66E-16	4.79E-16	5.92E-16	-2.764470
1.00000	-102.706747	10.472658	-1.24E-15	4.79E-16	8.44E-16	-4.903785

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-98.170197	2.761677	-3.07E-16	4.79E-16	4.57E-16	-1.595103
0.50000	-100.404104	6.555692	-7.66E-16	4.79E-16	5.92E-16	-2.764470
1.00000	-102.706747	10.472658	-1.24E-15	4.79E-16	8.44E-16	-4.903785

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-73.827236	1.875587	-2.08E-16	4.02E-16	3.54E-16	-0.800276
0.50000	-75.502666	4.721098	-5.52E-16	4.02E-16	4.50E-16	-1.628077
1.00000	-77.229648	7.658823	-9.08E-16	4.02E-16	6.33E-16	-3.183340

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-73.827236	1.875587	-2.08E-16	4.02E-16	3.54E-16	-0.800276
0.50000	-75.502666	4.721098	-5.52E-16	4.02E-16	4.50E-16	-1.628077
1.00000	-77.229648	7.658823	-9.08E-16	4.02E-16	6.33E-16	-3.183340

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-73.297713	2.394709	-2.66E-16	2.89E-16	2.77E-16	-1.488277
0.50000	-74.973144	5.240220	-6.11E-16	2.89E-16	3.88E-16	-2.446671
1.00000	-76.700125	8.177945	-9.67E-16	2.89E-16	5.86E-16	-4.132525

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-73.297713	2.394709	-2.66E-16	2.89E-16	2.77E-16	-1.488277
0.50000	-74.973144	5.240220	-6.11E-16	2.89E-16	3.88E-16	-2.446671
1.00000	-76.700125	8.177945	-9.67E-16	2.89E-16	5.86E-16	-4.132525

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-66.636934	-1.268574	1.47E-16	8.44E-17	-5.73E-16	6.187147
0.50000	-67.717757	1.571878	-1.97E-16	8.44E-17	-5.67E-16	6.150950
1.00000	-68.830401	4.505224	-5.52E-16	8.44E-17	-4.73E-16	5.388480

COMB COMB5 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-66.636934	-1.268574	1.47E-16	8.44E-17	-5.73E-16	6.187147
0.50000	-67.717757	1.571878	-1.97E-16	8.44E-17	-5.67E-16	6.150950
1.00000	-68.830401	4.505224	-5.52E-16	8.44E-17	-4.73E-16	5.388480

COMB COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-66.814346	-1.442504	1.67E-16	1.22E-16	-5.63E-16	6.539193
0.50000	-67.895168	1.397948	-1.77E-16	1.22E-16	-5.62E-16	6.546750
1.00000	-69.007812	4.331294	-5.33E-16	1.22E-16	-4.73E-16	5.828035

COMB COMB6 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-66.814346	-1.442504	1.67E-16	1.22E-16	-5.63E-16	6.539193
0.50000	-67.895168	1.397948	-1.77E-16	1.22E-16	-5.62E-16	6.546750
1.00000	-69.007812	4.331294	-5.33E-16	1.22E-16	-4.73E-16	5.828035

COMB COMB7 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-66.343659	-0.981062	1.14E-16	2.17E-17	-6.32E-16	5.927636
0.50000	-67.424481	1.859390	-2.30E-16	2.17E-17	-6.17E-16	5.819112
1.00000	-68.537125	4.792736	-5.85E-16	2.17E-17	-5.15E-16	4.984314

COMB COMB7 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-66.343659	-0.981062	1.14E-16	2.17E-17	-6.32E-16	5.927636
0.50000	-67.424481	1.859390	-2.30E-16	2.17E-17	-6.17E-16	5.819112
1.00000	-68.537125	4.792736	-5.85E-16	2.17E-17	-5.15E-16	4.984314

F R A M E E L E M E N T I N T E R N A L F O R C E S

ELEM 38 ========== LENGTH = 0.503126

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-107.464760	-1.631780	1.72E-16	7.20E-18	-1.37E-15	13.661589
0.50000	-109.304476	3.174844	-4.10E-16	7.20E-18	-1.34E-15	13.470808
1.00000	-111.198482	8.138766	-1.01E-15	7.20E-18	-1.16E-15	12.051011

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-107.464760	-1.631780	1.72E-16	7.20E-18	-1.37E-15	13.661589
0.50000	-109.304476	3.174844	-4.10E-16	7.20E-18	-1.34E-15	13.470808
1.00000	-111.198482	8.138766	-1.01E-15	7.20E-18	-1.16E-15	12.051011

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-103.175284	3.634984	-4.12E-16	4.95E-16	8.12E-16	-4.903785
0.50000	-105.812418	7.513065	-8.82E-16	4.95E-16	9.74E-16	-6.303365
1.00000	-108.531193	11.516596	-1.37E-15	4.95E-16	1.26E-15	-8.694356

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-103.175284	3.634984	-4.12E-16	4.95E-16	8.12E-16	-4.903785
0.50000	-105.812418	7.513065	-8.82E-16	4.95E-16	9.74E-16	-6.303365
1.00000	-108.531193	11.516596	-1.37E-15	4.95E-16	1.26E-15	-8.694356

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-77.567628	2.517756	-2.86E-16	4.17E-16	6.06E-16	-3.183340
0.50000	-79.545479	5.426317	-6.38E-16	4.17E-16	7.22E-16	-4.180578
1.00000	-81.584560	8.428965	-1.00E-15	4.17E-16	9.28E-16	-5.921375

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-77.567628	2.517756	-2.86E-16	4.17E-16	6.06E-16	-3.183340
0.50000	-79.545479	5.426317	-6.38E-16	4.17E-16	7.22E-16	-4.180578
1.00000	-81.584560	8.428965	-1.00E-15	4.17E-16	9.28E-16	-5.921375

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-77.073716	3.070868	-3.48E-16	2.94E-16	5.66E-16	-4.132525
0.50000	-79.051567	5.979428	-7.01E-16	2.94E-16	6.98E-16	-5.268906
1.00000	-81.090648	8.982076	-1.06E-15	2.94E-16	9.20E-16	-7.148845

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-77.073716	3.070868	-3.48E-16	2.94E-16	5.66E-16	-4.132525
0.50000	-79.051567	5.979428	-7.01E-16	2.94E-16	6.98E-16	-5.268906
1.00000	-81.090648	8.982076	-1.06E-15	2.94E-16	9.20E-16	-7.148845

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-68.977648	-0.071604	1.99E-18	9.61E-17	-4.79E-16	5.388480
0.50000	-70.321657	2.875395	-3.55E-16	9.61E-17	-4.35E-16	5.037837
1.00000	-71.706449	5.918561	-7.23E-16	9.61E-17	-2.99E-16	3.933705

COMB COMB5 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-68.977648	-0.071604	1.99E-18	9.61E-17	-4.79E-16	5.388480
0.50000	-70.321657	2.875395	-3.55E-16	9.61E-17	-4.35E-16	5.037837
1.00000	-71.706449	5.918561	-7.23E-16	9.61E-17	-2.99E-16	3.933705

COMB COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-69.143128	-0.256921	2.31E-17	1.37E-16	-4.81E-16	5.828035
0.50000	-70.487337	2.690077	-3.34E-16	1.37E-16	-4.43E-16	5.524011
1.00000	-71.871930	5.733243	-7.02E-16	1.37E-16	-3.12E-16	4.466497

COMB COMB6 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-69.143128	-0.256921	2.31E-17	1.37E-16	-4.81E-16	5.828035
0.50000	-70.487337	2.690077	-3.34E-16	1.37E-16	-4.43E-16	5.524011
1.00000	-71.871930	5.733243	-7.02E-16	1.37E-16	-3.12E-16	4.466497

COMB COMB7 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-68.704096	0.234733	-3.28E-17	2.75E-17	-5.17E-16	4.984314
0.50000	-70.048304	3.181732	-3.90E-16	2.75E-17	-4.64E-16	4.556608
1.00000	-71.432897	6.224898	-7.58E-16	2.75E-17	-3.20E-16	3.375413

COMB COMB7 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-68.704096	0.234733	-3.28E-17	2.75E-17	-5.17E-16	4.984314
0.50000	-70.048304	3.181732	-3.90E-16	2.75E-17	-4.64E-16	4.556608
1.00000	-71.432897	6.224898	-7.58E-16	2.75E-17	-3.20E-16	3.375413

F R A M E E L E M E N T I N T E R N A L F O R C E S

ELEM 39 ========== LENGTH = 0.503126

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-111.493452	0.743027	-1.16E-16	2.71E-17	-1.16E-15	12.051011
0.50000	-113.779537	5.728900	-7.20E-16	2.71E-17	-1.06E-15	11.240366
1.00000	-116.134010	10.876592	-1.34E-15	2.71E-17	-7.96E-16	9.155042

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-111.493452	0.743027	-1.16E-16	2.71E-17	-1.16E-15	12.051011
0.50000	-113.779537	5.728900	-7.20E-16	2.71E-17	-1.06E-15	11.240366
1.00000	-116.134010	10.876592	-1.34E-15	2.71E-17	-7.96E-16	9.155042

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-109.056153	4.290383	-4.92E-16	5.07E-16	1.22E-15	-8.694356
0.50000	-112.127482	8.228552	-9.69E-16	5.07E-16	1.41E-15	-10.266346
1.00000	-115.293729	12.293142	-1.46E-15	5.07E-16	1.71E-15	-12.844986

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-109.056153	4.290383	-4.92E-16	5.07E-16	1.22E-15	-8.694356
0.50000	-112.127482	8.228552	-9.69E-16	5.07E-16	1.41E-15	-10.266346
1.00000	-115.293729	12.293142	-1.46E-15	5.07E-16	1.71E-15	-12.844986

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-81.964037	2.997413	-3.44E-16	4.30E-16	9.00E-16	-5.921375
0.50000	-84.267534	5.951039	-7.01E-16	4.30E-16	1.03E-15	-7.044930
1.00000	-86.642219	8.999482	-1.07E-15	4.30E-16	1.25E-15	-8.923472

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-81.964037	2.997413	-3.44E-16	4.30E-16	9.00E-16	-5.921375
0.50000	-84.267534	5.951039	-7.01E-16	4.30E-16	1.03E-15	-7.044930
1.00000	-86.642219	8.999482	-1.07E-15	4.30E-16	1.25E-15	-8.923472

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-81.507911	3.582076	-4.10E-16	2.97E-16	9.00E-16	-7.148845
0.50000	-83.811408	6.535702	-7.68E-16	2.97E-16	1.05E-15	-8.419480
1.00000	-86.186094	9.584145	-1.14E-15	2.97E-16	1.29E-15	-10.445101

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-81.507911	3.582076	-4.10E-16	2.97E-16	9.00E-16	-7.148845
0.50000	-83.811408	6.535702	-7.68E-16	2.97E-16	1.05E-15	-8.419480
1.00000	-86.186094	9.584145	-1.14E-15	2.97E-16	1.29E-15	-10.445101

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-71.941132	1.147934	-1.46E-16	1.08E-16	-3.06E-16	3.933705
0.50000	-73.572907	4.188975	-5.14E-16	1.08E-16	-2.23E-16	3.264491
1.00000	-75.254066	7.328453	-8.94E-16	1.08E-16	-4.66E-17	1.817843

COMB COMB5 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-71.941132	1.147934	-1.46E-16	1.08E-16	-3.06E-16	3.933705
0.50000	-73.572907	4.188975	-5.14E-16	1.08E-16	-2.23E-16	3.264491
1.00000	-75.254066	7.328453	-8.94E-16	1.08E-16	-4.66E-17	1.817843

COMB COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-72.093952	0.952046	-1.23E-16	1.52E-16	-3.22E-16	4.466497
0.50000	-73.725727	3.993087	-4.92E-16	1.52E-16	-2.45E-16	3.846562
1.00000	-75.406887	7.132564	-8.72E-16	1.52E-16	-7.37E-17	2.449192

COMB COMB6 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-72.093952	0.952046	-1.23E-16	1.52E-16	-3.22E-16	4.466497
0.50000	-73.725727	3.993087	-4.92E-16	1.52E-16	-2.45E-16	3.846562
1.00000	-75.406887	7.132564	-8.72E-16	1.52E-16	-7.37E-17	2.449192

COMB COMB7 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-71.688507	1.471746	-1.83E-16	3.34E-17	-3.22E-16	3.375413
0.50000	-73.320282	4.512787	-5.51E-16	3.34E-17	-2.30E-16	2.624740
1.00000	-75.001441	7.652265	-9.31E-16	3.34E-17	-4.35E-17	1.096633

COMB COMB7 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-71.688507	1.471746	-1.83E-16	3.34E-17	-3.22E-16	3.375413
0.50000	-73.320282	4.512787	-5.51E-16	3.34E-17	-2.30E-16	2.624740
1.00000	-75.001441	7.652265	-9.31E-16	3.34E-17	-4.35E-17	1.096633

F R A M E E L E M E N T I N T E R N A L F O R C E S

ELEM 40 ========== LENGTH = 0.503126

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-116.599751	3.147467	-4.07E-16	4.78E-17	-7.99E-16	9.155042
0.50000	-119.371792	8.289226	-1.03E-15	4.78E-17	-6.19E-16	7.719973
1.00000	-122.226290	13.595285	-1.67E-15	4.78E-17	-2.79E-16	4.970695

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-116.599751	3.147467	-4.07E-16	4.78E-17	-7.99E-16	9.155042
0.50000	-119.371792	8.289226	-1.03E-15	4.78E-17	-6.19E-16	7.719973
1.00000	-122.226290	13.595285	-1.67E-15	4.78E-17	-2.79E-16	4.970695

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-115.855306	4.616646	-5.31E-16	5.16E-16	1.68E-15	-12.844986
0.50000	-119.390334	8.585615	-1.01E-15	5.16E-16	1.87E-15	-14.502948
1.00000	-123.033109	12.680009	-1.51E-15	5.16E-16	2.19E-15	-17.175183

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-115.855306	4.616646	-5.31E-16	5.16E-16	1.68E-15	-12.844986
0.50000	-119.390334	8.585615	-1.01E-15	5.16E-16	1.87E-15	-14.502948
1.00000	-123.033109	12.680009	-1.51E-15	5.16E-16	2.19E-15	-17.175183

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-87.048402	3.231189	-3.72E-16	4.41E-16	1.22E-15	-8.923472
0.50000	-89.699673	6.207915	-7.32E-16	4.41E-16	1.36E-15	-10.108758
1.00000	-92.431754	9.278711	-1.10E-15	4.41E-16	1.59E-15	-12.054748

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-87.048402	3.231189	-3.72E-16	4.41E-16	1.22E-15	-8.923472
0.50000	-89.699673	6.207915	-7.32E-16	4.41E-16	1.36E-15	-10.108758
1.00000	-92.431754	9.278711	-1.10E-15	4.41E-16	1.59E-15	-12.054748

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-86.632072	3.844826	-4.42E-16	2.98E-16	1.27E-15	-10.445101
0.50000	-89.283343	6.821553	-8.03E-16	2.98E-16	1.42E-15	-11.764755
1.00000	-92.015424	9.892349	-1.17E-15	2.98E-16	1.67E-15	-13.885115

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-86.632072	3.844826	-4.42E-16	2.98E-16	1.27E-15	-10.445101
0.50000	-89.283343	6.821553	-8.03E-16	2.98E-16	1.42E-15	-11.764755
1.00000	-92.015424	9.892349	-1.17E-15	2.98E-16	1.67E-15	-13.885115

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-75.574474	2.319413	-2.88E-16	1.19E-16	-5.41E-17	1.817843
0.50000	-77.517629	5.438214	-6.65E-16	1.19E-16	6.55E-17	0.844168
1.00000	-79.519072	8.656410	-1.06E-15	1.19E-16	2.82E-16	-0.926625

COMB COMB5 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-75.574474	2.319413	-2.88E-16	1.19E-16	-5.41E-17	1.817843
0.50000	-77.517629	5.438214	-6.65E-16	1.19E-16	6.55E-17	0.844168
1.00000	-79.519072	8.656410	-1.06E-15	1.19E-16	2.82E-16	-0.926625

COMB COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-75.713960	2.113817	-2.64E-16	1.66E-16	-8.43E-17	2.449192
0.50000	-77.657116	5.232618	-6.42E-16	1.66E-16	2.94E-17	1.527237
1.00000	-79.658559	8.450814	-1.03E-15	1.66E-16	2.40E-16	-0.191835

COMB COMB6 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-75.713960	2.113817	-2.64E-16	1.66E-16	-8.43E-17	2.449192
0.50000	-77.657116	5.232618	-6.42E-16	1.66E-16	2.94E-17	1.527237
1.00000	-79.658559	8.450814	-1.03E-15	1.66E-16	2.40E-16	-0.191835

COMB COMB7 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-75.343889	2.659273	-3.26E-16	3.92E-17	-4.59E-17	1.096633
0.50000	-77.287045	5.778073	-7.04E-16	3.92E-17	8.35E-17	0.037462
1.00000	-79.288488	8.996270	-1.09E-15	3.92E-17	3.09E-16	-1.818828

COMB COMB7 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-75.343889	2.659273	-3.26E-16	3.92E-17	-4.59E-17	1.096633
0.50000	-77.287045	5.778073	-7.04E-16	3.92E-17	8.35E-17	0.037462
1.00000	-79.288488	8.996270	-1.09E-15	3.92E-17	3.09E-16	-1.818828

F R A M E E L E M E N T I N T E R N A L F O R C E S

ELEM 41 ========== LENGTH = 0.503083

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-122.881434	4.924520	-6.22E-16	7.05E-17	-2.83E-16	4.970695
0.50000	-126.221152	10.189450	-1.26E-15	7.05E-17	-4.71E-17	3.073268
1.00000	-129.659147	15.619881	-1.92E-15	7.05E-17	3.52E-16	-0.169324

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-122.881434	4.924520	-6.22E-16	7.05E-17	-2.83E-16	4.970695
0.50000	-126.221152	10.189450	-1.26E-15	7.05E-17	-4.71E-17	3.073268
1.00000	-129.659147	15.619881	-1.92E-15	7.05E-17	3.52E-16	-0.169324

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-123.621561	3.954520	-4.51E-16	5.23E-16	2.15E-15	-17.175183
0.50000	-127.685025	7.913507	-9.31E-16	5.23E-16	2.33E-15	-18.665256
1.00000	-131.870305	11.995522	-1.42E-15	5.23E-16	2.62E-15	-21.166652

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-123.621561	3.954520	-4.51E-16	5.23E-16	2.15E-15	-17.175183
0.50000	-127.685025	7.913507	-9.31E-16	5.23E-16	2.33E-15	-18.665256
1.00000	-131.870305	11.995522	-1.42E-15	5.23E-16	2.62E-15	-21.166652

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-92.856357	2.724084	-3.10E-16	4.49E-16	1.56E-15	-12.054748
0.50000	-95.903955	5.693324	-6.70E-16	4.49E-16	1.69E-15	-13.111479
1.00000	-99.042915	8.754836	-1.04E-15	4.49E-16	1.90E-15	-14.926702

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-92.856357	2.724084	-3.10E-16	4.49E-16	1.56E-15	-12.054748
0.50000	-95.903955	5.693324	-6.70E-16	4.49E-16	1.69E-15	-13.111479
1.00000	-99.042915	8.754836	-1.04E-15	4.49E-16	1.90E-15	-14.926702

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-92.484429	3.365606	-3.84E-16	2.96E-16	1.65E-15	-13.885115
0.50000	-95.532027	6.334847	-7.44E-16	2.96E-16	1.79E-15	-15.103215
1.00000	-98.670987	9.396358	-1.11E-15	2.96E-16	2.03E-15	-17.079807

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-92.484429	3.365606	-3.84E-16	2.96E-16	1.65E-15	-13.885115
0.50000	-95.532027	6.334847	-7.44E-16	2.96E-16	1.79E-15	-15.103215
1.00000	-98.670987	9.396358	-1.11E-15	2.96E-16	2.03E-15	-17.079807

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-79.931979	3.015778	-3.72E-16	1.31E-16	2.73E-16	-0.926625
0.50000	-82.236395	6.189581	-7.56E-16	1.31E-16	4.14E-16	-2.082305
1.00000	-84.609043	9.462886	-1.15E-15	1.31E-16	6.54E-16	-4.048843

COMB COMB5 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-79.931979	3.015778	-3.72E-16	1.31E-16	2.73E-16	-0.926625
0.50000	-82.236395	6.189581	-7.56E-16	1.31E-16	4.14E-16	-2.082305
1.00000	-84.609043	9.462886	-1.15E-15	1.31E-16	6.54E-16	-4.048843

COMB COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-80.056590	2.800839	-3.47E-16	1.81E-16	2.27E-16	-0.191835
0.50000	-82.361005	5.974643	-7.32E-16	1.81E-16	3.63E-16	-1.293449
1.00000	-84.733653	9.247947	-1.13E-15	1.81E-16	5.96E-16	-3.205921

COMB COMB6 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-80.056590	2.800839	-3.47E-16	1.81E-16	2.27E-16	-0.191835
0.50000	-82.361005	5.974643	-7.32E-16	1.81E-16	3.63E-16	-1.293449
1.00000	-84.733653	9.247947	-1.13E-15	1.81E-16	5.96E-16	-3.205921

COMB COMB7 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-79.725987	3.371081	-4.13E-16	4.54E-17	3.06E-16	-1.818828
0.50000	-82.030402	6.544885	-7.97E-16	4.54E-17	4.58E-16	-3.063881
1.00000	-84.403050	9.818189	-1.19E-15	4.54E-17	7.08E-16	-5.119793

COMB COMB7 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-79.725987	3.371081	-4.13E-16	4.54E-17	3.06E-16	-1.818828
0.50000	-82.030402	6.544885	-7.97E-16	4.54E-17	4.58E-16	-3.063881
1.00000	-84.403050	9.818189	-1.19E-15	4.54E-17	7.08E-16	-5.119793

F R A M E E L E M E N T I N T E R N A L F O R C E S

ELEM 42 ========== LENGTH = 0.503070

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-130.509171	4.778201	-6.05E-16	9.78E-17	3.45E-16	-0.169324
0.50000	-134.501037	10.063807	-1.24E-15	9.78E-17	5.77E-16	-2.032536
1.00000	-138.609376	15.513023	-1.90E-15	9.78E-17	9.73E-16	-5.245838

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-130.509171	4.778201	-6.05E-16	9.78E-17	3.45E-16	-0.169324
0.50000	-134.501037	10.063807	-1.24E-15	9.78E-17	5.77E-16	-2.032536
1.00000	-138.609376	15.513023	-1.90E-15	9.78E-17	9.73E-16	-5.245838

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-132.411120	0.982442	-9.11E-17	5.26E-16	2.58E-15	-21.166652
0.50000	-137.055839	4.816907	-5.55E-16	5.26E-16	2.66E-15	-21.893561
1.00000	-141.837837	8.768737	-1.03E-15	5.26E-16	2.86E-15	-23.599732

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-132.411120	0.982442	-9.11E-17	5.26E-16	2.58E-15	-21.166652
0.50000	-137.055839	4.816907	-5.55E-16	5.26E-16	2.66E-15	-21.893561
1.00000	-141.837837	8.768737	-1.03E-15	5.26E-16	2.86E-15	-23.599732

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-99.427922	0.484200	-3.92E-17	4.55E-16	1.86E-15	-14.926702
0.50000	-102.911461	3.360049	-3.88E-16	4.55E-16	1.92E-15	-15.408338
1.00000	-106.497960	6.323922	-7.46E-16	4.55E-16	2.06E-15	-16.624421

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-99.427922	0.484200	-3.92E-17	4.55E-16	1.86E-15	-14.926702
0.50000	-102.911461	3.360049	-3.88E-16	4.55E-16	1.92E-15	-15.408338
1.00000	-106.497960	6.323922	-7.46E-16	4.55E-16	2.06E-15	-16.624421

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-99.110657	1.154443	-1.16E-16	2.92E-16	2.00E-15	-17.079807
0.50000	-102.594197	4.030291	-4.65E-16	2.92E-16	2.08E-15	-17.730033
1.00000	-106.180695	6.994164	-8.24E-16	2.92E-16	2.24E-15	-19.114705

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-99.110657	1.154443	-1.16E-16	2.92E-16	2.00E-15	-17.079807
0.50000	-102.594197	4.030291	-4.65E-16	2.92E-16	2.08E-15	-17.730033
1.00000	-106.180695	6.994164	-8.24E-16	2.92E-16	2.24E-15	-19.114705

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-85.103002	2.390681	-2.96E-16	1.44E-16	6.43E-16	-4.048843
0.50000	-87.817591	5.550673	-6.79E-16	1.44E-16	7.65E-16	-5.045562
1.00000	-90.611716	8.808230	-1.07E-15	1.44E-16	9.85E-16	-6.849399

COMB COMB5 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-85.103002	2.390681	-2.96E-16	1.44E-16	6.43E-16	-4.048843
0.50000	-87.817591	5.550673	-6.79E-16	1.44E-16	7.65E-16	-5.045562
1.00000	-90.611716	8.808230	-1.07E-15	1.44E-16	9.85E-16	-6.849399

COMB COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-85.209297	2.166120	-2.70E-16	1.98E-16	5.81E-16	-3.205921
0.50000	-87.923887	5.326112	-6.53E-16	1.98E-16	6.96E-16	-4.146155
1.00000	-90.718011	8.583669	-1.05E-15	1.98E-16	9.10E-16	-5.893507

COMB COMB6 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-85.209297	2.166120	-2.70E-16	1.98E-16	5.81E-16	-3.205921
0.50000	-87.923887	5.326112	-6.53E-16	1.98E-16	6.96E-16	-4.146155
1.00000	-90.718011	8.583669	-1.05E-15	1.98E-16	9.10E-16	-5.893507

COMB COMB7 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-84.927284	2.761891	-3.39E-16	5.26E-17	7.04E-16	-5.119793
0.50000	-87.641874	5.921883	-7.22E-16	5.26E-17	8.37E-16	-6.209884
1.00000	-90.435998	9.179440	-1.12E-15	5.26E-17	1.07E-15	-8.107093

COMB COMB7 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-84.927284	2.761891	-3.39E-16	5.26E-17	7.04E-16	-5.119793
0.50000	-87.641874	5.921883	-7.22E-16	5.26E-17	8.37E-16	-6.209884
1.00000	-90.435998	9.179440	-1.12E-15	5.26E-17	1.07E-15	-8.107093

F R A M E E L E M E N T I N T E R N A L F O R C E S

ELEM 43 ========== LENGTH = 0.503070

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-139.422601	3.814645	-4.88E-16	1.26E-16	9.64E-16	-5.245838
0.50000	-144.106191	9.055202	-1.12E-15	1.26E-16	1.17E-15	-6.861132
1.00000	-148.924014	14.453926	-1.78E-15	1.26E-16	1.53E-15	-9.814502

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-139.422601	3.814645	-4.88E-16	1.26E-16	9.64E-16	-5.245838
0.50000	-144.106191	9.055202	-1.12E-15	1.26E-16	1.17E-15	-6.861132
1.00000	-148.924014	14.453926	-1.78E-15	1.26E-16	1.53E-15	-9.814502

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-142.073113	-3.177003	4.13E-16	5.24E-16	2.81E-15	-23.599732
0.50000	-147.319306	0.466294	-2.86E-17	5.24E-16	2.77E-15	-23.256532
1.00000	-152.717107	4.218434	-4.83E-16	5.24E-16	2.83E-15	-23.843437

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-142.073113	-3.177003	4.13E-16	5.24E-16	2.81E-15	-23.599732
0.50000	-147.319306	0.466294	-2.86E-17	5.24E-16	2.77E-15	-23.256532
1.00000	-152.717107	4.218434	-4.83E-16	5.24E-16	2.83E-15	-23.843437

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-106.652772	-2.644535	3.40E-16	4.58E-16	2.02E-15	-16.624421
0.50000	-110.587418	0.087937	8.76E-18	4.58E-16	1.98E-15	-16.301173
1.00000	-114.635768	2.902042	-3.32E-16	4.58E-16	2.02E-15	-16.675504

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-106.652772	-2.644535	3.40E-16	4.58E-16	2.02E-15	-16.624421
0.50000	-110.587418	0.087937	8.76E-18	4.58E-16	1.98E-15	-16.301173
1.00000	-114.635768	2.902042	-3.32E-16	4.58E-16	2.02E-15	-16.675504

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-106.392931	-1.950011	2.60E-16	2.84E-16	2.21E-15	-19.114705
0.50000	-110.327577	0.782461	-7.12E-17	2.84E-16	2.19E-15	-18.966154
1.00000	-114.375927	3.596567	-4.12E-16	2.84E-16	2.25E-15	-19.515183

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-106.392931	-1.950011	2.60E-16	2.84E-16	2.21E-15	-19.114705
0.50000	-110.327577	0.782461	-7.12E-17	2.84E-16	2.19E-15	-18.966154
1.00000	-114.375927	3.596567	-4.12E-16	2.84E-16	2.25E-15	-19.515183

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-91.031366	1.165478	-1.48E-16	1.56E-16	9.73E-16	-6.849399
0.50000	-94.178197	4.268806	-5.24E-16	1.56E-16	1.06E-15	-7.530897
1.00000	-97.415452	7.465589	-9.11E-16	1.56E-16	1.24E-15	-9.004744

COMB COMB5 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-91.031366	1.165478	-1.48E-16	1.56E-16	9.73E-16	-6.849399
0.50000	-94.178197	4.268806	-5.24E-16	1.56E-16	1.06E-15	-7.530897
1.00000	-97.415452	7.465589	-9.11E-16	1.56E-16	1.24E-15	-9.004744

COMB COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-91.118422	0.932782	-1.21E-16	2.14E-16	8.93E-16	-5.893507
0.50000	-94.265253	4.036110	-4.97E-16	2.14E-16	9.70E-16	-6.516473
1.00000	-97.502508	7.232892	-8.84E-16	2.14E-16	1.14E-15	-7.931789

COMB COMB6 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-91.118422	0.932782	-1.21E-16	2.14E-16	8.93E-16	-5.893507
0.50000	-94.265253	4.036110	-4.97E-16	2.14E-16	9.70E-16	-6.516473
1.00000	-97.502508	7.232892	-8.84E-16	2.14E-16	1.14E-15	-7.931789

COMB COMB7 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-90.887452	1.550137	-1.92E-16	5.97E-17	1.06E-15	-8.107093
0.50000	-94.034283	4.653465	-5.68E-16	5.97E-17	1.16E-15	-8.885346
1.00000	-97.271538	7.850247	-9.55E-16	5.97E-17	1.35E-15	-10.455948

COMB COMB7 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-90.887452	1.550137	-1.92E-16	5.97E-17	1.06E-15	-8.107093
0.50000	-94.034283	4.653465	-5.68E-16	5.97E-17	1.16E-15	-8.885346
1.00000	-97.271538	7.850247	-9.55E-16	5.97E-17	1.35E-15	-10.455948

F R A M E E L E M E N T I N T E R N A L F O R C E S

ELEM 44 ========== LENGTH = 0.503070

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-149.611804	1.893622	-2.55E-16	1.54E-16	1.52E-15	-9.814502
0.50000	-155.015006	7.016928	-8.76E-16	1.54E-16	1.66E-15	-10.932008
1.00000	-160.569009	12.290586	-1.51E-15	1.54E-16	1.96E-15	-13.357116

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-149.611804	1.893622	-2.55E-16	1.54E-16	1.52E-15	-9.814502
0.50000	-155.015006	7.016928	-8.76E-16	1.54E-16	1.66E-15	-10.932008
1.00000	-160.569009	12.290586	-1.51E-15	1.54E-16	1.96E-15	-13.357116

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-152.531738	-8.624308	1.07E-15	5.17E-16	2.79E-15	-23.843437
0.50000	-158.387913	-5.241806	6.63E-16	5.17E-16	2.57E-15	-22.097468
1.00000	-164.408429	-1.760984	2.41E-16	5.17E-16	2.45E-15	-21.214683

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-152.531738	-8.624308	1.07E-15	5.17E-16	2.79E-15	-23.843437
0.50000	-158.387913	-5.241806	6.63E-16	5.17E-16	2.57E-15	-22.097468
1.00000	-164.408429	-1.760984	2.41E-16	5.17E-16	2.45E-15	-21.214683

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-114.474407	-6.737316	8.35E-16	4.56E-16	1.98E-15	-16.675504
0.50000	-118.866538	-4.200439	5.28E-16	4.56E-16	1.81E-15	-15.298343
1.00000	-123.381924	-1.589822	2.12E-16	4.56E-16	1.71E-15	-14.568570

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-114.474407	-6.737316	8.35E-16	4.56E-16	1.98E-15	-16.675504
0.50000	-118.866538	-4.200439	5.28E-16	4.56E-16	1.81E-15	-15.298343
1.00000	-123.381924	-1.589822	2.12E-16	4.56E-16	1.71E-15	-14.568570

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-114.273822	-6.023420	7.53E-16	2.74E-16	2.23E-15	-19.515183
0.50000	-118.665953	-3.486543	4.46E-16	2.74E-16	2.07E-15	-18.317592
1.00000	-123.181340	-0.875927	1.30E-16	2.74E-16	2.00E-15	-17.767389

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-114.273822	-6.023420	7.53E-16	2.74E-16	2.23E-15	-19.515183
0.50000	-118.665953	-3.486543	4.46E-16	2.74E-16	2.07E-15	-18.317592
1.00000	-123.181340	-0.875927	1.30E-16	2.74E-16	2.00E-15	-17.767389

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-97.698273	-0.743436	8.33E-17	1.68E-16	1.22E-15	-9.004744
0.50000	-101.291819	2.256828	-2.80E-16	1.68E-16	1.25E-15	-9.193237
1.00000	-104.985828	5.344963	-6.54E-16	1.68E-16	1.37E-15	-10.147455

COMB COMB5 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-97.698273	-0.743436	8.33E-17	1.68E-16	1.22E-15	-9.004744
0.50000	-101.291819	2.256828	-2.80E-16	1.68E-16	1.25E-15	-9.193237
1.00000	-104.985828	5.344963	-6.54E-16	1.68E-16	1.37E-15	-10.147455

COMB COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-97.765476	-0.982622	1.11E-16	2.28E-16	1.13E-15	-7.931789
0.50000	-101.359021	2.017642	-2.52E-16	2.28E-16	1.14E-15	-8.060119
1.00000	-105.053030	5.105777	-6.26E-16	2.28E-16	1.25E-15	-8.954173

COMB COMB6 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-97.765476	-0.982622	1.11E-16	2.28E-16	1.13E-15	-7.931789
0.50000	-101.359021	2.017642	-2.52E-16	2.28E-16	1.14E-15	-8.060119
1.00000	-105.053030	5.105777	-6.26E-16	2.28E-16	1.25E-15	-8.954173

COMB COMB7 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-97.587178	-0.348048	3.78E-17	6.65E-17	1.34E-15	-10.455948
0.50000	-101.180724	2.652216	-3.26E-16	6.65E-17	1.38E-15	-10.743896
1.00000	-104.874733	5.740351	-7.00E-16	6.65E-17	1.51E-15	-11.797567

COMB COMB7 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-97.587178	-0.348048	3.78E-17	6.65E-17	1.34E-15	-10.455948
0.50000	-101.180724	2.652216	-3.26E-16	6.65E-17	1.38E-15	-10.743896
1.00000	-104.874733	5.740351	-7.00E-16	6.65E-17	1.51E-15	-11.797567

F R A M E E L E M E N T I N T E R N A L F O R C E S

ELEM 45 ========== LENGTH = 0.503070

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-161.033930	-1.240347	1.24E-16	1.82E-16	1.95E-15	-13.357116
0.50000	-167.175717	3.686594	-4.72E-16	1.82E-16	1.99E-15	-13.661845
1.00000	-173.483492	8.753288	-1.09E-15	1.82E-16	2.18E-15	-15.223447

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-161.033930	-1.240347	1.24E-16	1.82E-16	1.95E-15	-13.357116
0.50000	-167.175717	3.686594	-4.72E-16	1.82E-16	1.99E-15	-13.661845
1.00000	-173.483492	8.753288	-1.09E-15	1.82E-16	2.18E-15	-15.223447

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-163.679476	-15.564761	1.91E-15	5.06E-16	2.41E-15	-21.214683
0.50000	-170.144739	-12.516992	1.54E-15	5.06E-16	1.98E-15	-17.681116
1.00000	-176.785283	-9.383461	1.16E-15	5.06E-16	1.63E-15	-14.924955

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-163.679476	-15.564761	1.91E-15	5.06E-16	2.41E-15	-21.214683
0.50000	-170.144739	-12.516992	1.54E-15	5.06E-16	1.98E-15	-17.681116
1.00000	-176.785283	-9.383461	1.16E-15	5.06E-16	1.63E-15	-14.924955

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-122.812340	-11.948055	1.47E-15	4.50E-16	1.68E-15	-14.568570
0.50000	-127.661287	-9.662228	1.19E-15	4.50E-16	1.34E-15	-11.849352
1.00000	-132.641696	-7.312080	9.05E-16	4.50E-16	1.08E-15	-9.713189

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-122.812340	-11.948055	1.47E-15	4.50E-16	1.68E-15	-14.568570
0.50000	-127.661287	-9.662228	1.19E-15	4.50E-16	1.34E-15	-11.849352
1.00000	-132.641696	-7.312080	9.05E-16	4.50E-16	1.08E-15	-9.713189

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-122.672430	-11.219833	1.38E-15	2.60E-16	1.98E-15	-17.767389
0.50000	-127.521377	-8.934007	1.11E-15	2.60E-16	1.67E-15	-15.231344
1.00000	-132.501786	-6.583858	8.21E-16	2.60E-16	1.42E-15	-13.278354

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-122.672430	-11.219833	1.38E-15	2.60E-16	1.98E-15	-17.767389
0.50000	-127.521377	-8.934007	1.11E-15	2.60E-16	1.67E-15	-15.231344
1.00000	-132.501786	-6.583858	8.21E-16	2.60E-16	1.42E-15	-13.278354

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-105.063765	-3.492540	4.16E-16	1.79E-16	1.35E-15	-10.147455
0.50000	-109.112620	-0.645742	7.15E-17	1.79E-16	1.29E-15	-9.625304
1.00000	-113.271002	2.281677	-2.83E-16	1.79E-16	1.32E-15	-9.829361

COMB COMB5 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-105.063765	-3.492540	4.16E-16	1.79E-16	1.35E-15	-10.147455
0.50000	-109.112620	-0.645742	7.15E-17	1.79E-16	1.29E-15	-9.625304
1.00000	-113.271002	2.281677	-2.83E-16	1.79E-16	1.32E-15	-9.829361

COMB COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-105.110639	-3.736526	4.44E-16	2.42E-16	1.23E-15	-8.954173
0.50000	-109.159493	-0.889728	9.97E-17	2.42E-16	1.16E-15	-8.370651
1.00000	-113.317876	2.037691	-2.55E-16	2.42E-16	1.18E-15	-8.513337

COMB COMB6 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-105.110639	-3.736526	4.44E-16	2.42E-16	1.23E-15	-8.954173
0.50000	-109.159493	-0.889728	9.97E-17	2.42E-16	1.16E-15	-8.370651
1.00000	-113.317876	2.037691	-2.55E-16	2.42E-16	1.18E-15	-8.513337

COMB COMB7 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-104.986275	-3.089218	3.70E-16	7.31E-17	1.50E-15	-11.797567
0.50000	-109.035129	-0.242419	2.50E-17	7.31E-17	1.45E-15	-11.376866
1.00000	-113.193511	2.684999	-3.30E-16	7.31E-17	1.49E-15	-11.682373

COMB COMB7 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-104.986275	-3.089218	3.70E-16	7.31E-17	1.50E-15	-11.797567
0.50000	-109.035129	-0.242419	2.50E-17	7.31E-17	1.45E-15	-11.376866
1.00000	-113.193511	2.684999	-3.30E-16	7.31E-17	1.49E-15	-11.682373

F R A M E E L E M E N T I N T E R N A L F O R C E S

ELEM 46 ========== LENGTH = 0.503070

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-173.607500	-5.806006	6.92E-16	2.10E-16	2.17E-15	-15.223447
0.50000	-173.621402	-1.756500	2.01E-16	2.10E-16	2.06E-15	-14.270023
1.00000	-173.625774	2.403068	-3.03E-16	2.10E-16	2.07E-15	-14.349033

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-173.607500	-5.806006	6.92E-16	2.10E-16	2.17E-15	-15.223447
0.50000	-173.621402	-1.756500	2.01E-16	2.10E-16	2.06E-15	-14.270023
1.00000	-173.625774	2.403068	-3.03E-16	2.10E-16	2.07E-15	-14.349033

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-175.509372	-20.940925	3.61E-15	4.89E-16	1.59E-15	-14.924955
0.50000	-175.697223	-18.900510	3.37E-15	4.89E-16	7.15E-16	-9.913043
1.00000	-175.890309	-16.805063	3.11E-15	4.89E-16	-1.00E-16	-5.421289

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-175.509372	-20.940925	3.61E-15	4.89E-16	1.59E-15	-14.924955
0.50000	-175.697223	-18.900510	3.37E-15	4.89E-16	7.15E-16	-9.913043
1.00000	-175.890309	-16.805063	3.11E-15	4.89E-16	-1.00E-16	-5.421289

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-131.666799	-15.858128	2.77E-15	4.40E-16	1.04E-15	-9.713189
0.50000	-131.807687	-14.327817	2.58E-15	4.40E-16	3.67E-16	-5.915913
1.00000	-131.945002	-12.756232	2.39E-15	4.40E-16	-2.58E-16	-2.508754

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-131.666799	-15.858128	2.77E-15	4.40E-16	1.04E-15	-9.713189
0.50000	-131.807687	-14.327817	2.58E-15	4.40E-16	3.67E-16	-5.915913
1.00000	-131.945002	-12.756232	2.39E-15	4.40E-16	-2.58E-16	-2.508754

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-131.573787	-15.471736	2.61E-15	2.44E-16	1.40E-15	-13.278354
0.50000	-131.714675	-13.941425	2.43E-15	2.44E-16	7.69E-16	-9.578269
1.00000	-131.851990	-12.369840	2.24E-15	2.44E-16	1.83E-16	-6.268302

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-131.573787	-15.471736	2.61E-15	2.44E-16	1.40E-15	-13.278354
0.50000	-131.714675	-13.941425	2.43E-15	2.44E-16	7.69E-16	-9.578269
1.00000	-131.851990	-12.369840	2.24E-15	2.44E-16	1.83E-16	-6.268302

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-113.088915	-6.609296	9.97E-16	1.89E-16	1.30E-15	-9.829361
0.50000	-113.130574	-4.356632	7.24E-16	1.89E-16	1.08E-15	-8.448922
1.00000	-113.166938	-2.042823	4.44E-16	1.89E-16	9.36E-16	-7.642797

COMB COMB5 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-113.088915	-6.609296	9.97E-16	1.89E-16	1.30E-15	-9.829361
0.50000	-113.130574	-4.356632	7.24E-16	1.89E-16	1.08E-15	-8.448922
1.00000	-113.166938	-2.042823	4.44E-16	1.89E-16	9.36E-16	-7.642797

COMB COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-113.119822	-6.744793	1.05E-15	2.54E-16	1.16E-15	-8.513337
0.50000	-113.161480	-4.492130	7.75E-16	2.54E-16	9.33E-16	-7.098816
1.00000	-113.197845	-2.178321	4.95E-16	2.54E-16	7.73E-16	-6.258608

COMB COMB6 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-113.119822	-6.744793	1.05E-15	2.54E-16	1.16E-15	-8.513337
0.50000	-113.161480	-4.492130	7.75E-16	2.54E-16	9.33E-16	-7.098816
1.00000	-113.197845	-2.178321	4.95E-16	2.54E-16	7.73E-16	-6.258608

COMB COMB7 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-113.037145	-6.401333	9.10E-16	7.93E-17	1.49E-15	-11.682373
0.50000	-113.078803	-4.148670	6.37E-16	7.93E-17	1.29E-15	-10.354243
1.00000	-113.115167	-1.834861	3.57E-16	7.93E-17	1.17E-15	-9.600428

COMB COMB7 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-113.037145	-6.401333	9.10E-16	7.93E-17	1.49E-15	-11.682373
0.50000	-113.078803	-4.148670	6.37E-16	7.93E-17	1.29E-15	-10.354243
1.00000	-113.115167	-1.834861	3.57E-16	7.93E-17	1.17E-15	-9.600428

F R A M E E L E M E N T I N T E R N A L F O R C E S

ELEM 47 ========== LENGTH = 0.503070

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-173.223082	-11.974218	1.51E-15	2.37E-16	2.05E-15	-14.349033
0.50000	-173.576585	-7.718902	9.93E-16	2.37E-16	1.73E-15	-11.869947
1.00000	-173.929836	-3.352433	4.64E-16	2.37E-16	1.55E-15	-10.475202

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-173.223082	-11.974218	1.51E-15	2.37E-16	2.05E-15	-14.349033
0.50000	-173.576585	-7.718902	9.93E-16	2.37E-16	1.73E-15	-11.869947
1.00000	-173.929836	-3.352433	4.64E-16	2.37E-16	1.55E-15	-10.475202

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-173.952197	-29.022088	5.40E-15	4.24E-16	-1.39E-16	-5.421289
0.50000	-174.310525	-26.894018	5.14E-15	4.24E-16	-1.46E-15	1.612309
1.00000	-174.668727	-24.710372	4.87E-15	4.24E-16	-2.72E-15	8.103633

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-173.952197	-29.022088	5.40E-15	4.24E-16	-1.39E-16	-5.421289
0.50000	-174.310525	-26.894018	5.14E-15	4.24E-16	-1.46E-15	1.612309
1.00000	-174.668727	-24.710372	4.87E-15	4.24E-16	-2.72E-15	8.103633

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-130.489237	-21.844212	4.12E-15	3.91E-16	-2.93E-16	-2.508754
0.50000	-130.757983	-20.248160	3.93E-15	3.91E-16	-1.31E-15	2.785975
1.00000	-131.026635	-18.610425	3.73E-15	3.91E-16	-2.27E-15	7.673998

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-130.489237	-21.844212	4.12E-15	3.91E-16	-2.93E-16	-2.508754
0.50000	-130.757983	-20.248160	3.93E-15	3.91E-16	-1.31E-15	2.785975
1.00000	-131.026635	-18.610425	3.73E-15	3.91E-16	-2.27E-15	7.673998

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-130.419884	-21.668293	3.92E-15	1.94E-16	1.65E-16	-6.268302
0.50000	-130.688630	-20.072241	3.73E-15	1.94E-16	-7.97E-16	-1.017822
1.00000	-130.957281	-18.434506	3.53E-15	1.94E-16	-1.71E-15	3.825952

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-130.419884	-21.668293	3.92E-15	1.94E-16	1.65E-16	-6.268302
0.50000	-130.688630	-20.072241	3.73E-15	1.94E-16	-7.97E-16	-1.017822
1.00000	-130.957281	-18.434506	3.53E-15	1.94E-16	-1.71E-15	3.825952

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-112.619295	-10.973479	1.71E-15	1.89E-16	9.20E-16	-7.642797
0.50000	-112.849748	-8.609338	1.42E-15	1.89E-16	5.26E-16	-5.178619
1.00000	-113.080061	-6.183444	1.13E-15	1.89E-16	2.06E-16	-3.316872

COMB COMB5 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-112.619295	-10.973479	1.71E-15	1.89E-16	9.20E-16	-7.642797
0.50000	-112.849748	-8.609338	1.42E-15	1.89E-16	5.26E-16	-5.178619
1.00000	-113.080061	-6.183444	1.13E-15	1.89E-16	2.06E-16	-3.316872

COMB COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-112.641597	-11.042498	1.77E-15	2.54E-16	7.52E-16	-6.258608
0.50000	-112.872050	-8.678356	1.49E-15	2.54E-16	3.42E-16	-3.777070
1.00000	-113.102363	-6.252463	1.19E-15	2.54E-16	4.47E-18	-1.897962

COMB COMB6 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-112.641597	-11.042498	1.77E-15	2.54E-16	7.52E-16	-6.258608
0.50000	-112.872050	-8.678356	1.49E-15	2.54E-16	3.42E-16	-3.777070
1.00000	-113.102363	-6.252463	1.19E-15	2.54E-16	4.47E-18	-1.897962

COMB COMB7 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-112.579950	-10.886126	1.60E-15	7.93E-17	1.16E-15	-9.600428
0.50000	-112.810402	-8.521984	1.31E-15	7.93E-17	7.94E-16	-7.158222
1.00000	-113.040715	-6.096091	1.02E-15	7.93E-17	5.01E-16	-5.318448

COMB COMB7 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-112.579950	-10.886126	1.60E-15	7.93E-17	1.16E-15	-9.600428
0.50000	-112.810402	-8.521984	1.31E-15	7.93E-17	7.94E-16	-7.158222
1.00000	-113.040715	-6.096091	1.02E-15	7.93E-17	5.01E-16	-5.318448

F R A M E E L E M E N T I N T E R N A L F O R C E S

ELEM 48 ========== LENGTH = 0.503070

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-173.043540	-17.712970	1.37E-14	2.60E-16	8.28E-15	-10.475202
0.50000	-173.819636	-13.285119	1.03E-14	2.60E-16	5.26E-15	-6.574339
1.00000	-174.604761	-8.747164	6.83E-15	2.60E-16	3.10E-15	-3.801084

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-173.043540	-17.712970	1.37E-14	2.60E-16	8.28E-15	-10.475202
0.50000	-173.819636	-13.285119	1.03E-14	2.60E-16	5.26E-15	-6.574339
1.00000	-174.604761	-8.747164	6.83E-15	2.60E-16	3.10E-15	-3.801084

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-172.045669	-37.634226	3.12E-14	2.76E-16	-7.98E-15	8.103633
0.50000	-172.638816	-35.437121	2.96E-14	2.76E-16	-1.56E-14	17.294794
1.00000	-173.236477	-33.184964	2.78E-14	2.76E-16	-2.28E-14	25.926382

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-172.045669	-37.634226	3.12E-14	2.76E-16	-7.98E-15	8.103633
0.50000	-172.638816	-35.437121	2.96E-14	2.76E-16	-1.56E-14	17.294794
1.00000	-173.236477	-33.184964	2.78E-14	2.76E-16	-2.28E-14	25.926382

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-129.054510	-28.262870	2.35E-14	2.77E-16	-7.24E-15	7.673998
0.50000	-129.499370	-26.615042	2.23E-14	2.77E-16	-1.30E-14	14.576726
1.00000	-129.947615	-24.925924	2.10E-14	2.77E-16	-1.84E-14	21.059775

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-129.054510	-28.262870	2.35E-14	2.77E-16	-7.24E-15	7.673998
0.50000	-129.499370	-26.615042	2.23E-14	2.77E-16	-1.30E-14	14.576726
1.00000	-129.947615	-24.925924	2.10E-14	2.77E-16	-1.84E-14	21.059775

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-128.995164	-28.200922	2.33E-14	8.91E-17	-4.19E-15	3.825952
0.50000	-129.440024	-26.553094	2.20E-14	8.91E-17	-9.88E-15	10.713098
1.00000	-129.888270	-24.863976	2.07E-14	8.91E-17	-1.53E-14	17.180564

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-128.995164	-28.200922	2.33E-14	8.91E-17	-4.19E-15	3.825952
0.50000	-129.440024	-26.553094	2.20E-14	8.91E-17	-9.88E-15	10.713098
1.00000	-129.888270	-24.863976	2.07E-14	8.91E-17	-1.53E-14	17.180564

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-112.178745	-15.238961	1.22E-14	1.72E-16	2.33E-15	-3.316872
0.50000	-112.648383	-12.782199	1.03E-14	1.72E-16	-5.01E-16	0.208564
1.00000	-113.123038	-10.264268	8.37E-15	1.72E-16	-2.85E-15	3.108344

COMB COMB5 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-112.178745	-15.238961	1.22E-14	1.72E-16	2.33E-15	-3.316872
0.50000	-112.648383	-12.782199	1.03E-14	1.72E-16	-5.01E-16	0.208564
1.00000	-113.123038	-10.264268	8.37E-15	1.72E-16	-2.85E-15	3.108344

COMB COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-112.196752	-15.272028	1.23E-14	2.34E-16	1.21E-15	-1.897962
0.50000	-112.666390	-12.815267	1.04E-14	2.34E-16	-1.65E-15	1.635791
1.00000	-113.141045	-10.297336	8.47E-15	2.34E-16	-4.02E-15	4.543890

COMB COMB6 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-112.196752	-15.272028	1.23E-14	2.34E-16	1.21E-15	-1.897962
0.50000	-112.666390	-12.815267	1.04E-14	2.34E-16	-1.65E-15	1.635791
1.00000	-113.141045	-10.297336	8.47E-15	2.34E-16	-4.02E-15	4.543890

COMB COMB7 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-112.144000	-15.216963	1.20E-14	6.69E-17	3.92E-15	-5.318448
0.50000	-112.613638	-12.760201	1.02E-14	6.69E-17	1.13E-15	-1.796546
1.00000	-113.088294	-10.242271	8.23E-15	6.69E-17	-1.19E-15	1.095702

COMB COMB7 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-112.144000	-15.216963	1.20E-14	6.69E-17	3.92E-15	-5.318448
0.50000	-112.613638	-12.760201	1.02E-14	6.69E-17	1.13E-15	-1.796546
1.00000	-113.088294	-10.242271	8.23E-15	6.69E-17	-1.19E-15	1.095702

F R A M E E L E M E N T I N T E R N A L F O R C E S

ELEM 49 ========== LENGTH = 0.503070

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-173.259785	-23.218848	1.80E-14	2.76E-16	3.08E-15	-3.801084
0.50000	-174.441503	-18.654375	1.45E-14	2.76E-16	-9.99E-16	1.467473
1.00000	-175.641318	-13.981837	1.09E-14	2.76E-16	-4.19E-15	5.574315

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-173.259785	-23.218848	1.80E-14	2.76E-16	3.08E-15	-3.801084
0.50000	-174.441503	-18.654375	1.45E-14	2.76E-16	-9.99E-16	1.467473
1.00000	-175.641318	-13.981837	1.09E-14	2.76E-16	-4.19E-15	5.574315

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-169.873465	-46.743616	3.85E-14	2.45E-17	-2.29E-14	25.926382
0.50000	-170.667285	-44.495369	3.68E-14	2.45E-17	-3.23E-14	37.402418
1.00000	-171.470154	-42.193090	3.50E-14	2.45E-17	-4.13E-14	48.306146

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-169.873465	-46.743616	3.85E-14	2.45E-17	-2.29E-14	25.926382
0.50000	-170.667285	-44.495369	3.68E-14	2.45E-17	-3.23E-14	37.402418
1.00000	-171.470154	-42.193090	3.50E-14	2.45E-17	-4.13E-14	48.306146

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-127.422955	-35.077589	2.90E-14	8.17E-17	-1.85E-14	21.059775
0.50000	-128.018320	-33.391404	2.77E-14	8.17E-17	-2.56E-14	29.671802
1.00000	-128.620471	-31.664695	2.64E-14	8.17E-17	-3.24E-14	37.854597

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-127.422955	-35.077589	2.90E-14	8.17E-17	-1.85E-14	21.059775
0.50000	-128.018320	-33.391404	2.77E-14	8.17E-17	-2.56E-14	29.671802
1.00000	-128.620471	-31.664695	2.64E-14	8.17E-17	-3.24E-14	37.854597

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-127.366787	-35.064016	2.87E-14	-8.76E-17	-1.53E-14	17.180564
0.50000	-127.962152	-33.377831	2.74E-14	-8.76E-17	-2.23E-14	25.789177
1.00000	-128.564303	-31.651122	2.61E-14	-8.76E-17	-2.91E-14	33.968558

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-127.366787	-35.064016	2.87E-14	-8.76E-17	-1.53E-14	17.180564
0.50000	-127.962152	-33.377831	2.74E-14	-8.76E-17	-2.23E-14	25.789177
1.00000	-128.564303	-31.651122	2.61E-14	-8.76E-17	-2.91E-14	33.968558

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-111.871113	-19.490190	1.55E-14	1.32E-16	-2.86E-15	3.108344
0.50000	-112.565697	-16.960747	1.36E-14	1.32E-16	-6.52E-15	7.693948
1.00000	-113.270335	-14.371269	1.16E-14	1.32E-16	-9.69E-15	11.635757

COMB COMB5 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-111.871113	-19.490190	1.55E-14	1.32E-16	-2.86E-15	3.108344
0.50000	-112.565697	-16.960747	1.36E-14	1.32E-16	-6.52E-15	7.693948
1.00000	-113.270335	-14.371269	1.16E-14	1.32E-16	-9.69E-15	11.635757

COMB COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-111.886986	-19.507858	1.56E-14	1.88E-16	-4.04E-15	4.543890
0.50000	-112.581569	-16.978416	1.37E-14	1.88E-16	-7.72E-15	9.133937
1.00000	-113.286207	-14.388938	1.17E-14	1.88E-16	-1.09E-14	13.080191

COMB COMB6 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-111.886986	-19.507858	1.56E-14	1.88E-16	-4.04E-15	4.543890
0.50000	-112.581569	-16.978416	1.37E-14	1.88E-16	-7.72E-15	9.133937
1.00000	-113.286207	-14.388938	1.17E-14	1.88E-16	-1.09E-14	13.080191

COMB COMB7 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-111.837058	-19.495794	1.54E-14	3.76E-17	-1.19E-15	1.095702
0.50000	-112.531642	-16.966351	1.34E-14	3.76E-17	-4.82E-15	5.682715
1.00000	-113.236280	-14.376873	1.15E-14	3.76E-17	-7.95E-15	9.625934

COMB COMB7 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-111.837058	-19.495794	1.54E-14	3.76E-17	-1.19E-15	1.095702
0.50000	-112.531642	-16.966351	1.34E-14	3.76E-17	-4.82E-15	5.682715
1.00000	-113.236280	-14.376873	1.15E-14	3.76E-17	-7.95E-15	9.625934

F R A M E E L E M E N T I N T E R N A L F O R C E S

ELEM 50 ========== LENGTH = 0.503070

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-173.850098	-28.591722	2.21E-14	2.81E-16	-4.21E-15	5.574315
0.50000	-175.465045	-23.931197	1.85E-14	2.81E-16	-9.33E-15	12.182180
1.00000	-177.106655	-19.166266	1.49E-14	2.81E-16	-1.35E-14	17.604630

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-173.850098	-28.591722	2.21E-14	2.81E-16	-4.21E-15	5.574315
0.50000	-175.465045	-23.931197	1.85E-14	2.81E-16	-9.33E-15	12.182180
1.00000	-177.106655	-19.166266	1.49E-14	2.81E-16	-1.35E-14	17.604630

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-167.336929	-56.045007	4.57E-14	-3.41E-16	-4.13E-14	48.306146
0.50000	-168.343791	-53.765663	4.40E-14	-3.41E-16	-5.26E-14	62.117855
1.00000	-169.363984	-51.434116	4.22E-14	-3.41E-16	-6.35E-14	75.349665

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-167.336929	-56.045007	4.57E-14	-3.41E-16	-4.13E-14	48.306146
0.50000	-168.343791	-53.765663	4.40E-14	-3.41E-16	-5.26E-14	62.117855
1.00000	-169.363984	-51.434116	4.22E-14	-3.41E-16	-6.35E-14	75.349665

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-125.519120	-42.047945	3.44E-14	-2.04E-16	-3.24E-14	37.854597
0.50000	-126.274266	-40.338437	3.31E-14	-2.04E-16	-4.09E-14	48.216949
1.00000	-127.039411	-38.589776	3.18E-14	-2.04E-16	-4.90E-14	58.144375

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-125.519120	-42.047945	3.44E-14	-2.04E-16	-3.24E-14	37.854597
0.50000	-126.274266	-40.338437	3.31E-14	-2.04E-16	-4.09E-14	48.216949
1.00000	-127.039411	-38.589776	3.18E-14	-2.04E-16	-4.90E-14	58.144375

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-125.463451	-42.049663	3.42E-14	-3.43E-16	-2.90E-14	33.968558
0.50000	-126.218597	-40.340155	3.29E-14	-3.43E-16	-3.75E-14	44.331342
1.00000	-126.983742	-38.591494	3.15E-14	-3.43E-16	-4.56E-14	54.259200

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-125.463451	-42.049663	3.42E-14	-3.43E-16	-2.90E-14	33.968558
0.50000	-126.218597	-40.340155	3.29E-14	-3.43E-16	-3.75E-14	44.331342
1.00000	-126.983742	-38.591494	3.15E-14	-3.43E-16	-4.56E-14	54.259200

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-111.667868	-23.716020	1.88E-14	6.58E-17	-9.70E-15	11.635757
0.50000	-112.602464	-21.136091	1.68E-14	6.58E-17	-1.42E-14	17.277949
1.00000	-113.551872	-18.498759	1.48E-14	6.58E-17	-1.82E-14	22.263980

COMB COMB5 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-111.667868	-23.716020	1.88E-14	6.58E-17	-9.70E-15	11.635757
0.50000	-112.602464	-21.136091	1.68E-14	6.58E-17	-1.42E-14	17.277949
1.00000	-113.551872	-18.498759	1.48E-14	6.58E-17	-1.82E-14	22.263980

COMB COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-111.682466	-23.728633	1.89E-14	1.13E-16	-1.09E-14	13.080191
0.50000	-112.617062	-21.149004	1.69E-14	1.13E-16	-1.54E-14	18.725556
1.00000	-113.566471	-18.511372	1.49E-14	1.13E-16	-1.94E-14	23.714758

COMB COMB6 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-111.682466	-23.728633	1.89E-14	1.13E-16	-1.09E-14	13.080191
0.50000	-112.617062	-21.149004	1.69E-14	1.13E-16	-1.54E-14	18.725556
1.00000	-113.566471	-18.511372	1.49E-14	1.13E-16	-1.94E-14	23.714758

COMB COMB7 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-111.632982	-23.730160	1.87E-14	-1.13E-17	-7.95E-15	9.625934
0.50000	-112.567578	-21.150532	1.67E-14	-1.13E-17	-1.24E-14	15.271683
1.00000	-113.516987	-18.512899	1.47E-14	-1.13E-17	-1.63E-14	20.261270

COMB COMB7 ---------- MIN

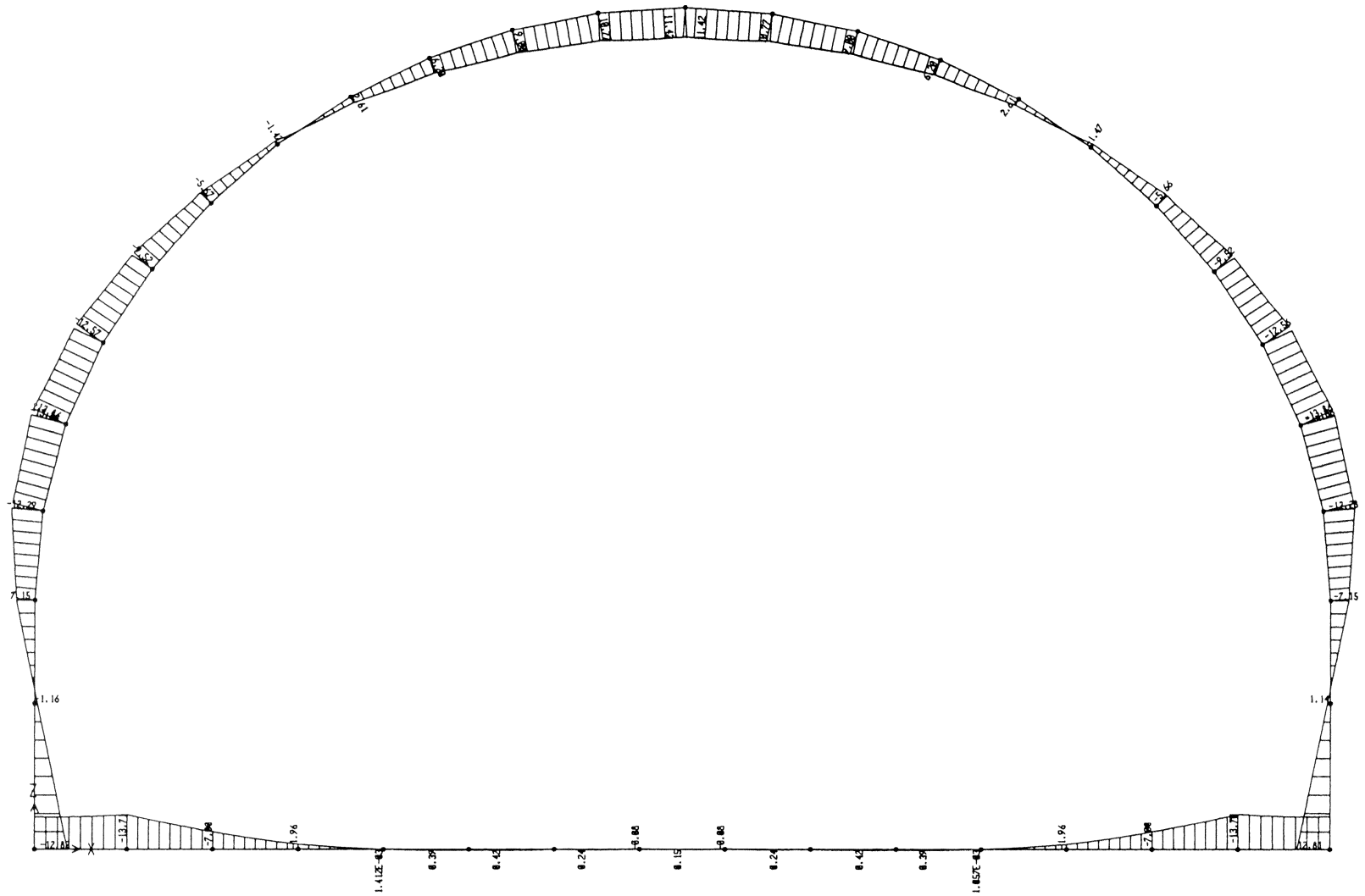
REL DIST	P	V2	V3	T	M2	M3
0.00000	-111.632982	-23.730160	1.87E-14	-1.13E-17	-7.95E-15	9.625934
0.50000	-112.567578	-21.150532	1.67E-14	-1.13E-17	-1.24E-14	15.271683
1.00000	-113.516987	-18.512899	1.47E-14	-1.13E-17	-1.63E-14	20.261270

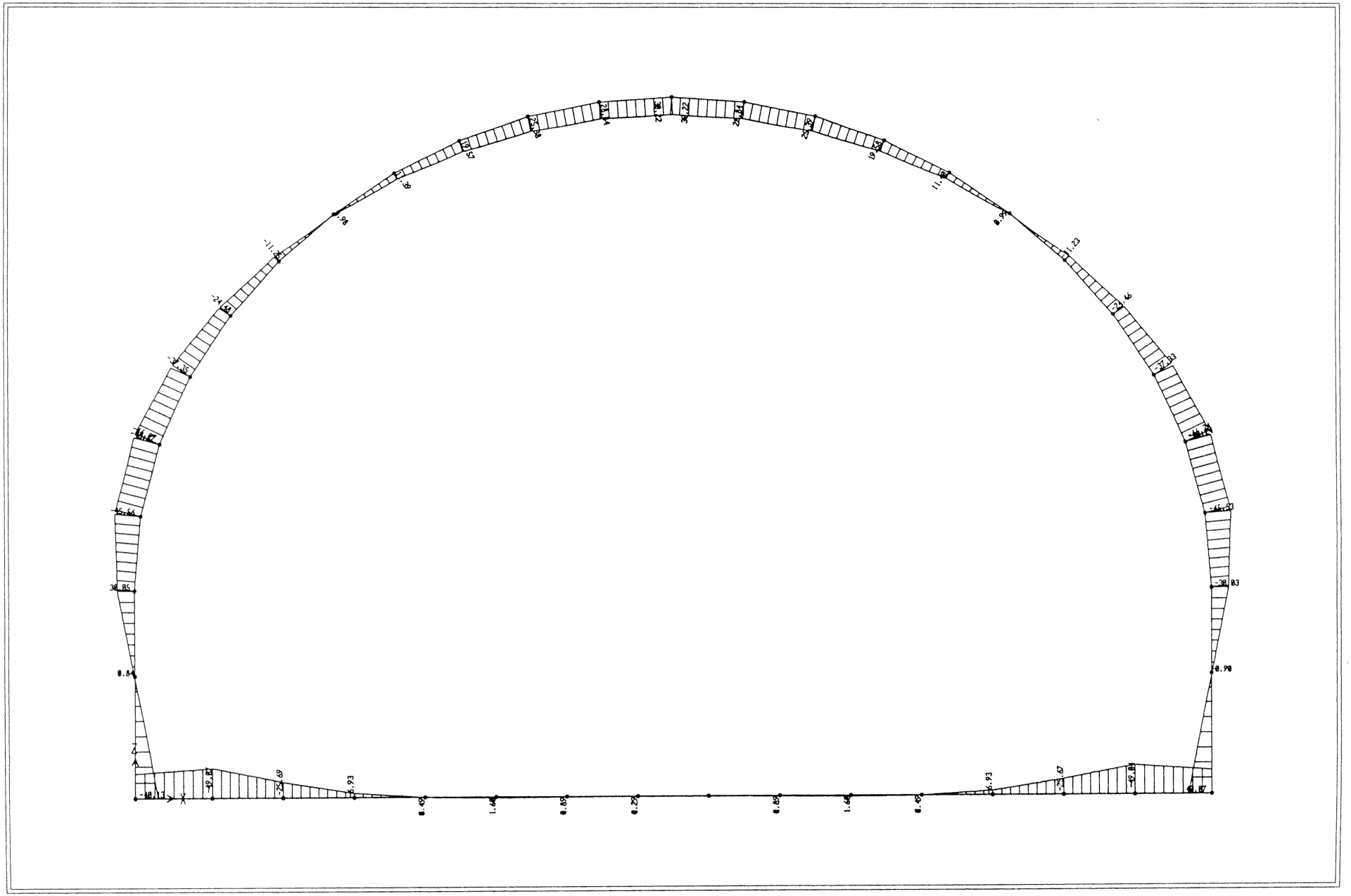
6. 구조물(벨마우스) 해석 전산결과 (리핑암)

6-1. 원통형 구조계산 결과

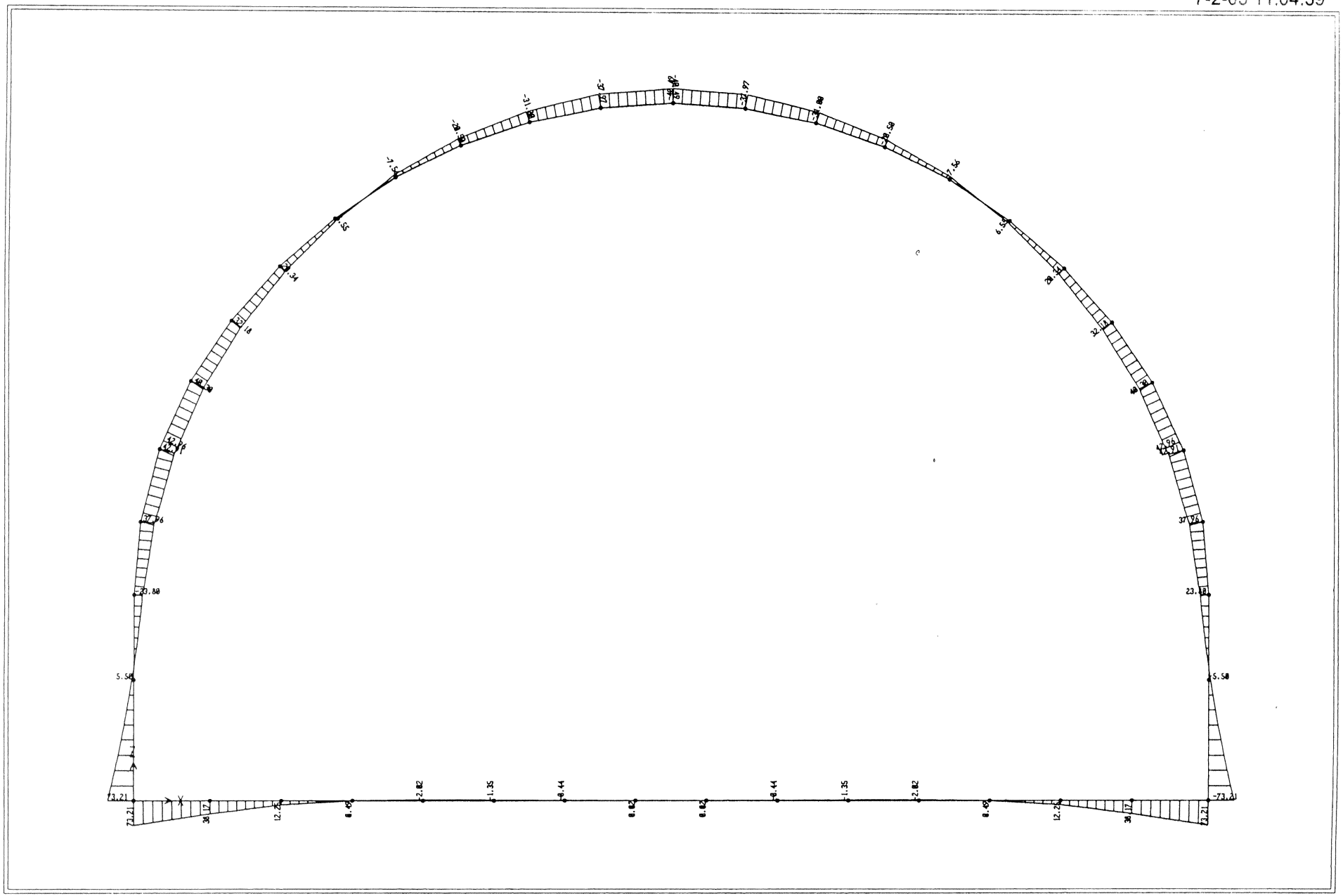
■ 단면력도

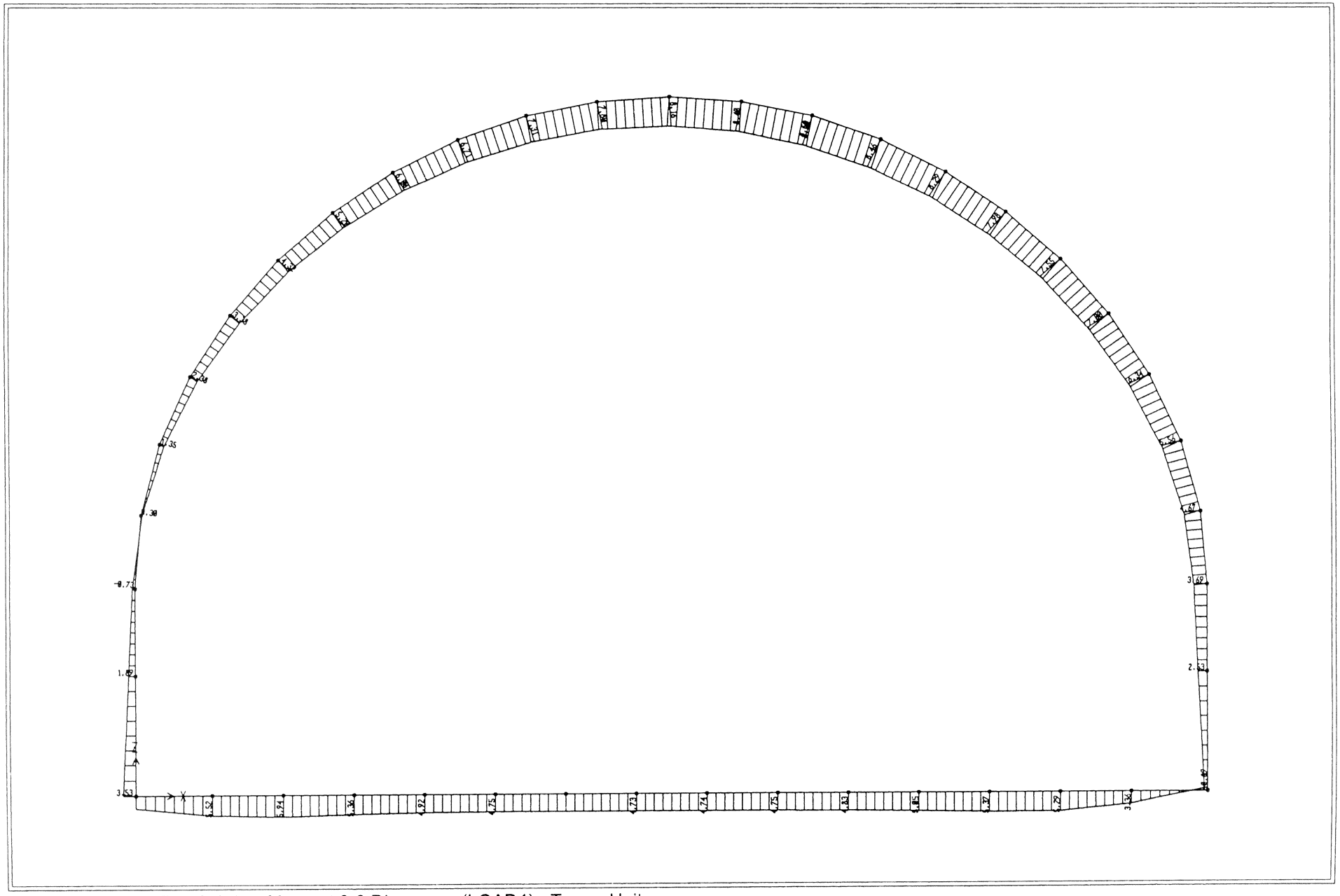
다) 부재력도





SAP2000 v7.40 - File:t2-1-1 - Moment 3-3 Diagram (LOAD2) - Ton-m Units





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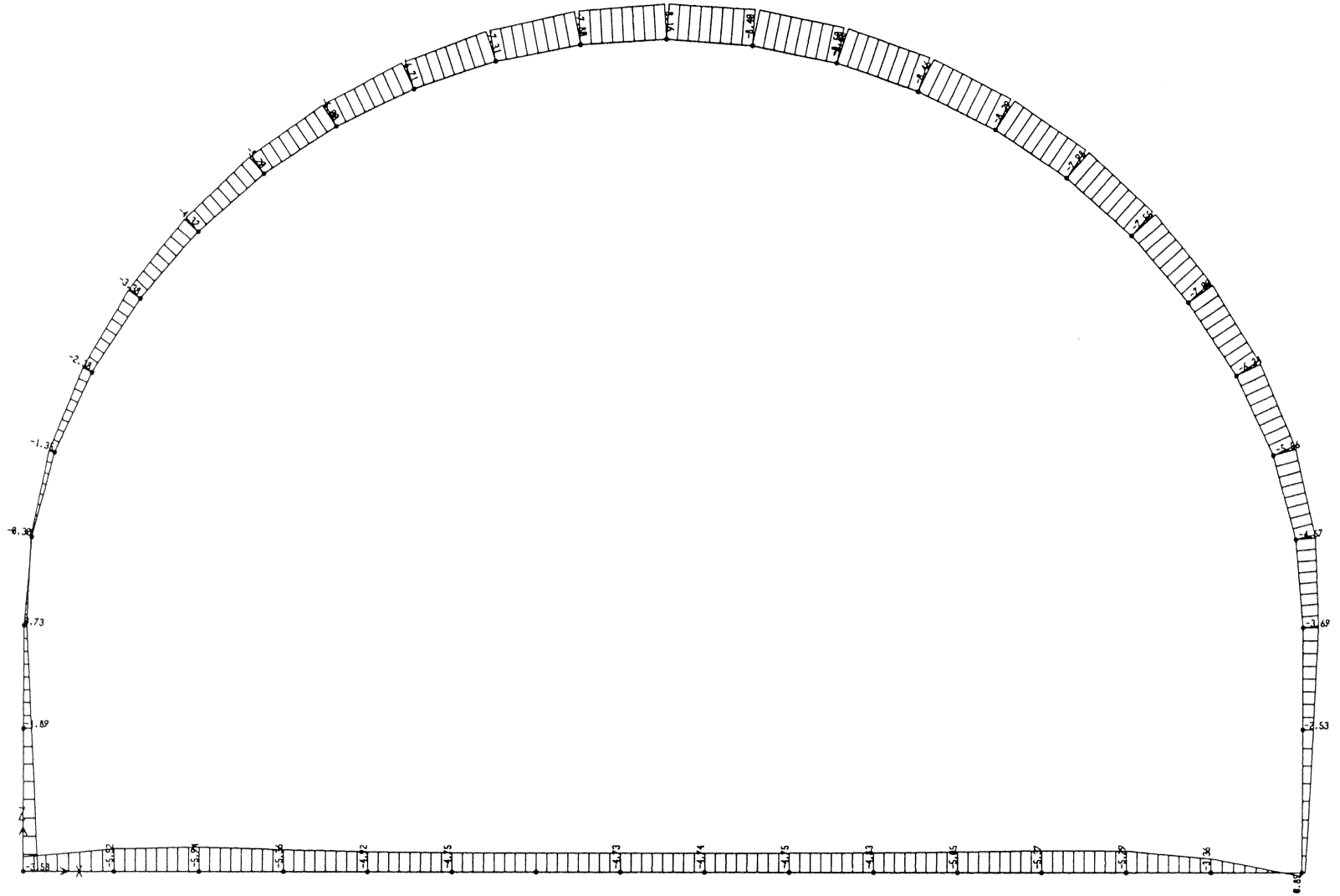

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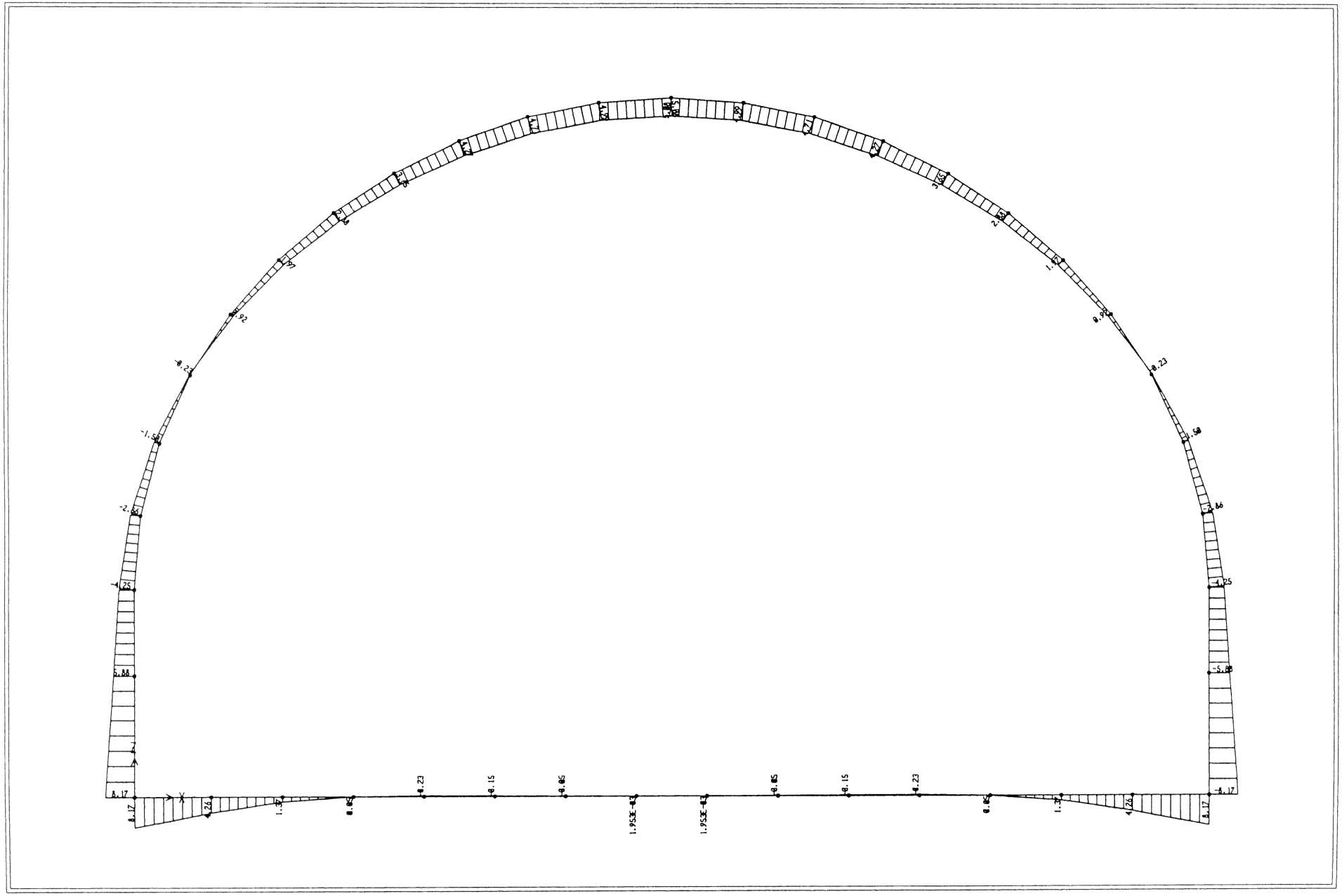
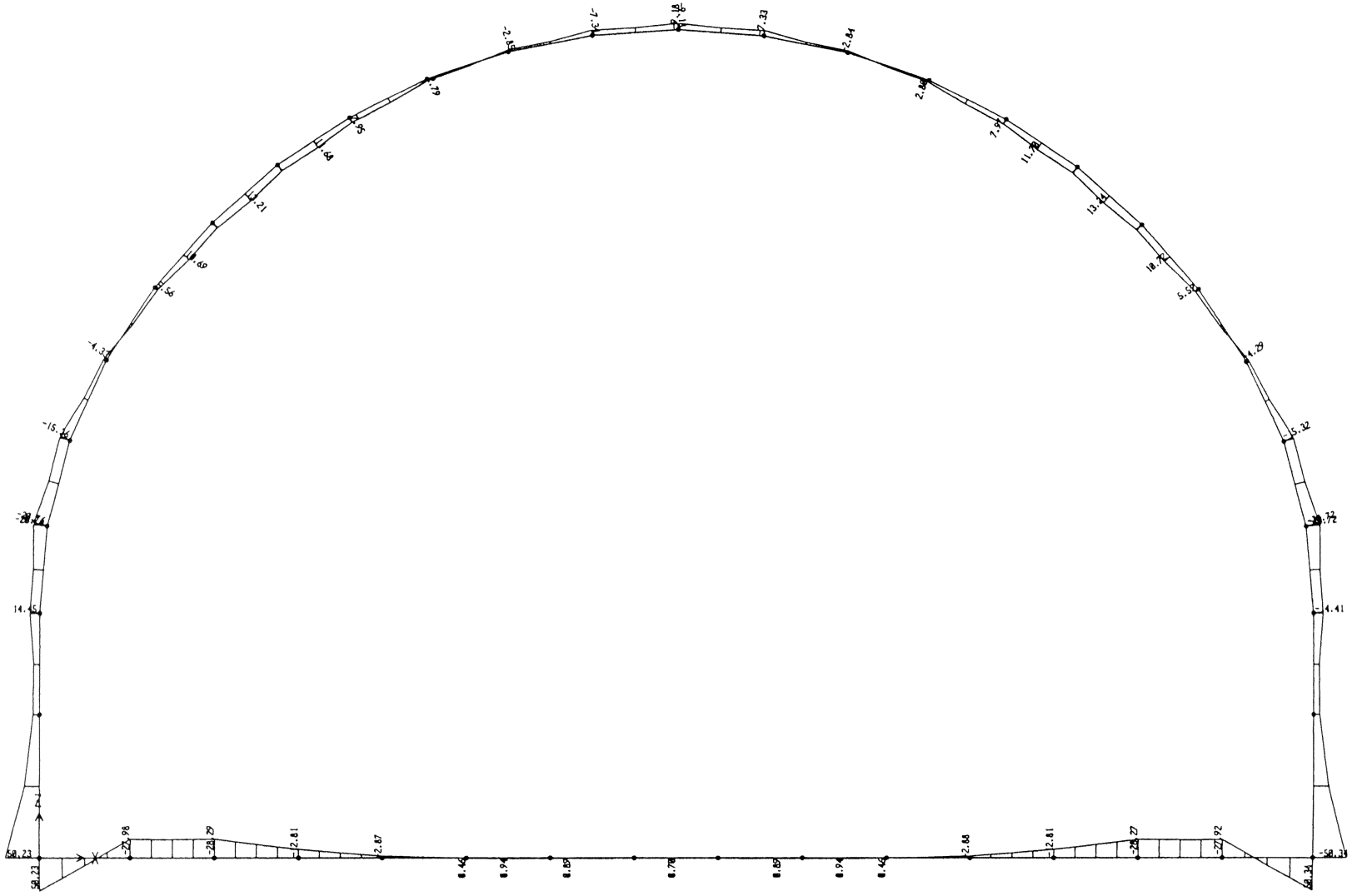
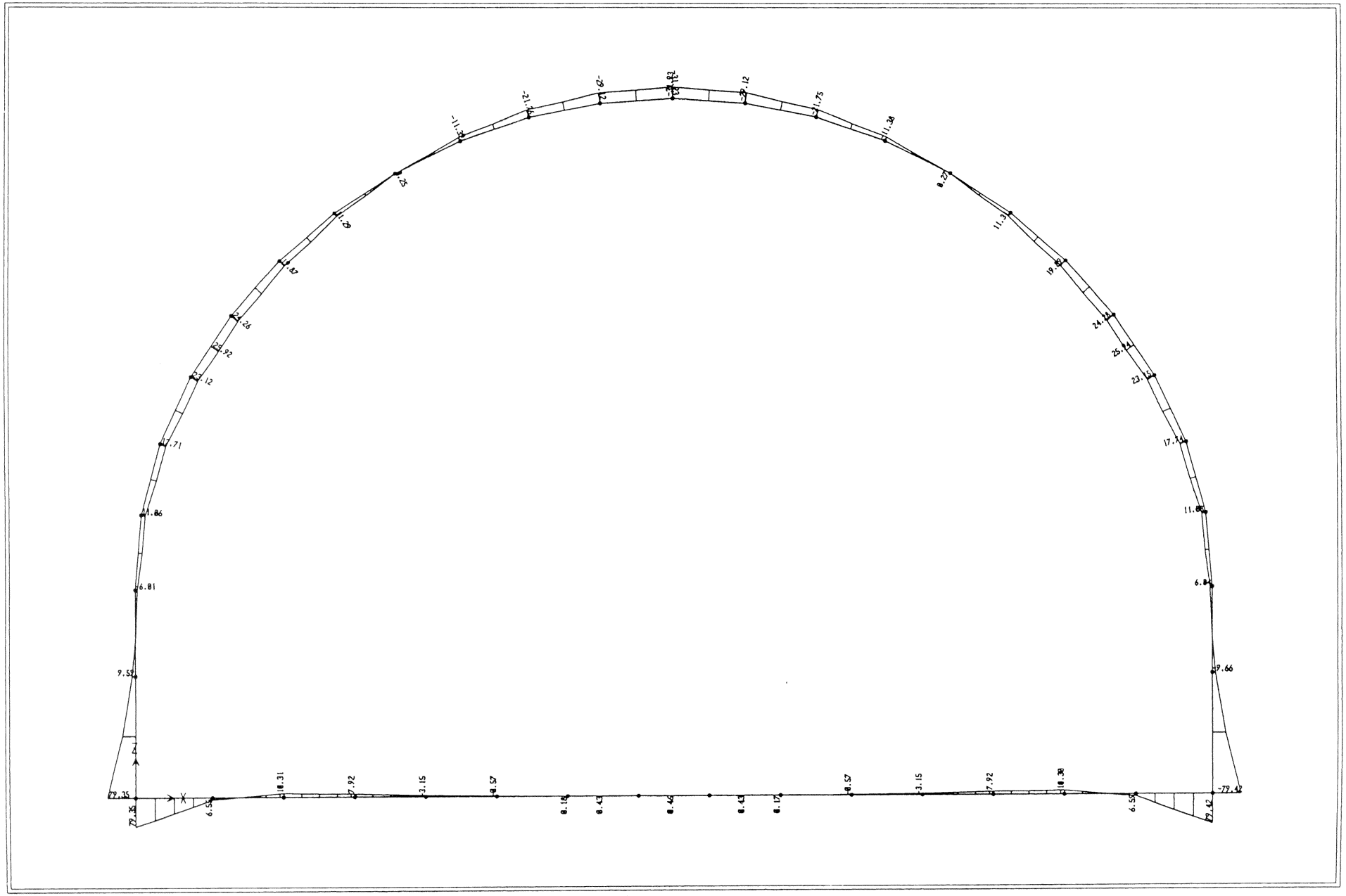
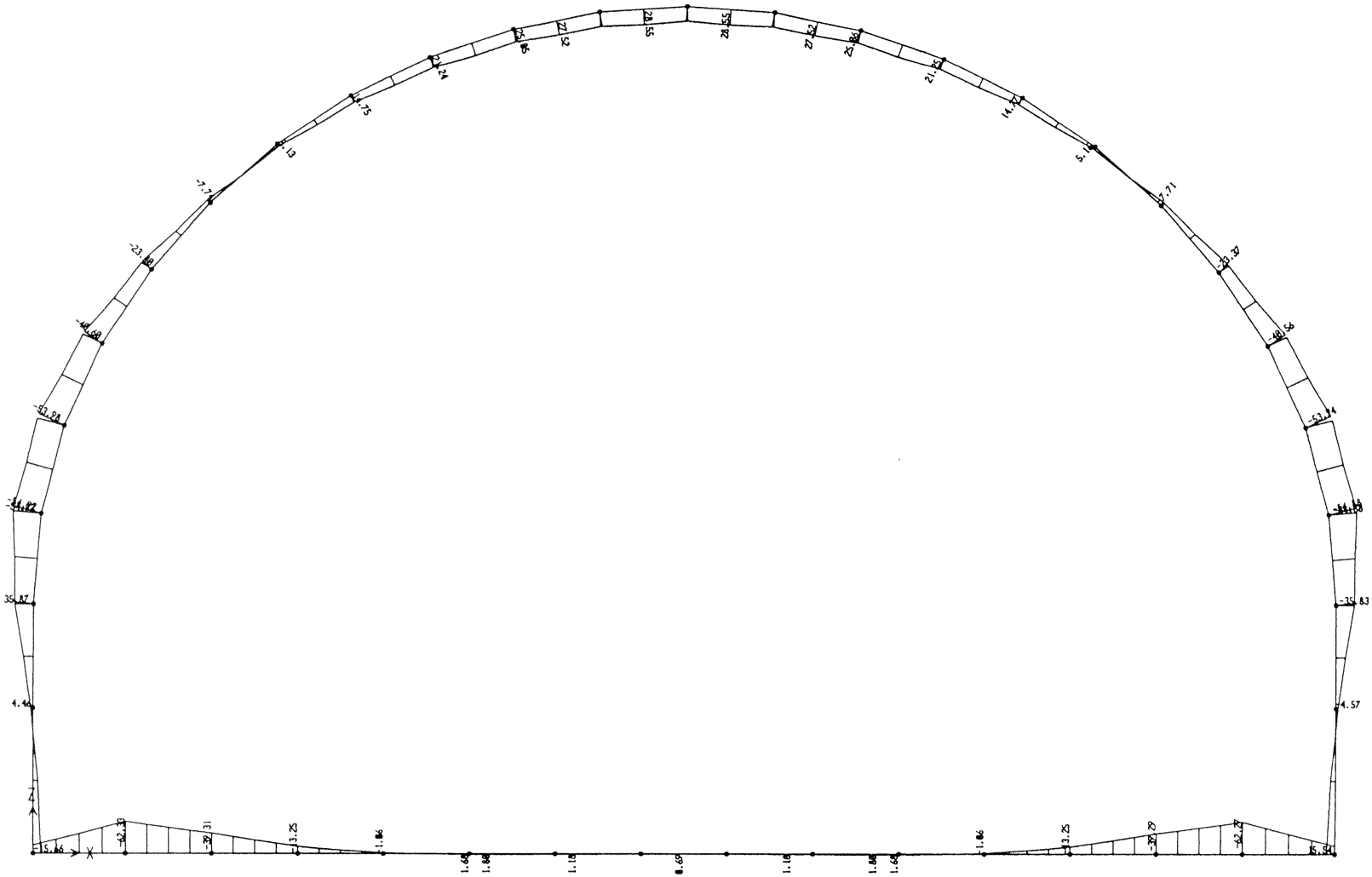


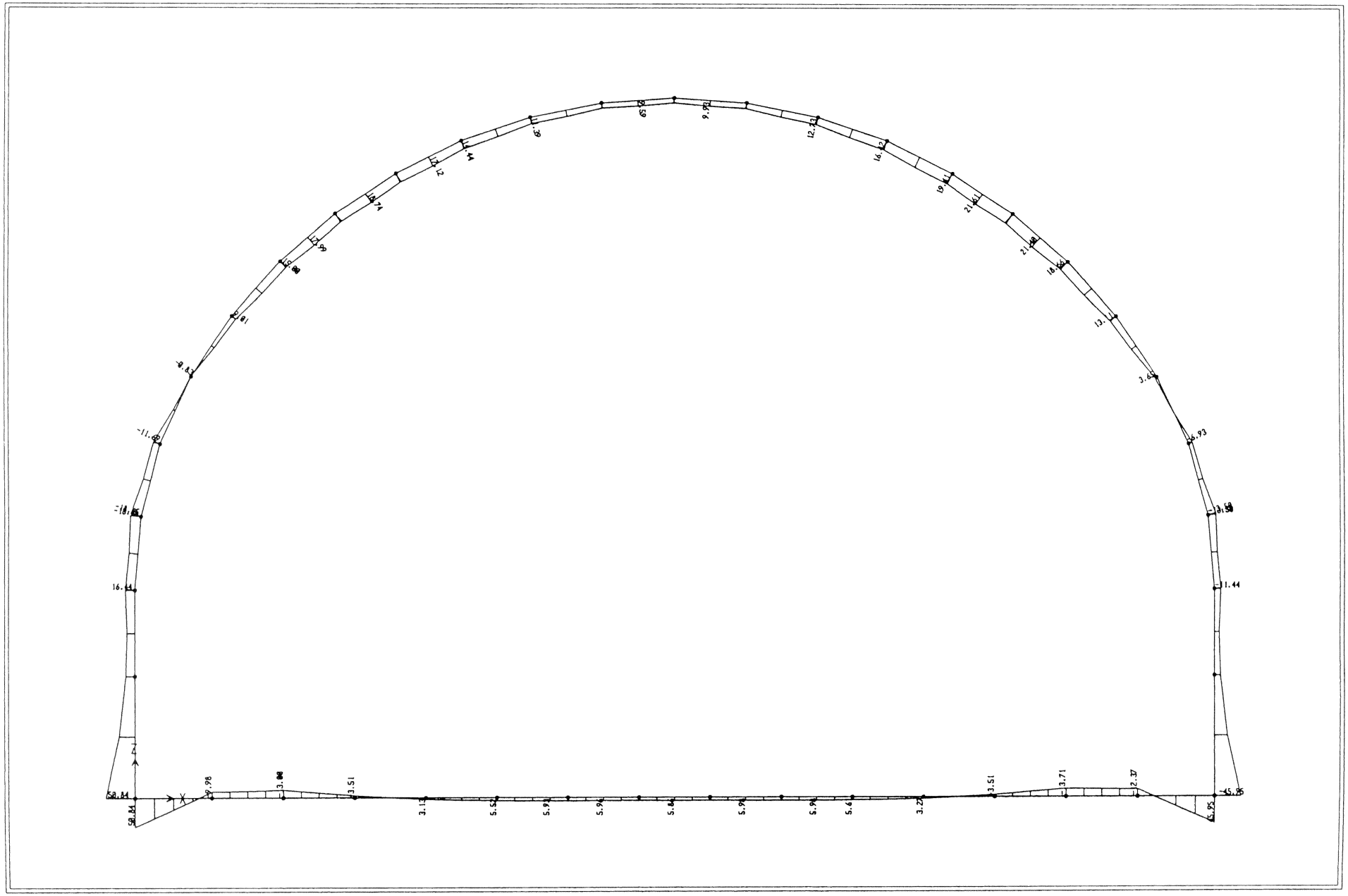
SAP2000 v7.40 - File:t2-1-1 - Moment 3-3 Diagram (LOAD6) - Ton-m Units





SAP2000 v7.40 - File:t2-1-1 - Moment 3-3 Diagram (COMB2) - Ton-m Units

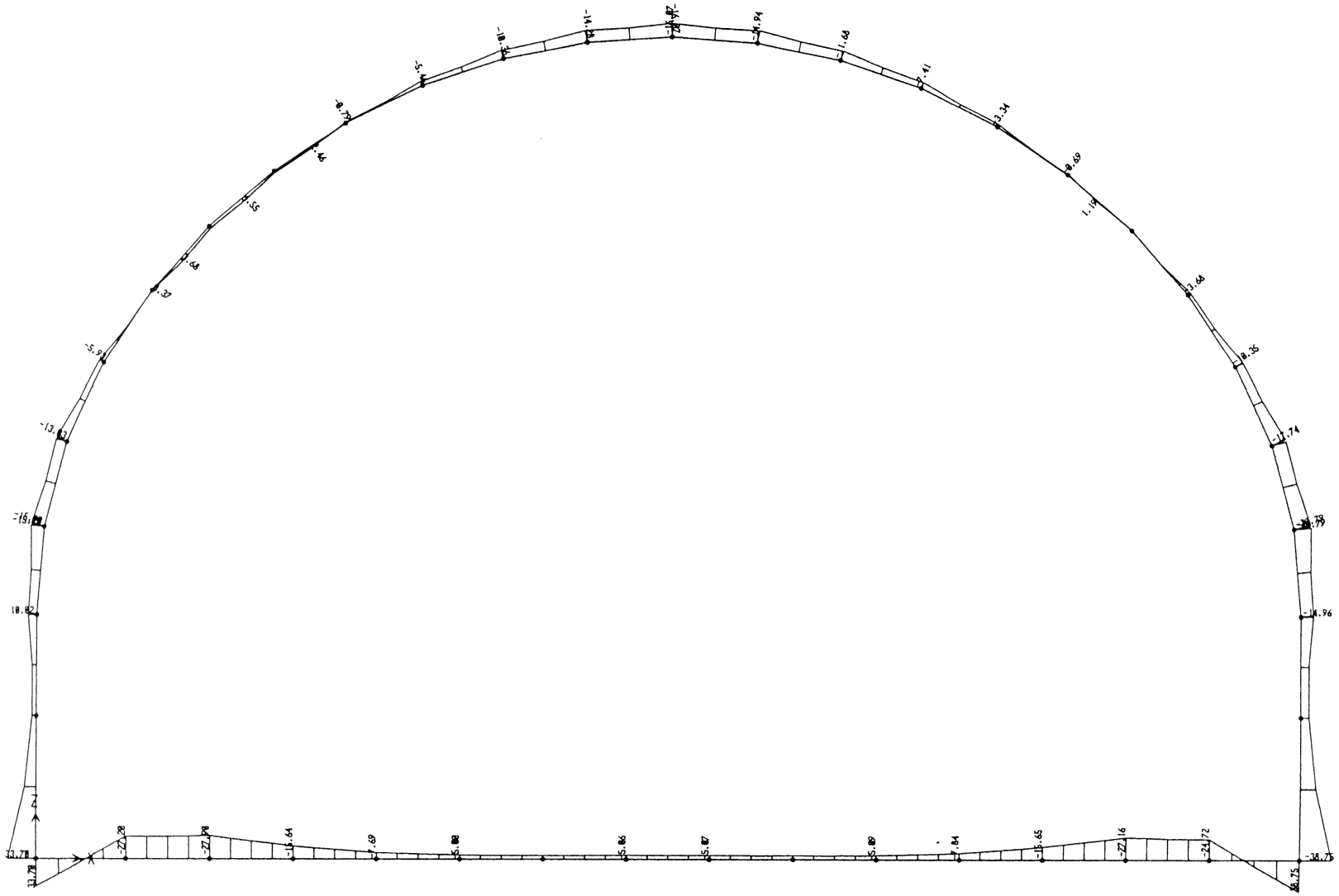




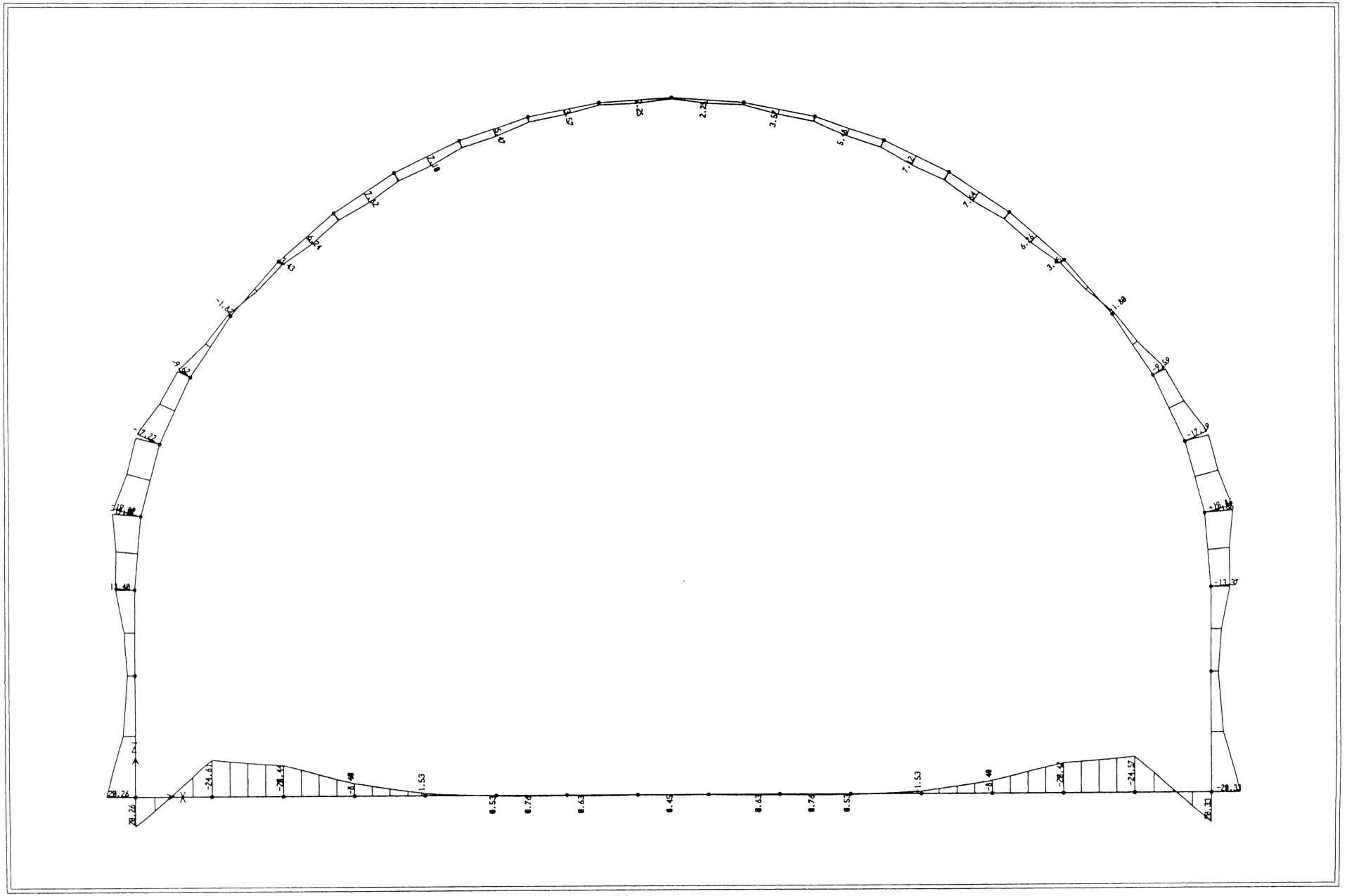
SAP2000 v7.40 - File:t2-1-1 - Moment 3-3 Diagram (COMB4) - Ton-m Units

SAP2000

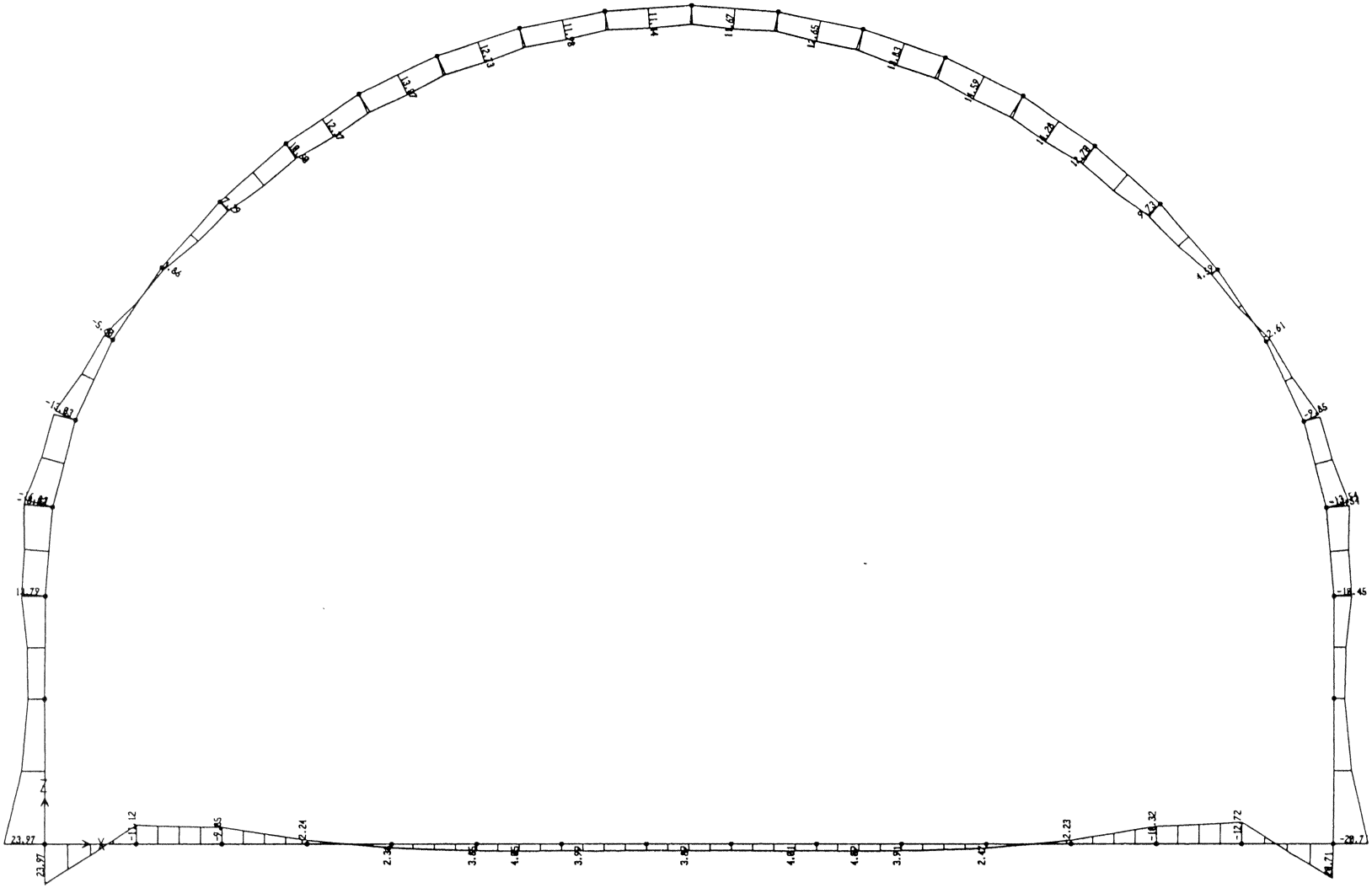
7-2-03 11:09:05



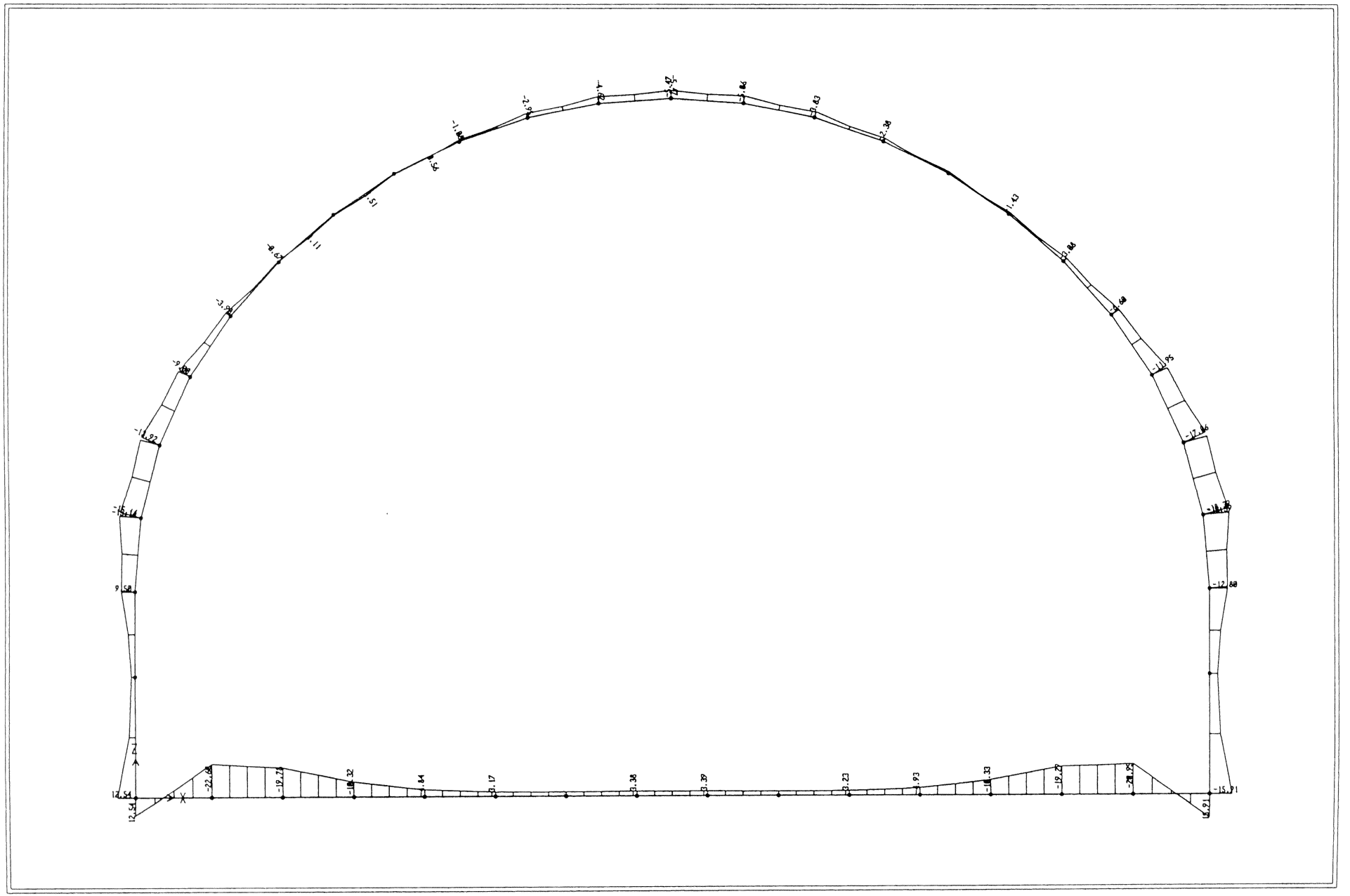
SAP2000 v7.40 - File:t2-1-1 - Moment 3-3 Diagram (COMB5) - Ton-m Units



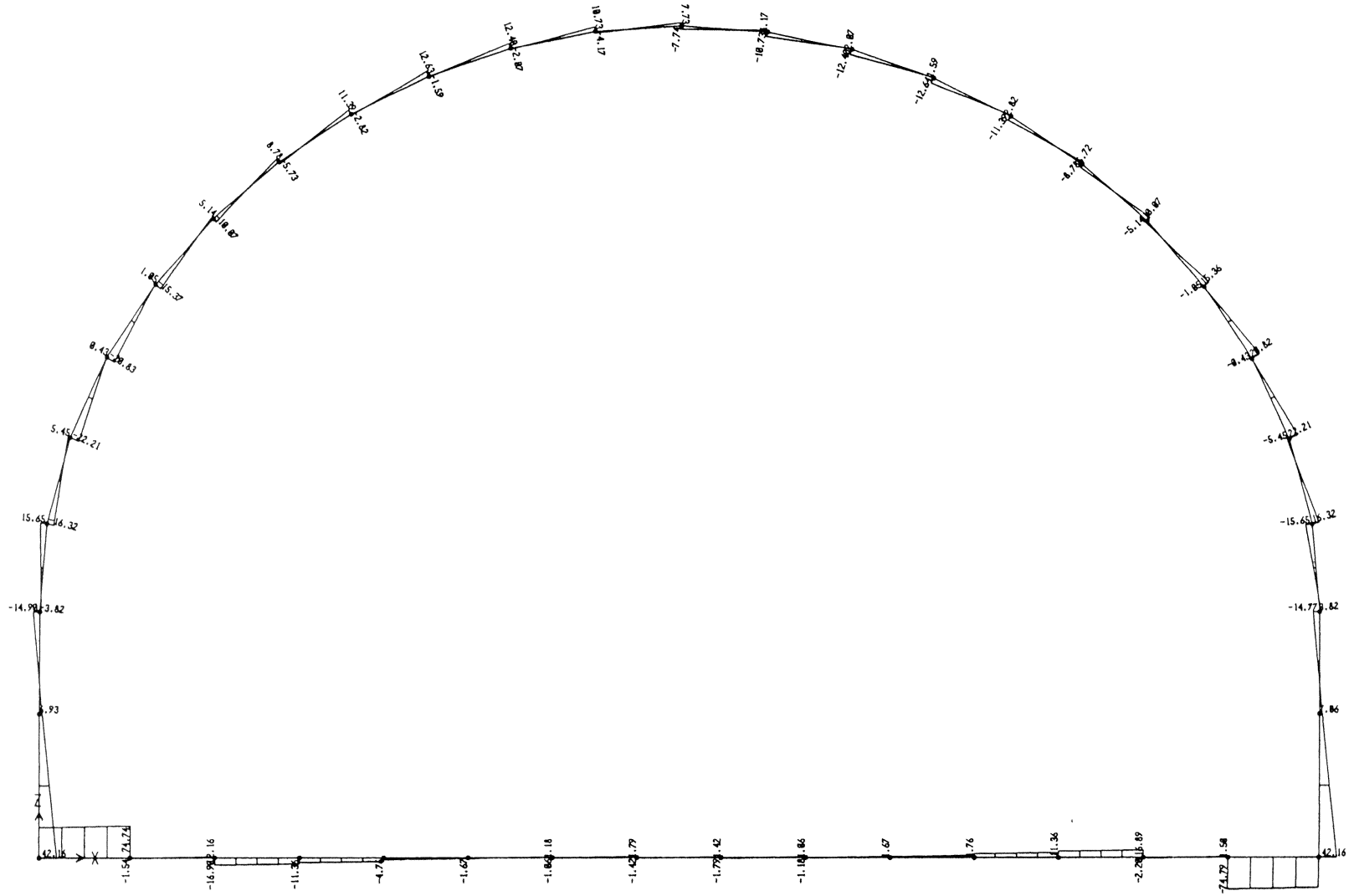
SAP2000 v7.40 - File:t2-1-1 - Moment 3-3 Diagram (COMB6) - Ton-m Units

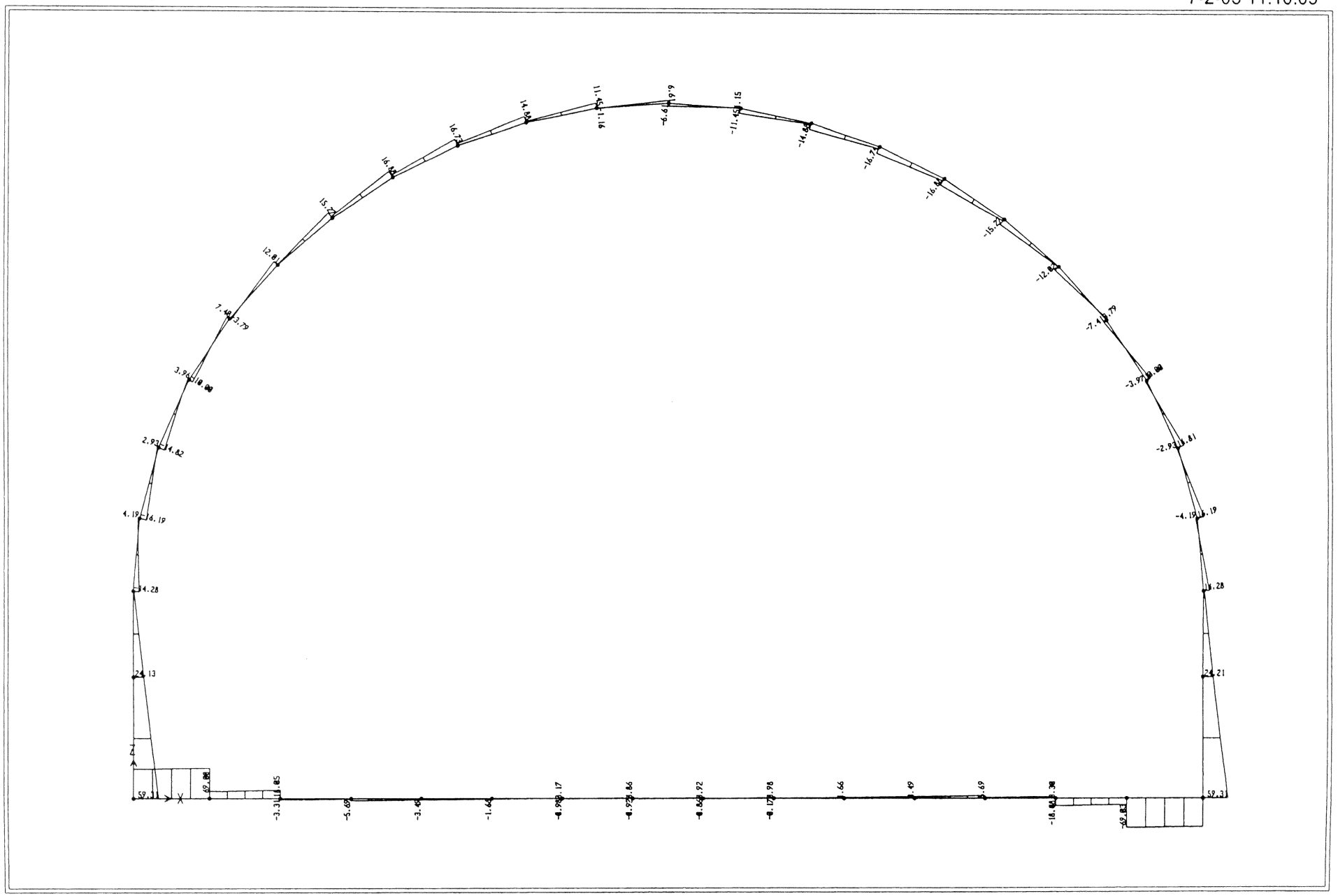


SAP2000 v7.40 - File:t2-1-1 - Moment 3-3 Diagram (COMB7) - Ton-m Units

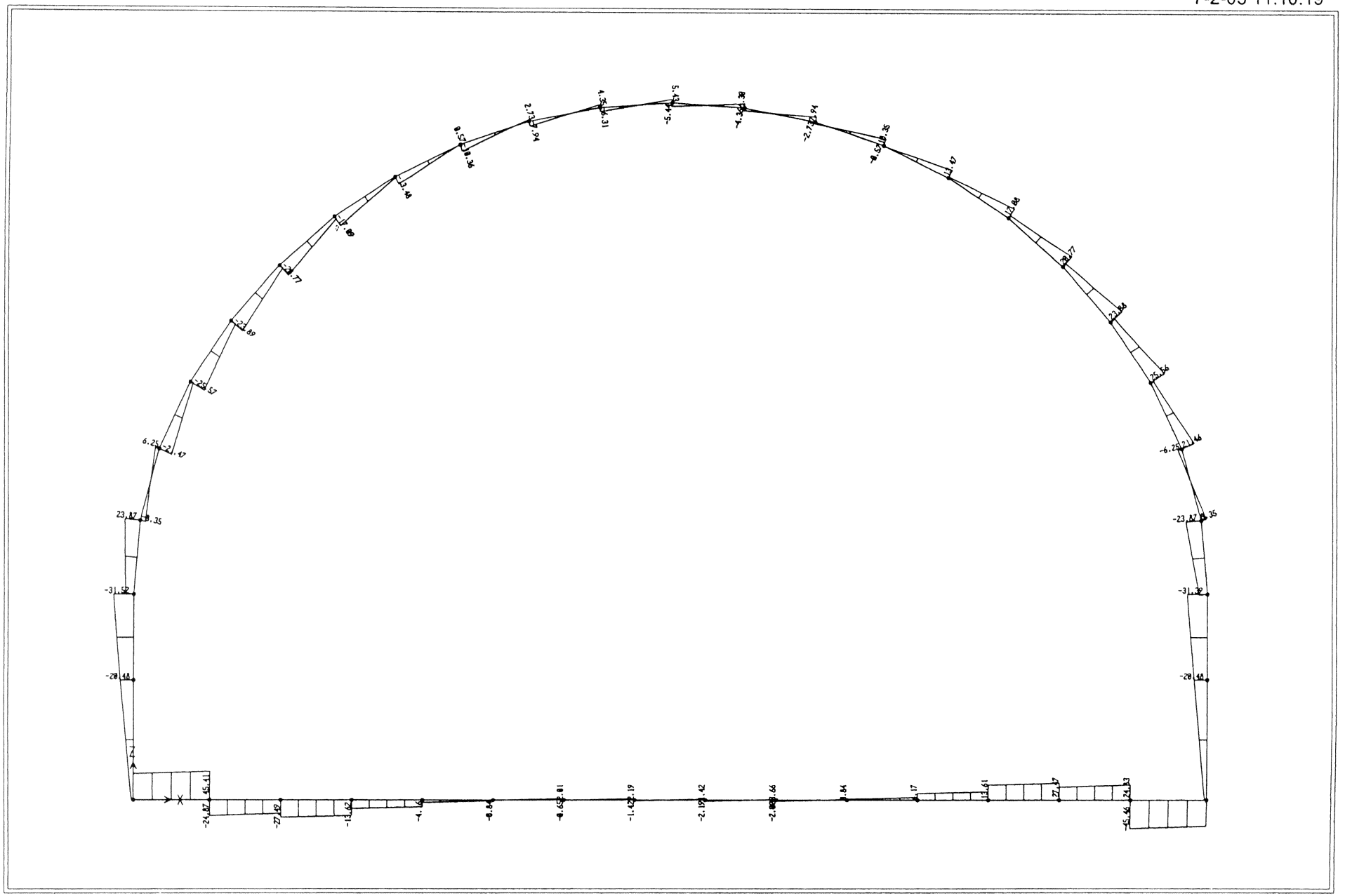


SAP2000 v7.40 - File:t2-1-1 - Moment 3-3 Diagram (COMB8) - Ton-m Units

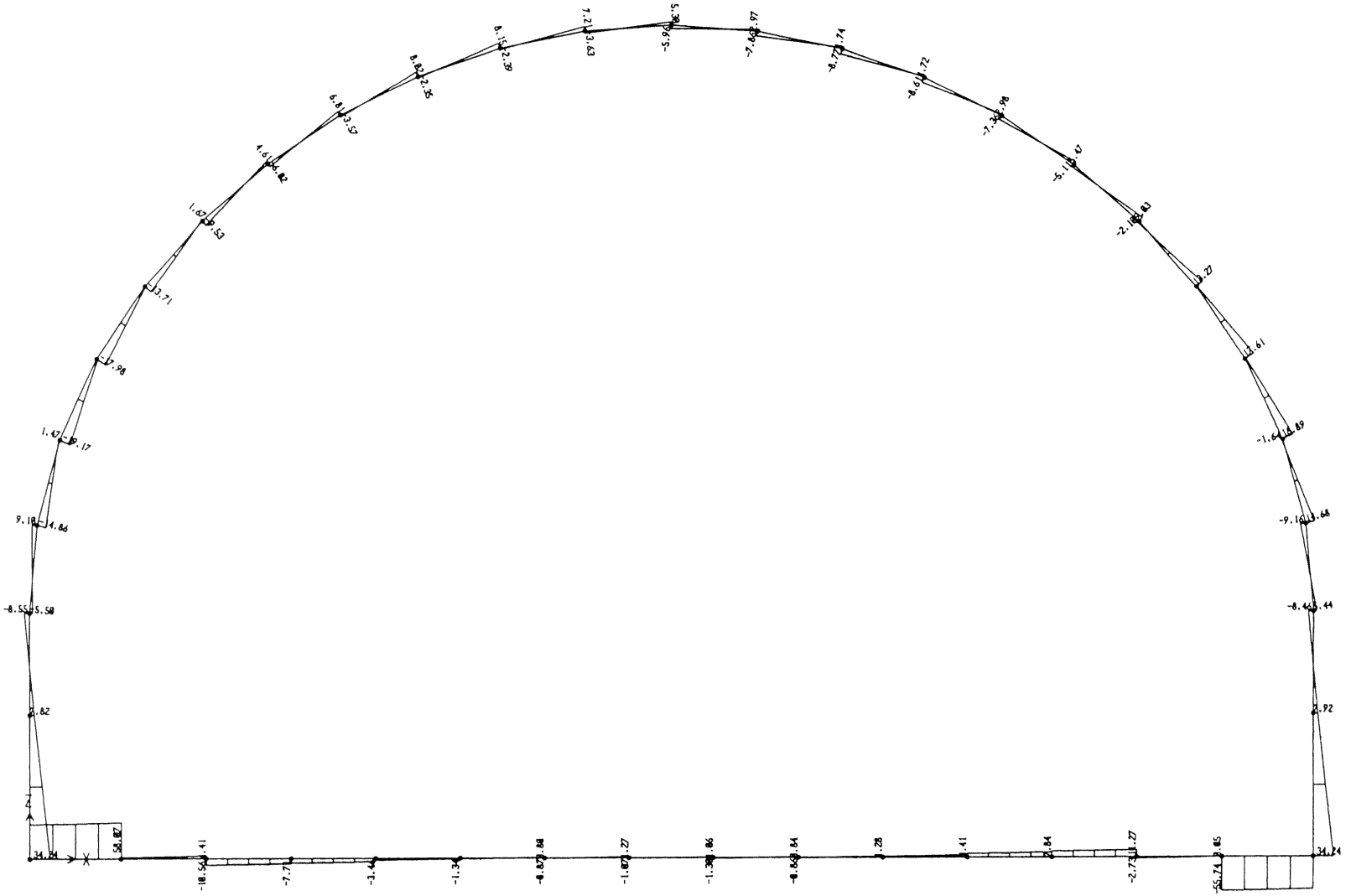




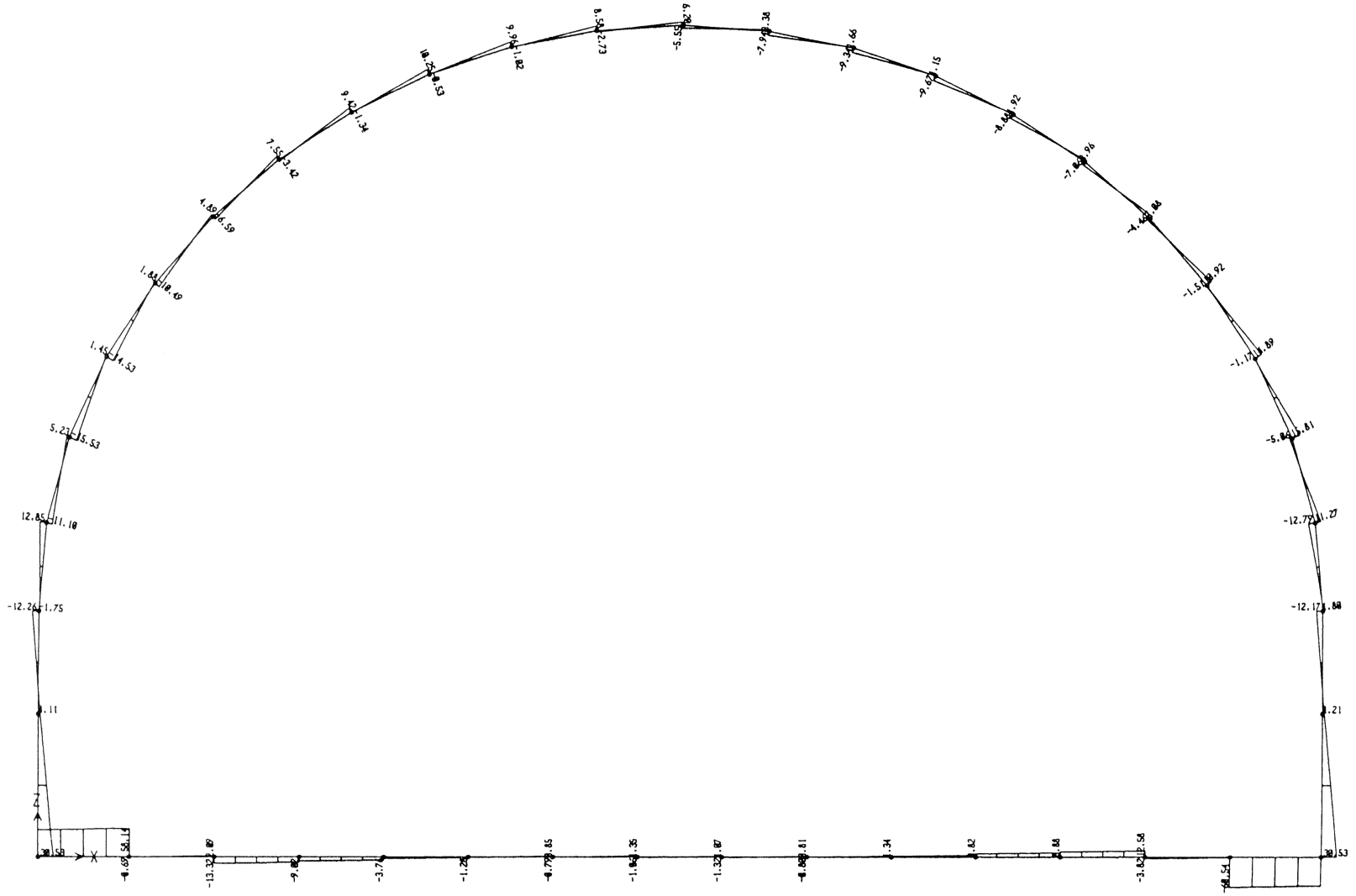
SAP2000 v7.40 - File:t2-1-1 - Shear Force 2-2 Diagram (COMB2) - Ton-m Units



SAP2000 v7.40 - File:t2-1-1 - Shear Force 2-2 Diagram (COMB3) - Ton-m Units



SAP2000 v7.40 - File:t2-1-1 - Shear Force 2-2 Diagram (COMB4) - Ton-m Units



■ 전산 OUT PUT

5) 입력데이타 및 OUTPUT (부재력도)

가) 입력데이타 (SAP 2000 Program)

File C:₩2003pro₩토질부₩t2-1-1.$2k saved 7-2-03 11:14:06 in Ton-m

'STEM
DOF=UX,UY,UZ,RX,RY,RZ LENGTH=m FORCE=Ton LINES=59

)INT
1 X=0 Y=0 Z=0
2 X=0 Y=0 Z=1.687847
3 X=-7.213203E-04 Y=0 Z=2.887847
4 X=8.945698E-02 Y=0 Z=3.91859
5 X=.3572519 Y=0 Z=4.918014
6 X=.7945265 Y=0 Z=5.855752
7 X=1.363475 Y=0 Z=6.707245
8 X=2.038699 Y=0 Z=7.477191
9 X=2.808645 Y=0 Z=8.152415
10 X=3.660139 Y=0 Z=8.721365
11 X=4.57861 Y=0 Z=9.174305
12 X=5.548344 Y=0 Z=9.503486
13 X=6.552749 Y=0 Z=9.703274
14 X=7.574639 Y=0 Z=9.770252
15 X=8.596528 Y=0 Z=9.703274
16 X=9.600933 Y=0 Z=9.503486
17 X=10.57067 Y=0 Z=9.174305
18 X=11.48914 Y=0 Z=8.721365
19 X=12.34063 Y=0 Z=8.152415
20 X=13.11058 Y=0 Z=7.477191
21 X=13.7858 Y=0 Z=6.707245
22 X=14.35475 Y=0 Z=5.855752
23 X=14.79203 Y=0 Z=4.918014
24 X=15.05982 Y=0 Z=3.91859
25 X=15.15 Y=0 Z=2.887847
26 X=15.15 Y=0 Z=1.687847
27 X=15.15 Y=0 Z=0
28 X=1.075 Y=0 Z=0
29 X=2.075 Y=0 Z=0
30 X=3.075 Y=0 Z=0
31 X=4.075 Y=0 Z=0
32 X=5.075 Y=0 Z=0
33 X=6.075 Y=0 Z=0
34 X=7.075 Y=0 Z=0
35 X=8.075 Y=0 Z=0
36 X=9.075 Y=0 Z=0
37 X=10.075 Y=0 Z=0
38 X=11.075 Y=0 Z=0
39 X=12.075 Y=0 Z=0
40 X=13.075 Y=0 Z=0
41 X=14.075 Y=0 Z=0

)CAL
ADD=27 ANG=0,180,180

\TTERN
NAME=DEFAULT

'RING
ADD=1 U3=151106
ADD=28 U3=162875
ADD=29 U3=156912
ADD=30 U3=156912
ADD=31 U3=156912
ADD=32 U3=156912
ADD=33 U3=156912

```
  ADD=34  U3=156912
  ADD=35  U3=156912
  ADD=36  U3=156912
  ADD=37  U3=156912
  ADD=38  U3=156912
  ADD=39  U3=156912
  ADD=40  U3=156912
  ADD=41  U3=162875
  ADD=27  U1=1E+10  U2=1E+10  U3=151106  R1=1E+10  R3=1E+10

MATERIAL
  NAME=STEEL  IDES=S  M=.798142  W=7.833414
    T=0  E=2.038902E+07  U=.3  A=.0000117  FY=25310.51
  NAME=CONC  IDES=C  M=.2448012  W=2.402616
    T=0  E=2531051  U=.2  A=.0000099
  NAME=OTHER  IDES=N  M=.2448012  W=2.402616
    T=0  E=2531051  U=.2  A=.0000099

FRAME SECTION
  NAME=FSEC1 MAT=CONC SH=R T=1,1 A=1 J=.1408333 I=8.333334E-02,8.333334E-02 AS=.8333333,.8333333
  NAME=FSEC2 MAT=CONC SH=R T=.85,1 A=.85 J=9.985561E-02 I=5.117708E-02,7.083333E-02 AS=.7083333,.7083333
  NAME=FSEC3 MAT=CONC SH=R T=.77,1 A=.77 J=8.051882E-02 I=3.804442E-02,6.416667E-02 AS=.6416667,.6416667

FRAME
  1  J=1,2  SEC=FSEC1  NSEG=2  ANG=0
  2  J=2,3  SEC=FSEC2  NSEG=2  ANG=0
  3  J=3,4  SEC=FSEC2  NSEG=2  ANG=0
  4  J=4,5  SEC=FSEC2  NSEG=2  ANG=0
  5  J=5,6  SEC=FSEC2  NSEG=2  ANG=0
  6  J=6,7  SEC=FSEC2  NSEG=2  ANG=0
  7  J=7,8  SEC=FSEC2  NSEG=2  ANG=0
  8  J=8,9  SEC=FSEC2  NSEG=2  ANG=0
  9  J=9,10  SEC=FSEC2  NSEG=2  ANG=0
  10  J=10,11  SEC=FSEC2  NSEG=2  ANG=0
  11  J=11,12  SEC=FSEC2  NSEG=2  ANG=0
  12  J=12,13  SEC=FSEC2  NSEG=2  ANG=0
  13  J=13,14  SEC=FSEC2  NSEG=2  ANG=0
  14  J=14,15  SEC=FSEC2  NSEG=2  ANG=0
  15  J=15,16  SEC=FSEC2  NSEG=2  ANG=0
  16  J=16,17  SEC=FSEC2  NSEG=2  ANG=0
  17  J=17,18  SEC=FSEC2  NSEG=2  ANG=0
  18  J=18,19  SEC=FSEC2  NSEG=2  ANG=0
  19  J=19,20  SEC=FSEC2  NSEG=2  ANG=0
  20  J=20,21  SEC=FSEC2  NSEG=2  ANG=0
  21  J=21,22  SEC=FSEC2  NSEG=2  ANG=0
  22  J=22,23  SEC=FSEC2  NSEG=2  ANG=0
  23  J=23,24  SEC=FSEC2  NSEG=2  ANG=0
  24  J=24,25  SEC=FSEC2  NSEG=2  ANG=0
  25  J=25,26  SEC=FSEC2  NSEG=2  ANG=0
  26  J=26,27  SEC=FSEC1  NSEG=2  ANG=0
  27  J=1,28  SEC=FSEC1  NSEG=4  ANG=0
  28  J=28,29  SEC=FSEC1  NSEG=4  ANG=0
  29  J=29,30  SEC=FSEC3  NSEG=4  ANG=0
  30  J=30,31  SEC=FSEC3  NSEG=4  ANG=0
  31  J=31,32  SEC=FSEC3  NSEG=4  ANG=0
  32  J=32,33  SEC=FSEC3  NSEG=4  ANG=0
  33  J=33,34  SEC=FSEC3  NSEG=4  ANG=0
  34  J=34,35  SEC=FSEC3  NSEG=4  ANG=0
  35  J=35,36  SEC=FSEC3  NSEG=4  ANG=0
  36  J=36,37  SEC=FSEC3  NSEG=4  ANG=0
  37  J=37,38  SEC=FSEC3  NSEG=4  ANG=0
  38  J=38,39  SEC=FSEC3  NSEG=4  ANG=0
  39  J=39,40  SEC=FSEC3  NSEG=4  ANG=0
  40  J=40,41  SEC=FSEC1  NSEG=4  ANG=0
```

```
41  J=41,27  SEC=FSEC1  NSEG=4  ANG=0

AD
NAME=LOAD1  SW=1  CSYS=0
NAME=LOAD2  CSYS=0
  TYPE=DISTRIBUTED SPAN
    ADD=3  RD=0,1  UZ=-19.014,-16.952
    ADD=4  RD=0,1  UZ=-16.952,-14.954
    ADD=5  RD=0,1  UZ=-14.954,-13.078
    ADD=6  RD=0,1  UZ=-13.078,-11.376
    ADD=7  RD=0,1  UZ=-11.376,-9.836
    ADD=8  RD=0,1  UZ=-9.836,-8.486
    ADD=9  RD=0,1  UZ=-8.486,-7.348
    ADD=10  RD=0,1  UZ=-7.348,-6.442
    ADD=11  RD=0,1  UZ=-6.442,-5.782
    ADD=12  RD=0,1  UZ=-5.782,-5.384
    ADD=13  RD=0,1  UZ=-5.384,-5.25
    ADD=14  RD=0,1  UZ=-5.25,-5.384
    ADD=15  RD=0,1  UZ=-5.384,-5.782
    ADD=16  RD=0,1  UZ=-5.782,-6.442
    ADD=17  RD=0,1  UZ=-6.442,-7.348
    ADD=18  RD=0,1  UZ=-7.348,-8.486
    ADD=19  RD=0,1  UZ=-8.486,-9.836
    ADD=20  RD=0,1  UZ=-9.836,-11.376
    ADD=21  RD=0,1  UZ=-11.376,-13.078
    ADD=22  RD=0,1  UZ=-13.078,-14.954
    ADD=23  RD=0,1  UZ=-14.954,-16.952
    ADD=24  RD=0,1  UZ=-16.952,-19.014
NAME=LOAD3  CSYS=0
  TYPE=DISTRIBUTED SPAN
    ADD=1  RD=0,1  UX=12.395,10.707
    ADD=2  RD=0,.9999997  UX=10.707,9.507
    ADD=3  RD=0,1  UX=9.507,8.476
    ADD=4  RD=0,1  UX=8.476,7.477
    ADD=5  RD=0,1  UX=7.477,6.539
    ADD=6  RD=0,1  UX=6.539,5.688
    ADD=7  RD=0,1  UX=5.688,4.918
    ADD=8  RD=0,1  UX=4.918,4.243
    ADD=9  RD=0,1  UX=4.243,3.674
    ADD=10  RD=0,1  UX=3.674,3.221
    ADD=11  RD=0,1  UX=3.221,2.891
    ADD=12  RD=0,1  UX=2.891,2.692
    ADD=13  RD=0,1  UX=2.692,2.625
    ADD=15  RD=0,1  UX=-2.692,-2.891
    ADD=14  RD=0,1  UX=-2.625,-2.692
    ADD=16  RD=0,1  UX=-2.891,-3.221
    ADD=17  RD=0,1  UX=-3.221,-3.674
    ADD=18  RD=0,1  UX=-3.674,-4.243
    ADD=19  RD=0,1  UX=-4.243,-4.918
    ADD=20  RD=0,1  UX=-4.918,-5.688
    ADD=21  RD=0,1  UX=-5.688,-6.539
    ADD=22  RD=0,1  UX=-6.539,-7.477
    ADD=23  RD=0,1  UX=-7.477,-8.476
    ADD=24  RD=0,1  UX=-8.476,-9.507
    ADD=25  RD=0,1  UX=-9.507,-10.707
    ADD=26  RD=0,1  UX=-10.707,-12.395
NAME=LOAD4  CSYS=0
  TYPE=TEMPERATURE  ELEM=FRAME
    ADD=1  T2=5
    ADD=2  T2=5
    ADD=3  T2=5
    ADD=4  T2=5
    ADD=5  T2=5
    ADD=6  T2=5
```

```
    ADD=7   T2=5
    ADD=8   T2=5
    ADD=9   T2=5
    ADD=10   T2=5
    ADD=11   T2=5
    ADD=12   T2=5
    ADD=13   T2=5
    ADD=14   T2=5
    ADD=15   T2=5
    ADD=16   T2=5
    ADD=17   T2=5
    ADD=18   T2=5
    ADD=19   T2=5
    ADD=20   T2=5
    ADD=21   T2=5
    ADD=22   T2=5
    ADD=23   T2=5
    ADD=24   T2=5
    ADD=25   T2=5
    ADD=26   T2=5
    ADD=27   T2=5
    ADD=28   T2=5
    ADD=29   T2=5
    ADD=30   T2=5
    ADD=31   T2=5
    ADD=32   T2=5
    ADD=33   T2=5
    ADD=34   T2=5
    ADD=35   T2=5
    ADD=36   T2=5
    ADD=37   T2=5
    ADD=38   T2=5
    ADD=39   T2=5
    ADD=40   T2=5
    ADD=41   T2=5
NAME=LOAD5   CSYS=0
  TYPE=TEMPERATURE   ELEM=FRAME
    ADD=1   T2=-5
    ADD=2   T2=-5
    ADD=3   T2=-5
    ADD=4   T2=-5
    ADD=5   T2=-5
    ADD=6   T2=-5
    ADD=7   T2=-5
    ADD=8   T2=-5
    ADD=9   T2=-5
    ADD=10   T2=-5
    ADD=11   T2=-5
    ADD=12   T2=-5
    ADD=13   T2=-5
    ADD=14   T2=-5
    ADD=15   T2=-5
    ADD=16   T2=-5
    ADD=17   T2=-5
    ADD=18   T2=-5
    ADD=19   T2=-5
    ADD=20   T2=-5
    ADD=21   T2=-5
    ADD=22   T2=-5
    ADD=23   T2=-5
    ADD=24   T2=-5
    ADD=25   T2=-5
    ADD=26   T2=-5
    ADD=27   T2=-5
```

```
      ADD=28   T2=-5
      ADD=29   T2=-5
      ADD=30   T2=-5
      ADD=31   T2=-5
      ADD=32   T2=-5
      ADD=33   T2=-5
      ADD=34   T2=-5
      ADD=35   T2=-5
      ADD=36   T2=-5
      ADD=37   T2=-5
      ADD=38   T2=-5
      ADD=39   T2=-5
      ADD=40   T2=-5
      ADD=41   T2=-5
 NAME=LOAD6   CSYS=0
   TYPE=TEMPERATURE   ELEM=FRAME
      ADD=1   T=-20
      ADD=2   T=-20
      ADD=3   T=-20
      ADD=4   T=-20
      ADD=5   T=-20
      ADD=6   T=-20
      ADD=7   T=-20
      ADD=8   T=-20
      ADD=9   T=-20
      ADD=10   T=-20
      ADD=11   T=-20
      ADD=12   T=-20
      ADD=13   T=-20
      ADD=14   T=-20
      ADD=15   T=-20
      ADD=16   T=-20
      ADD=17   T=-20
      ADD=18   T=-20
      ADD=19   T=-20
      ADD=20   T=-20
      ADD=21   T=-20
      ADD=22   T=-20
      ADD=23   T=-20
      ADD=24   T=-20
      ADD=25   T=-20
      ADD=26   T=-20

)MBO
 NAME=COMB1
   LOAD=LOAD1   SF=1.54
   LOAD=LOAD2   SF=1.54
   LOAD=LOAD3   SF=1.8
 NAME=COMB2
   LOAD=LOAD1   SF=.99
   LOAD=LOAD2   SF=.99
   LOAD=LOAD3   SF=1.8
 NAME=COMB3
   LOAD=LOAD1   SF=1.54
   LOAD=LOAD2   SF=1.54
   LOAD=LOAD3   SF=.9
 NAME=COMB4
   LOAD=LOAD1   SF=1.155
   LOAD=LOAD2   SF=1.155
   LOAD=LOAD3   SF=1.35
   LOAD=LOAD4   SF=1.125
   LOAD=LOAD6   SF=1.125
 NAME=COMB5
   LOAD=LOAD1   SF=1.155
```

```
    LOAD=LOAD2  SF=1.155
    LOAD=LOAD3  SF=1.35
    LOAD=LOAD5  SF=1.125
  NAME=COMB6
    LOAD=LOAD1  SF=1
    LOAD=LOAD2  SF=1
    LOAD=LOAD3  SF=1
  NAME=COMB7
    LOAD=LOAD1  SF=.75
    LOAD=LOAD2  SF=.75
    LOAD=LOAD3  SF=.75
    LOAD=LOAD4  SF=.75
    LOAD=LOAD6  SF=.75
  NAME=COMB8
    LOAD=LOAD1  SF=.75
    LOAD=LOAD2  SF=.75
    LOAD=LOAD3  SF=.75
    LOAD=LOAD5  SF=.75

OUTPUT
  ELEM=FRAME  TYPE=FORCE  COMB=COMB1
  ELEM=FRAME  TYPE=FORCE  COMB=COMB2
  ELEM=FRAME  TYPE=FORCE  COMB=COMB3
  ELEM=FRAME  TYPE=FORCE  COMB=COMB4
  ELEM=FRAME  TYPE=FORCE  COMB=COMB5
  ELEM=FRAME  TYPE=FORCE  COMB=COMB6
  ELEM=FRAME  TYPE=FORCE  COMB=COMB7
  ELEM=FRAME  TYPE=FORCE  COMB=COMB8

END

; The following data is used for graphics, design and pushover analysis.
; If changes are made to the analysis data above, then the following data
; should be checked for consistency.
SAP2000 V7.40 SUPPLEMENTAL DATA
  GROUP "DXFIN"  FRAME 1
  GROUP "DXFIN"  FRAME 2
  GROUP "DXFIN"  FRAME 3
  GROUP "DXFIN"  FRAME 4
  GROUP "DXFIN"  FRAME 5
  GROUP "DXFIN"  FRAME 6
  GROUP "DXFIN"  FRAME 7
  GROUP "DXFIN"  FRAME 8
  GROUP "DXFIN"  FRAME 9
  GROUP "DXFIN"  FRAME 10
  GROUP "DXFIN"  FRAME 11
  GROUP "DXFIN"  FRAME 12
  GROUP "DXFIN"  FRAME 13
  GROUP "DXFIN"  FRAME 14
  GROUP "DXFIN"  FRAME 15
  GROUP "DXFIN"  FRAME 16
  GROUP "DXFIN"  FRAME 17
  GROUP "DXFIN"  FRAME 18
  GROUP "DXFIN"  FRAME 19
  GROUP "DXFIN"  FRAME 20
  GROUP "DXFIN"  FRAME 21
  GROUP "DXFIN"  FRAME 22
  GROUP "DXFIN"  FRAME 23
  GROUP "DXFIN"  FRAME 24
  GROUP "DXFIN"  FRAME 25
  GROUP "DXFIN"  FRAME 26
  GROUP "DXFIN"  FRAME 27
  GROUP "DXFIN"  FRAME 28
  GROUP "DXFIN"  FRAME 29
```

```
GROUP "DXFIN"  FRAME 30
GROUP "DXFIN"  FRAME 31
GROUP "DXFIN"  FRAME 32
GROUP "DXFIN"  FRAME 33
GROUP "DXFIN"  FRAME 34
GROUP "DXFIN"  FRAME 35
GROUP "DXFIN"  FRAME 36
GROUP "DXFIN"  FRAME 37
GROUP "DXFIN"  FRAME 38
GROUP "DXFIN"  FRAME 39
GROUP "DXFIN"  FRAME 40
GROUP "DXFIN"  FRAME 41
MATERIAL STEEL FY 25310.51
MATERIAL CONC FYREBAR 42184.18 FYSHEAR 28122.79 FC 2812.279 FCSHEAR 2812.279
CONCRETESECTION FSEC1 COLUMN  COVER .05 REBAR RR-3-3
CONCRETESECTION FSEC2 COLUMN  COVER .04572 REBAR RR-3-3
CONCRETESECTION FSEC3 COLUMN  COVER .04572 REBAR RR-3-3
STATICLOAD LOAD1 TYPE DEAD
STATICLOAD LOAD2 TYPE DEAD
STATICLOAD LOAD3 TYPE OTHER
STATICLOAD LOAD4 TYPE QUAKE
STATICLOAD LOAD5 TYPE QUAKE
STATICLOAD LOAD6 TYPE DEAD
COMBO COMB1 DESIGN CONCRETE
COMBO COMB2 DESIGN CONCRETE
COMBO COMB3 DESIGN CONCRETE
COMBO COMB4 DESIGN CONCRETE
COMBO COMB6 DESIGN CONCRETE
COMBO COMB7 DESIGN CONCRETE
COMBO COMB8 DESIGN CONCRETE
ID SUPPLEMENTAL DATA
```

4) OUTPUT

S A P 2 0 0 0 (R)

Structural Analysis Programs

Nonlinear Version 7.40

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2 Jul 2003 10:17:55

D I S P L A C E M E N T D E G R E E S O F F R E E D O M

(A) = Active DOF, equilibrium equation
(-) = Restrained DOF, reaction computed
(+) = Constrained DOF
(>) = External substructure DOF
( ) = Null DOF

JOINTS		U1	U2	U3	R1	R2	R3
1	TO 41	A	A	A	A	A	A

A S S E M B L E D J O I N T M A S S E S

IN LOCAL COORDINATES

JOINT	U1	U2	U3	R1	R2	R3
1	0.338174	0.338174	0.338174	.000000	.000000	.000000
2	0.331442	0.331442	0.331442	.000000	.000000	.000000
3	0.232497	0.232497	0.232497	.000000	.000000	.000000
4	0.215297	0.215297	0.215297	.000000	.000000	.000000
5	0.215297	0.215297	0.215297	.000000	.000000	.000000
6	0.214195	0.214195	0.214195	.000000	.000000	.000000
7	0.213092	0.213092	0.213092	.000000	.000000	.000000
8	0.213092	0.213092	0.213092	.000000	.000000	.000000
9	0.213092	0.213092	0.213092	.000000	.000000	.000000
10	0.213092	0.213092	0.213092	.000000	.000000	.000000
11	0.213092	0.213092	0.213092	.000000	.000000	.000000
12	0.213092	0.213092	0.213092	.000000	.000000	.000000
13	0.213092	0.213092	0.213092	.000000	.000000	.000000
14	0.213092	0.213092	0.213092	.000000	.000000	.000000
15	0.213092	0.213092	0.213092	.000000	.000000	.000000
16	0.213092	0.213092	0.213092	.000000	.000000	.000000
17	0.213092	0.213092	0.213092	.000000	.000000	.000000
18	0.213092	0.213092	0.213092	.000000	.000000	.000000
19	0.213092	0.213092	0.213092	.000000	.000000	.000000
20	0.213092	0.213092	0.213092	.000000	.000000	.000000
21	0.213092	0.213092	0.213092	.000000	.000000	.000000
22	0.214195	0.214195	0.214195	.000000	.000000	.000000
23	0.215297	0.215297	0.215297	.000000	.000000	.000000
24	0.215297	0.215297	0.215297	.000000	.000000	.000000
25	0.232497	0.232497	0.232497	.000000	.000000	.000000
26	0.331442	0.331442	0.331442	.000000	.000000	.000000
27	0.338174	0.338174	0.338174	.000000	.000000	.000000
28	0.253981	0.253981	0.253981	.000000	.000000	.000000
29	0.216649	0.216649	0.216649	.000000	.000000	.000000
30	0.188497	0.188497	0.188497	.000000	.000000	.000000
31	0.188497	0.188497	0.188497	.000000	.000000	.000000
32	0.188497	0.188497	0.188497	.000000	.000000	.000000
33	0.188497	0.188497	0.188497	.000000	.000000	.000000
34	0.188497	0.188497	0.188497	.000000	.000000	.000000
35	0.188497	0.188497	0.188497	.000000	.000000	.000000
36	0.188497	0.188497	0.188497	.000000	.000000	.000000
37	0.188497	0.188497	0.188497	.000000	.000000	.000000
38	0.188497	0.188497	0.188497	.000000	.000000	.000000
39	0.188497	0.188497	0.188497	.000000	.000000	.000000
40	0.216649	0.216649	0.216649	.000000	.000000	.000000
41	0.253981	0.253981	0.253981	.000000	.000000	.000000

T O T A L A S S E M B L E D J O I N T M A S S E S

IN GLOBAL COORDINATES

	UX	UY	UZ	RX	RY	RZ
TOTAL	9.116416	9.116416	9.116416	.000000	.000000	.000000

T O T A L A C C E L E R A T E D M A S S A N D L O C A T I O N

TOTAL MASS ACTIVATED BY ACCELERATION LOADS, IN GLOBAL COORDINATES

	UX	UY	UZ
MASS	9.116416	9.116416	9.116416
X-LOC	7.574804	7.574804	7.574804
Y-LOC	.000000	.000000	.000000
Z-LOC	3.969680	3.969680	3.969680

G L O B A L F O R C E B A L A N C E

TOTAL FORCE AND MOMENT AT THE ORIGIN, IN GLOBAL COORDINATES

LOAD LOAD1

	FX	FY	FZ	MX	MY	MZ
APPLIED	1.89E-16	-1.04E-31	-89.473611	1.63E-30	677.745062	-3.83E-31
SPRINGS	-6.38E-13	-1.07E-15	89.473611	3.11E-27	-677.745062	5.13E-10
TOTAL	-6.38E-13	-1.07E-15	7.25E-13	3.11E-27	-9.44E-12	5.13E-10

LOAD LOAD2

	FX	FY	FZ	MX	MY	MZ
APPLIED	5.97E-16	-8.82E-31	-229.939695	6.54E-30	1741.710	-5.75E-30
SPRINGS	-1.99E-12	-1.26E-25	229.939695	1.11E-26	-1741.710	1.85E-09
TOTAL	-1.99E-12	-1.26E-25	2.56E-12	1.11E-26	-3.25E-11	1.85E-09

LOAD LOAD3

	FX	FY	FZ	MX	MY	MZ
APPLIED	-3.27E-06	-2.07E-32	-1.34E-15	3.48E-31	-8.18E-06	2.37E-30
SPRINGS	3.27E-06	-2.28E-26	-1.58E-12	-9.14E-27	8.18E-06	-1.39E-09
TOTAL	1.72E-12	-2.28E-26	-1.58E-12	-9.14E-27	2.51E-11	-1.39E-09

LOAD LOAD4

	FX	FY	FZ	MX	MY	MZ
APPLIED	.000000	-4.38E-47	-1.58E-30	7.24E-32	-1.82E-14	6.33E-31
SPRINGS	-1.09E-12	-3.47E-28	-1.32E-13	2.88E-27	-8.51E-12	2.05E-10
TOTAL	-1.09E-12	-3.47E-28	-1.32E-13	2.88E-27	-8.53E-12	2.05E-10

LOAD LOAD5

	FX	FY	FZ	MX	MY	MZ
APPLIED	.000000	4.38E-47	1.58E-30	-7.24E-32	1.82E-14	-6.33E-31
SPRINGS	1.09E-12	3.47E-28	1.32E-13	-2.88E-27	8.51E-12	-2.05E-10
TOTAL	1.09E-12	3.47E-28	1.32E-13	-2.88E-27	8.53E-12	-2.05E-10

LOAD LOAD6

	FX	FY	FZ	MX	MY	MZ
APPLIED	.000000	.000000	.000000	.000000	-5.62E-13	.000000
SPRINGS	-9.80E-13	1.61E-13	2.24E-12	-4.83E-28	-2.14E-11	-1.53E-10
TOTAL	-9.80E-13	1.61E-13	2.24E-12	-4.83E-28	-2.20E-11	-1.53E-10

G L O B A L F O R C E B A L A N C E

TOTAL FORCE AND MOMENT AT THE ORIGIN, IN GLOBAL COORDINATES

COMB COMB1 MAX

	FX	FY	FZ	MX	MY	MZ
APPLIED	-5.89E-06	-1.55E-30	-491.896491	1.32E-29	3725.961	-5.17E-30
SPRINGS	5.89E-06	-1.64E-15	491.896491	5.38E-27	-3725.961	1.14E-09
TOTAL	-9.40E-13	-1.64E-15	2.22E-12	5.39E-27	-1.94E-11	1.14E-09

COMB COMB1 MIN

	FX	FY	FZ	MX	MY	MZ
APPLIED	-5.89E-06	-1.55E-30	-491.896491	1.32E-29	3725.961	-5.17E-30
SPRINGS	5.89E-06	-1.64E-15	491.896491	5.38E-27	-3725.961	1.14E-09
TOTAL	-9.40E-13	-1.64E-15	2.22E-12	5.39E-27	-1.94E-11	1.14E-09

COMB COMB2 MAX

	FX	FY	FZ	MX	MY	MZ
APPLIED	-5.89E-06	-1.01E-30	-316.219173	8.72E-30	2395.261	-1.80E-30
SPRINGS	5.89E-06	-1.06E-15	316.219173	-2.42E-27	-2395.261	-1.64E-10
TOTAL	5.04E-13	-1.06E-15	4.11E-13	-2.41E-27	3.63E-12	-1.64E-10

COMB COMB2 MIN

	FX	FY	FZ	MX	MY	MZ
APPLIED	-5.89E-06	-1.01E-30	-316.219173	8.72E-30	2395.261	-1.80E-30
SPRINGS	5.89E-06	-1.06E-15	316.219173	-2.42E-27	-2395.261	-1.64E-10
TOTAL	5.04E-13	-1.06E-15	4.11E-13	-2.41E-27	3.63E-12	-1.64E-10

COMB COMB3 MAX

	FX	FY	FZ	MX	MY	MZ
APPLIED	-2.94E-06	-1.54E-30	-491.896491	1.29E-29	3725.961	-7.31E-30
SPRINGS	2.94E-06	-1.64E-15	491.896491	1.36E-26	-3725.961	2.39E-09
TOTAL	-2.49E-12	-1.64E-15	3.64E-12	1.36E-26	-4.20E-11	2.39E-09

COMB COMB3 MIN

	FX	FY	FZ	MX	MY	MZ
APPLIED	-2.94E-06	-1.54E-30	-491.896491	1.29E-29	3725.961	-7.31E-30
SPRINGS	2.94E-06	-1.64E-15	491.896491	1.36E-26	-3725.961	2.39E-09
TOTAL	-2.49E-12	-1.64E-15	3.64E-12	1.36E-26	-4.20E-11	2.39E-09

G L O B A L F O R C E B A L A N C E

TOTAL FORCE AND MOMENT AT THE ORIGIN, IN GLOBAL COORDINATES

COMB COMB4 MAX

	FX	FY	FZ	MX	MY	MZ
APPLIED	-4.42E-06	-1.17E-30	-368.922368	9.99E-30	2794.471	-3.17E-30
SPRINGS	4.42E-06	1.80E-13	368.922368	6.74E-27	-2794.471	9.11E-10
TOTAL	-3.03E-12	1.80E-13	4.03E-12	6.75E-27	-4.89E-11	9.11E-10

COMB COMB4 MIN

	FX	FY	FZ	MX	MY	MZ
APPLIED	-4.42E-06	-1.17E-30	-368.922368	9.99E-30	2794.471	-3.17E-30
SPRINGS	4.42E-06	1.80E-13	368.922368	6.74E-27	-2794.471	9.11E-10
TOTAL	-3.03E-12	1.80E-13	4.03E-12	6.75E-27	-4.89E-11	9.11E-10

COMB COMB5 MAX

	FX	FY	FZ	MX	MY	MZ
APPLIED	-4.42E-06	-1.17E-30	-368.922368	9.83E-30	2794.471	-4.59E-30
SPRINGS	4.42E-06	-1.23E-15	368.922368	7.88E-28	-2794.471	6.21E-10
TOTAL	5.19E-13	-1.23E-15	1.81E-12	7.98E-28	-4.99E-12	6.21E-10

COMB COMB5 MIN

	FX	FY	FZ	MX	MY	MZ
APPLIED	-4.42E-06	-1.17E-30	-368.922368	9.83E-30	2794.471	-4.59E-30
SPRINGS	4.42E-06	-1.23E-15	368.922368	7.88E-28	-2794.471	6.21E-10
TOTAL	5.19E-13	-1.23E-15	1.81E-12	7.98E-28	-4.99E-12	6.21E-10

COMB COMB6 MAX

	FX	FY	FZ	MX	MY	MZ
APPLIED	-3.27E-06	-1.01E-30	-319.413306	8.52E-30	2419.455	-3.76E-30
SPRINGS	3.27E-06	-1.07E-15	319.413306	5.04E-27	-2419.455	9.72E-10
TOTAL	-9.01E-13	-1.07E-15	1.71E-12	5.04E-27	-1.69E-11	9.72E-10

COMB COMB6 MIN

	FX	FY	FZ	MX	MY	MZ
APPLIED	-3.27E-06	-1.01E-30	-319.413306	8.52E-30	2419.455	-3.76E-30
SPRINGS	3.27E-06	-1.07E-15	319.413306	5.04E-27	-2419.455	9.72E-10
TOTAL	-9.01E-13	-1.07E-15	1.71E-12	5.04E-27	-1.69E-11	9.72E-10

G L O B A L F O R C E B A L A N C E

TOTAL FORCE AND MOMENT AT THE ORIGIN, IN GLOBAL COORDINATES

COMB COMB7 MAX

	FX	FY	FZ	MX	MY	MZ
APPLIED	-2.45E-06	-7.55E-31	-239.559979	6.44E-30	1814.591	-2.35E-30
SPRINGS	2.45E-06	1.20E-13	239.559979	5.58E-27	-1814.591	7.69E-10
TOTAL	-2.23E-12	1.20E-13	2.86E-12	5.58E-27	-3.55E-11	7.69E-10

COMB COMB7 MIN

	FX	FY	FZ	MX	MY	MZ
APPLIED	-2.45E-06	-7.55E-31	-239.559979	6.44E-30	1814.591	-2.35E-30
SPRINGS	2.45E-06	1.20E-13	239.559979	5.58E-27	-1814.591	7.69E-10
TOTAL	-2.23E-12	1.20E-13	2.86E-12	5.58E-27	-3.55E-11	7.69E-10

COMB COMB8 MAX

	FX	FY	FZ	MX	MY	MZ
APPLIED	-2.45E-06	-7.55E-31	-239.559979	6.34E-30	1814.591	-3.29E-30
SPRINGS	2.45E-06	-8.01E-16	239.559979	1.61E-27	-1814.591	5.75E-10
TOTAL	1.40E-13	-8.01E-16	1.38E-12	1.62E-27	-6.25E-12	5.75E-10

COMB COMB8 MIN

	FX	FY	FZ	MX	MY	MZ
APPLIED	-2.45E-06	-7.55E-31	-239.559979	6.34E-30	1814.591	-3.29E-30
SPRINGS	2.45E-06	-8.01E-16	239.559979	1.61E-27	-1814.591	5.75E-10
TOTAL	1.40E-13	-8.01E-16	1.38E-12	1.62E-27	-6.25E-12	5.75E-10

F R A M E E L E M E N T I N T E R N A L F O R C E S

ELEM 1 ========== LENGTH = 1.687847

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-222.603919	42.157166	-6.69E-21	1.16E-16	-1.95E-19	50.230884
0.50000	-219.481378	23.969433	-6.69E-21	1.16E-16	-1.90E-19	22.418154
1.00000	-216.358837	7.063788	-6.69E-21	1.16E-16	-1.84E-19	9.413487

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-222.603919	42.157166	-6.69E-21	1.16E-16	-1.95E-19	50.230884
0.50000	-219.481378	23.969433	-6.69E-21	1.16E-16	-1.90E-19	22.418154
1.00000	-216.358837	7.063788	-6.69E-21	1.16E-16	-1.84E-19	9.413487

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-143.102564	59.307636	-4.48E-21	3.38E-17	-1.29E-19	79.353484
0.50000	-141.095216	41.119903	-4.48E-21	3.38E-17	-1.25E-19	37.067070
1.00000	-139.087868	24.214258	-4.48E-21	3.38E-17	-1.21E-19	9.588718

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-143.102564	59.307636	-4.48E-21	3.38E-17	-1.29E-19	79.353484
0.50000	-141.095216	41.119903	-4.48E-21	3.38E-17	-1.25E-19	37.067070
1.00000	-139.087868	24.214258	-4.48E-21	3.38E-17	-1.21E-19	9.588718

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-222.603856	-2.932075	-6.43E-21	1.72E-16	-1.91E-19	-15.656198
0.50000	-219.481315	-12.025942	-6.43E-21	1.72E-16	-1.86E-19	-9.299405
1.00000	-216.358774	-20.478764	-6.43E-21	1.72E-16	-1.80E-19	4.461420

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-222.603856	-2.932075	-6.43E-21	1.72E-16	-1.91E-19	-15.656198
0.50000	-219.481315	-12.025942	-6.43E-21	1.72E-16	-1.86E-19	-9.299405
1.00000	-216.358774	-20.478764	-6.43E-21	1.72E-16	-1.80E-19	4.461420

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-167.281145	34.235207	-9.10E-19	1.15E-16	-2.31E-17	50.837042
0.50000	-164.939239	20.594407	-9.10E-19	1.15E-16	-2.23E-17	27.768666
1.00000	-162.597333	7.915174	-9.10E-19	1.15E-16	-2.15E-17	15.806337

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-167.281145	34.235207	-9.10E-19	1.15E-16	-2.31E-17	50.837042
0.50000	-164.939239	20.594407	-9.10E-19	1.15E-16	-2.23E-17	27.768666
1.00000	-162.597333	7.915174	-9.10E-19	1.15E-16	-2.15E-17	15.806337

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-166.624748	30.525537	9.00E-19	1.01E-16	2.28E-17	33.698404
0.50000	-164.282842	16.884737	9.00E-19	1.01E-16	2.20E-17	13.760706
1.00000	-161.940936	4.205504	9.00E-19	1.01E-16	2.12E-17	4.929056

COMB COMB5 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-166.624748	30.525537	9.00E-19	1.01E-16	2.28E-17	33.698404
0.50000	-164.282842	16.884737	9.00E-19	1.01E-16	2.20E-17	13.760706
1.00000	-161.940936	4.205504	9.00E-19	1.01E-16	2.12E-17	4.929056

COMB COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-144.547987	18.916484	-4.29E-21	8.57E-17	-1.26E-19	20.257687
0.50000	-142.520363	8.812188	-4.29E-21	8.57E-17	-1.22E-19	8.607340
1.00000	-140.492739	-0.579837	-4.29E-21	8.57E-17	-1.19E-19	5.183695

COMB COMB6 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-144.547987	18.916484	-4.29E-21	8.57E-17	-1.26E-19	20.257687
0.50000	-142.520363	8.812188	-4.29E-21	8.57E-17	-1.22E-19	8.607340
1.00000	-140.492739	-0.579837	-4.29E-21	8.57E-17	-1.19E-19	5.183695

COMB COMB7 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-108.629794	15.932251	-6.07E-19	8.34E-17	-1.54E-17	23.969184
0.50000	-107.109076	8.354029	-6.07E-19	8.34E-17	-1.49E-17	13.758872
1.00000	-105.588358	1.310011	-6.07E-19	8.34E-17	-1.43E-17	9.718585

COMB COMB7 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-108.629794	15.932251	-6.07E-19	8.34E-17	-1.54E-17	23.969184
0.50000	-107.109076	8.354029	-6.07E-19	8.34E-17	-1.49E-17	13.758872
1.00000	-105.588358	1.310011	-6.07E-19	8.34E-17	-1.43E-17	9.718585

COMB COMB8 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-108.192196	13.459138	6.00E-19	7.37E-17	1.52E-17	12.543426

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
0.50000	-106.671478	5.880916	6.00E-19	7.37E-17	1.47E-17	4.420232
1.00000	-105.150760	-1.163103	6.00E-19	7.37E-17	1.42E-17	2.467065

COMB COMB8 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-108.192196	13.459138	6.00E-19	7.37E-17	1.52E-17	12.543426
0.50000	-106.671478	5.880916	6.00E-19	7.37E-17	1.47E-17	4.420232
1.00000	-105.150760	-1.163103	6.00E-19	7.37E-17	1.42E-17	2.467065

ELEM 2 ========== LENGTH = 1.200000

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-216.363043	6.933734	-6.69E-21	1.16E-16	-2.53E-19	9.413487
0.50000	-214.469273	-4.304692	-6.69E-21	1.16E-16	-2.49E-19	8.657174
1.00000	-212.575892	-14.895111	-6.69E-21	1.16E-16	-2.45E-19	14.449518

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-216.363043	6.933734	-6.69E-21	1.16E-16	-2.53E-19	9.413487
0.50000	-214.469273	-4.304692	-6.69E-21	1.16E-16	-2.49E-19	8.657174
1.00000	-212.575892	-14.895111	-6.69E-21	1.16E-16	-2.45E-19	14.449518

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-139.102398	24.130648	-4.48E-21	3.38E-17	-1.41E-19	9.588718
0.50000	-137.882561	12.891818	-4.48E-21	3.38E-17	-1.39E-19	-1.485623
1.00000	-136.663114	2.300993	-4.48E-21	3.38E-17	-1.36E-19	-6.011066

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-139.102398	24.130648	-4.48E-21	3.38E-17	-1.41E-19	9.588718
0.50000	-137.882561	12.891818	-4.48E-21	3.38E-17	-1.39E-19	-1.485623
1.00000	-136.663114	2.300993	-4.48E-21	3.38E-17	-1.36E-19	-6.011066

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-216.346425	-20.608813	-6.43E-21	1.72E-16	-2.84E-19	4.461420
0.50000	-214.456032	-26.227459	-6.43E-21	1.72E-16	-2.80E-19	18.528504
1.00000	-212.565834	-31.522101	-6.43E-21	1.72E-16	-2.76E-19	35.869576

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-216.346425	-20.608813	-6.43E-21	1.72E-16	-2.84E-19	4.461420
0.50000	-214.456032	-26.227459	-6.43E-21	1.72E-16	-2.80E-19	18.528504

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
1.00000	-212.565834	-31.522101	-6.43E-21	1.72E-16	-2.76E-19	35.869576

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-162.602061	7.817435	-9.10E-19	1.15E-16	-2.16E-17	15.806337
0.50000	-161.181733	-0.611384	-9.10E-19	1.15E-16	-2.10E-17	13.668821
1.00000	-159.761697	-8.554198	-9.10E-19	1.15E-16	-2.05E-17	16.442798

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-162.602061	7.817435	-9.10E-19	1.15E-16	-2.16E-17	15.806337
0.50000	-161.181733	-0.611384	-9.10E-19	1.15E-16	-2.10E-17	13.668821
1.00000	-159.761697	-8.554198	-9.10E-19	1.15E-16	-2.05E-17	16.442798

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-161.943435	4.108160	9.00E-19	1.01E-16	2.12E-17	4.929056
0.50000	-160.523107	-4.320659	9.00E-19	1.01E-16	2.06E-17	5.017105
1.00000	-159.103071	-12.263473	9.00E-19	1.01E-16	2.01E-17	10.016647

COMB COMB5 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-161.943435	4.108160	9.00E-19	1.01E-16	2.12E-17	4.929056
0.50000	-160.523107	-4.320659	9.00E-19	1.01E-16	2.06E-17	5.017105
1.00000	-159.103071	-12.263473	9.00E-19	1.01E-16	2.01E-17	10.016647

COMB COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-140.492365	-0.664287	-4.29E-21	8.57E-17	-1.70E-19	5.183695
0.50000	-139.263278	-6.907750	-4.29E-21	8.57E-17	-1.68E-19	7.473306
1.00000	-138.034407	-12.791210	-4.29E-21	8.57E-17	-1.65E-19	13.400997

COMB COMB6 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-140.492365	-0.664287	-4.29E-21	8.57E-17	-1.70E-19	5.183695
0.50000	-139.263278	-6.907750	-4.29E-21	8.57E-17	-1.68E-19	7.473306
1.00000	-138.034407	-12.791210	-4.29E-21	8.57E-17	-1.65E-19	13.400997

COMB COMB7 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-105.589126	1.246541	-6.07E-19	8.34E-17	-1.44E-17	9.718585
0.50000	-104.667311	-3.436056	-6.07E-19	8.34E-17	-1.40E-17	10.388940
1.00000	-103.745657	-7.848651	-6.07E-19	8.34E-17	-1.37E-17	13.787854

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB7 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-105.589126	1.246541	-6.07E-19	8.34E-17	-1.44E-17	9.718585
0.50000	-104.667311	-3.436056	-6.07E-19	8.34E-17	-1.40E-17	10.368940
1.00000	-103.745657	-7.848651	-6.07E-19	8.34E-17	-1.37E-17	13.787854

COMB COMB8 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-105.150042	-1.226309	6.00E-19	7.37E-17	1.41E-17	2.467065
0.50000	-104.228226	-5.908906	6.00E-19	7.37E-17	1.38E-17	4.621129
1.00000	-103.306573	-10.321501	6.00E-19	7.37E-17	1.34E-17	9.503753

COMB COMB8 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-105.150042	-1.226309	6.00E-19	7.37E-17	1.41E-17	2.467065
0.50000	-104.228226	-5.908906	6.00E-19	7.37E-17	1.38E-17	4.621129
1.00000	-103.306573	-10.321501	6.00E-19	7.37E-17	1.34E-17	9.503753

ELEM 3 ========== LENGTH = 1.034680

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-213.062915	-3.816846	4.62E-16	1.15E-16	1.74E-15	-14.449518
0.50000	-197.510989	6.189686	-7.50E-16	1.15E-16	1.82E-15	-15.087004
1.00000	-182.735501	15.646414	-1.89E-15	1.15E-16	2.50E-15	-20.759052

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-213.062915	-3.816846	4.62E-16	1.15E-16	1.74E-15	-14.449518
0.50000	-197.510989	6.189686	-7.50E-16	1.15E-16	1.82E-15	-15.087004
1.00000	-182.735501	15.646414	-1.89E-15	1.15E-16	2.50E-15	-20.759052

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-135.933963	-14.284921	1.73E-15	3.37E-17	-7.31E-16	6.011066
0.50000	-126.204394	-4.787780	5.80E-16	3.37E-17	-1.33E-15	10.922002
1.00000	-116.959021	4.185127	-5.07E-16	3.37E-17	-1.34E-15	11.055289

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-135.933963	-14.284921	1.73E-15	3.37E-17	-7.31E-16	6.011066
0.50000	-126.204394	-4.787780	5.80E-16	3.37E-17	-1.33E-15	10.922002
1.00000	-116.959021	4.185127	-5.07E-16	3.37E-17	-1.34E-15	11.055289

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-214.511990	12.746882	-1.54E-15	1.72E-16	4.33E-15	-35.869576
0.50000	-198.584727	18.463294	-2.24E-15	1.72E-16	5.31E-15	-43.956109
1.00000	-183.454821	23.869010	-2.89E-15	1.72E-16	6.64E-15	-54.919604

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-214.511990	12.746882	-1.54E-15	1.72E-16	4.33E-15	-35.869576
0.50000	-198.584727	18.463294	-2.24E-15	1.72E-16	5.31E-15	-43.956109
1.00000	-183.454821	23.869010	-2.89E-15	1.72E-16	6.64E-15	-54.919604

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-159.896027	-5.498613	6.67E-16	1.17E-16	2.00E-15	-16.442798
0.50000	-148.232083	2.006286	-2.42E-16	1.17E-16	1.89E-15	-15.557214
1.00000	-137.150467	9.098833	-1.10E-15	1.17E-16	2.24E-15	-18.447554

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-159.896027	-5.498613	6.67E-16	1.17E-16	2.00E-15	-16.442798
0.50000	-148.232083	2.006286	-2.42E-16	1.17E-16	1.89E-15	-15.557214
1.00000	-137.150467	9.098833	-1.10E-15	1.17E-16	2.24E-15	-18.447554

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-159.565447	-1.745850	2.11E-16	9.86E-17	1.18E-15	-10.016647
0.50000	-147.901503	5.759049	-6.98E-16	9.86E-17	1.31E-15	-11.072519
1.00000	-136.819887	12.851596	-1.56E-15	9.86E-17	1.90E-15	-15.904313

COMB COMB5 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-159.565447	-1.745850	2.11E-16	9.86E-17	1.18E-15	-10.016647
0.50000	-147.901503	5.759049	-6.98E-16	9.86E-17	1.31E-15	-11.072519
1.00000	-136.819887	12.851596	-1.56E-15	9.86E-17	1.90E-15	-15.904313

COMB COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-138.624374	0.628721	-7.61E-17	8.54E-17	1.62E-15	-13.400997
0.50000	-128.455312	6.321685	-7.66E-16	8.54E-17	1.83E-15	-15.212317
1.00000	-118.794353	11.702488	-1.42E-15	8.54E-17	2.40E-15	-19.888088

COMB COMB6 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-138.624374	0.628721	-7.61E-17	8.54E-17	1.62E-15	-13.400997

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
0.50000	-128.455312	6.321685	-7.66E-16	8.54E-17	1.83E-15	-15.212317
1.00000	-118.794353	11.702488	-1.42E-15	8.54E-17	2.40E-15	-19.888088

COMB COMB7 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-104.034175	-1.285778	1.56E-16	8.43E-17	1.68E-15	-13.787854
0.50000	-96.407378	2.983945	-3.61E-16	8.43E-17	1.73E-15	-14.237212
1.00000	-89.161659	7.019547	-8.50E-16	8.43E-17	2.04E-15	-16.834909

COMB COMB7 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-104.034175	-1.285778	1.56E-16	8.43E-17	1.68E-15	-13.787854
0.50000	-96.407378	2.983945	-3.61E-16	8.43E-17	1.73E-15	-14.237212
1.00000	-89.161659	7.019547	-8.50E-16	8.43E-17	2.04E-15	-16.834909

COMB COMB8 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-103.813788	1.216064	-1.48E-16	7.22E-17	1.13E-15	-9.503753
0.50000	-96.186991	5.485787	-6.65E-16	7.22E-17	1.34E-15	-11.247415
1.00000	-88.941273	9.521389	-1.15E-15	7.22E-17	1.81E-15	-15.139415

COMB COMB8 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-103.813788	1.216064	-1.48E-16	7.22E-17	1.13E-15	-9.503753
0.50000	-96.186991	5.485787	-6.65E-16	7.22E-17	1.34E-15	-11.247415
1.00000	-88.941273	9.521389	-1.15E-15	7.22E-17	1.81E-15	-15.139415

ELEM 4 ========== LENGTH = 1.034680

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-182.676308	-16.322993	1.98E-15	1.12E-16	2.48E-15	-20.759052
0.50000	-170.426226	-5.109981	6.19E-16	1.12E-16	1.82E-15	-15.243236
1.00000	-158.824545	5.447743	-6.60E-16	1.12E-16	1.83E-15	-15.358855

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-182.676308	-16.322993	1.98E-15	1.12E-16	2.48E-15	-20.759052
0.50000	-170.426226	-5.109981	6.19E-16	1.12E-16	1.82E-15	-15.243236
1.00000	-158.824545	5.447743	-6.60E-16	1.12E-16	1.83E-15	-15.358855

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-115.908889	-16.188186	1.96E-15	3.27E-17	-1.35E-15	11.055289
0.50000	-108.741928	-6.337193	7.67E-16	3.27E-17	-2.05E-15	16.856849

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
1.00000	-101.948799	2.932084	-3.55E-16	3.27E-17	-2.15E-15	17.712570

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-115.908889	-16.188186	1.96E-15	3.27E-17	-1.35E-15	11.055289
0.50000	-108.741928	-6.337193	7.67E-16	3.27E-17	-2.05E-15	16.856849
1.00000	-101.948799	2.932084	-3.55E-16	3.27E-17	-2.15E-15	17.712570

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-184.812540	-8.350226	1.01E-15	1.67E-16	6.61E-15	-54.919604
0.50000	-171.571132	-0.836895	1.01E-16	1.67E-16	6.32E-15	-52.561737
1.00000	-159.038317	6.245794	-7.56E-16	1.67E-16	6.49E-15	-53.979423

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-184.812540	-8.350226	1.01E-15	1.67E-16	6.61E-15	-54.919604
0.50000	-171.571132	-0.836895	1.01E-16	1.67E-16	6.32E-15	-52.561737
1.00000	-159.038317	6.245794	-7.56E-16	1.67E-16	6.49E-15	-53.979423

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-136.646837	-14.855339	1.80E-15	1.17E-16	2.22E-15	-18.447554
0.50000	-127.459276	-6.445581	7.82E-16	1.17E-16	1.56E-15	-12.958833
1.00000	-118.758015	1.472712	-1.77E-16	1.17E-16	1.40E-15	-11.693689

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-136.646837	-14.855339	1.80E-15	1.17E-16	2.22E-15	-18.447554
0.50000	-127.459276	-6.445581	7.82E-16	1.17E-16	1.56E-15	-12.958833
1.00000	-118.758015	1.472712	-1.77E-16	1.17E-16	1.40E-15	-11.693689

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-136.972940	-11.102185	1.34E-15	9.23E-17	1.88E-15	-15.904313
0.50000	-127.785379	-2.692427	3.25E-16	9.23E-17	1.45E-15	-12.357249
1.00000	-119.084118	5.225866	-6.34E-16	9.23E-17	1.53E-15	-13.033761

COMB COMB5 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-136.972940	-11.102185	1.34E-15	9.23E-17	1.88E-15	-15.904313
0.50000	-127.785379	-2.692427	3.25E-16	9.23E-17	1.45E-15	-12.357249
1.00000	-119.084118	5.225866	-6.34E-16	9.23E-17	1.53E-15	-13.033761

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-119.021715	-9.103733	1.10E-15	8.29E-17	2.39E-15	-19.888088
0.50000	-110.881154	-2.516581	3.05E-16	8.29E-17	2.02E-15	-16.898790
1.00000	-103.172923	3.687202	-4.47E-16	8.29E-17	2.06E-15	-17.218122

COMB COMB6 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-119.021715	-9.103733	1.10E-15	8.29E-17	2.39E-15	-19.888088
0.50000	-110.881154	-2.516581	3.05E-16	8.29E-17	2.02E-15	-16.898790
1.00000	-103.172923	3.687202	-4.47E-16	8.29E-17	2.06E-15	-17.218122

COMB COMB7 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-89.026024	-8.569863	1.04E-15	8.40E-17	2.03E-15	-16.834909
0.50000	-82.920603	-3.629499	4.40E-16	8.40E-17	1.65E-15	-13.691696
1.00000	-77.139430	1.023338	-1.23E-16	8.40E-17	1.57E-15	-13.029957

COMB COMB7 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-89.026024	-8.569863	1.04E-15	8.40E-17	2.03E-15	-16.834909
0.50000	-82.920603	-3.629499	4.40E-16	8.40E-17	1.65E-15	-13.691696
1.00000	-77.139430	1.023338	-1.23E-16	8.40E-17	1.57E-15	-13.029957

COMB COMB8 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-89.243426	-6.067760	7.34E-16	6.78E-17	1.80E-15	-15.139415
0.50000	-83.138005	-1.127396	1.36E-16	6.78E-17	1.58E-15	-13.290640
1.00000	-77.356832	3.525441	-4.28E-16	6.78E-17	1.66E-15	-13.923338

COMB COMB8 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-89.243426	-6.067760	7.34E-16	6.78E-17	1.80E-15	-15.139415
0.50000	-83.138005	-1.127396	1.36E-16	6.78E-17	1.58E-15	-13.290640
1.00000	-77.356832	3.525441	-4.28E-16	6.78E-17	1.66E-15	-13.923338

ELEM 5 ========== LENGTH = 1.034679

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-157.357632	-22.214630	2.69E-15	1.05E-16	1.81E-15	-15.358855
0.50000	-148.274278	-10.537479	1.28E-15	1.05E-16	7.89E-16	-6.917551
1.00000	-139.683642	0.428027	-5.18E-17	1.05E-16	4.76E-16	-4.333221

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-157.357632	-22.214630	2.69E-15	1.05E-16	1.81E-15	-15.358855
0.50000	-148.274278	-10.537479	1.28E-15	1.05E-16	7.89E-16	-6.917551
1.00000	-139.683642	0.428027	-5.18E-17	1.05E-16	4.76E-16	-4.333221

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-100.909117	-14.815695	1.79E-15	3.07E-17	-2.16E-15	17.712570
0.50000	-96.087770	-5.125951	6.21E-16	3.07E-17	-2.78E-15	22.845056
1.00000	-91.517251	3.964942	-4.80E-16	3.07E-17	-2.81E-15	23.119657

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-100.909117	-14.815695	1.79E-15	3.07E-17	-2.16E-15	17.712570
0.50000	-96.087770	-5.125951	6.21E-16	3.07E-17	-2.78E-15	22.845056
1.00000	-91.517251	3.964942	-4.80E-16	3.07E-17	-2.81E-15	23.119657

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-157.706736	-21.465824	2.60E-15	1.56E-16	6.46E-15	-53.979423
0.50000	-147.198251	-12.844878	1.56E-15	1.56E-16	5.39E-15	-45.126426
1.00000	-137.274769	-4.737668	5.74E-16	1.56E-16	4.84E-15	-40.600499

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-157.706736	-21.465824	2.60E-15	1.56E-16	6.46E-15	-53.979423
0.50000	-147.198251	-12.844878	1.56E-15	1.56E-16	5.39E-15	-45.126426
1.00000	-137.274769	-4.737668	5.74E-16	1.56E-16	4.84E-15	-40.600499

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-117.209546	-19.171787	2.32E-15	1.13E-16	1.38E-15	-11.693689
0.50000	-110.397031	-10.413924	1.26E-15	1.13E-16	4.60E-16	-4.063767
1.00000	-103.954054	-2.189795	2.66E-16	1.13E-16	6.71E-17	-0.826575

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-117.209546	-19.171787	2.32E-15	1.13E-16	1.38E-15	-11.693689
0.50000	-110.397031	-10.413924	1.26E-15	1.13E-16	4.60E-16	-4.063767
1.00000	-103.954054	-2.189795	2.66E-16	1.13E-16	6.71E-17	-0.826575

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-118.182423	-15.532279	1.88E-15	8.33E-17	1.52E-15	-13.033761

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
0.50000	-111.369909	-6.774416	8.20E-16	8.33E-17	8.24E-16	-7.286702
1.00000	-104.926932	1.449714	-1.76E-16	8.33E-17	6.60E-16	-5.932372

COMB COMB5 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-118.182423	-15.532279	1.88E-15	8.33E-17	1.52E-15	-13.033761
0.50000	-111.369909	-6.774416	8.20E-16	8.33E-17	8.24E-16	-7.286702
1.00000	-104.926932	1.449714	-1.76E-16	8.33E-17	6.60E-16	-5.932372

COMB COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-102.245769	-14.284616	1.73E-15	7.78E-17	2.05E-15	-17.218122
0.50000	-96.080147	-7.275364	8.81E-16	7.78E-17	1.38E-15	-11.659526
1.00000	-90.251783	-0.691094	8.37E-17	7.78E-17	1.13E-15	-9.617165

COMB COMB6 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-102.245769	-14.284616	1.73E-15	7.78E-17	2.05E-15	-17.218122
0.50000	-96.080147	-7.275364	8.81E-16	7.78E-17	1.38E-15	-11.659526
1.00000	-90.251783	-0.691094	8.37E-17	7.78E-17	1.13E-15	-9.617165

COMB COMB7 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-76.145208	-12.387338	1.50E-15	8.10E-17	1.55E-15	-13.029957
0.50000	-71.520991	-7.130400	8.64E-16	8.10E-17	9.44E-16	-7.995047
1.00000	-67.149719	-2.192197	2.66E-16	8.10E-17	6.53E-16	-5.597314

COMB COMB7 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-76.145208	-12.387338	1.50E-15	8.10E-17	1.55E-15	-13.029957
0.50000	-71.520991	-7.130400	8.64E-16	8.10E-17	9.44E-16	-7.995047
1.00000	-67.149719	-2.192197	2.66E-16	8.10E-17	6.53E-16	-5.597314

COMB COMB8 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-76.793793	-9.960999	1.21E-15	6.14E-17	1.64E-15	-13.923338
0.50000	-72.169577	-4.704061	5.69E-16	6.14E-17	1.19E-15	-10.143670
1.00000	-67.798304	0.234142	-2.90E-17	6.14E-17	1.05E-15	-9.001178

COMB COMB8 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-76.793793	-9.960999	1.21E-15	6.14E-17	1.64E-15	-13.923338
0.50000	-72.169577	-4.704061	5.69E-16	6.14E-17	1.19E-15	-10.143670
1.00000	-67.798304	0.234142	-2.90E-17	6.14E-17	1.05E-15	-9.001178

F R A M E E L E M E N T I N T E R N A L F O R C E S

ELEM 6 ========== LENGTH = 1.024081

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-138.123068	-20.825976	2.52E-15	9.63E-17	4.61E-16	-4.333221
0.50000	-131.727857	-9.540278	1.16E-15	9.63E-17	-4.77E-16	3.411336
1.00000	-125.672726	1.046526	-1.27E-16	9.63E-17	-7.37E-16	5.556088

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-138.123068	-20.825976	2.52E-15	9.63E-17	4.61E-16	-4.333221
0.50000	-131.727857	-9.540278	1.16E-15	9.63E-17	-4.77E-16	3.411336
1.00000	-125.672726	1.046526	-1.27E-16	9.63E-17	-7.37E-16	5.556088

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-91.055298	-10.003034	1.21E-15	2.82E-17	-2.82E-15	23.119557
0.50000	-88.101013	-1.016484	1.23E-16	2.82E-17	-3.16E-15	25.916637
1.00000	-85.287536	7.404319	-8.97E-16	2.82E-17	-2.96E-15	24.257081

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-91.055298	-10.003034	1.21E-15	2.82E-17	-2.82E-15	23.119557
0.50000	-88.101013	-1.016484	1.23E-16	2.82E-17	-3.16E-15	25.916637
1.00000	-85.287536	7.404319	-8.97E-16	2.82E-17	-2.96E-15	24.257081

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-134.956411	-25.565107	3.10E-15	1.43E-16	4.82E-15	-40.600499
0.50000	-126.941511	-16.703450	2.02E-15	1.43E-16	3.51E-15	-29.801753
1.00000	-119.375629	-8.377647	1.01E-15	1.43E-16	2.74E-15	-23.403347

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-134.956411	-25.565107	3.10E-15	1.43E-16	4.82E-15	-40.600499
0.50000	-126.941511	-16.703450	2.02E-15	1.43E-16	3.51E-15	-29.801753
1.00000	-119.375629	-8.377647	1.01E-15	1.43E-16	2.74E-15	-23.403347

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-102.411083	-17.978057	2.18E-15	1.06E-16	5.03E-17	-0.826575
0.50000	-97.614676	-9.513783	1.15E-15	1.06E-16	-8.00E-16	6.189529
1.00000	-93.073327	-1.573680	1.91E-16	1.06E-16	-1.14E-15	9.005779

FRAME ELEMENT INTERNAL FORCES

COMB COMB4 ———————— MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-102.411083	-17.978057	2.18E-15	1.06E-16	5.03E-17	-0.826575
0.50000	-97.614676	-9.513783	1.15E-15	1.06E-16	-8.00E-16	6.189529
1.00000	-93.073327	-1.573680	1.91E-16	1.06E-16	-1.14E-15	9.005779

COMB COMB5 ———————— MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-103.926289	-14.528903	1.76E-15	7.35E-17	6.48E-16	-5.932372
0.50000	-99.129882	-6.064629	7.34E-16	7.35E-17	1.30E-17	-0.682375
1.00000	-94.588533	1.875474	-2.28E-16	7.35E-17	-1.14E-16	0.367768

COMB COMB5 ———————— MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-103.926289	-14.528903	1.76E-15	7.35E-17	6.48E-16	-5.932372
0.50000	-99.129882	-6.064629	7.34E-16	7.35E-17	1.30E-17	-0.682375
1.00000	-94.588533	1.875474	-2.28E-16	7.35E-17	-1.14E-16	0.367768

COMB COMB6 ———————— MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-89.096270	-14.412376	1.75E-15	7.14E-17	1.12E-15	-9.617165
0.50000	-84.639698	-7.538726	9.13E-16	7.14E-17	4.39E-16	-4.015296
1.00000	-80.424393	-1.088320	1.32E-16	7.14E-17	1.73E-16	-1.824657

COMB COMB6 ———————— MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-89.096270	-14.412376	1.75E-15	7.14E-17	1.12E-15	-9.617165
0.50000	-84.639698	-7.538726	9.13E-16	7.14E-17	4.39E-16	-4.015296
1.00000	-80.424393	-1.088320	1.32E-16	7.14E-17	1.73E-16	-1.824657

COMB COMB7 ———————— MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-66.034724	-12.381665	1.50E-15	7.63E-17	6.41E-16	-5.597314
0.50000	-62.692295	-7.226428	8.76E-16	7.63E-17	3.45E-17	-0.590788
1.00000	-59.530816	-2.388623	2.90E-16	7.63E-17	-2.62E-16	1.857316

COMB COMB7 ———————— MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-66.034724	-12.381665	1.50E-15	7.63E-17	6.41E-16	-5.597314
0.50000	-62.692295	-7.226428	8.76E-16	7.63E-17	3.45E-17	-0.590788
1.00000	-59.530816	-2.388623	2.90E-16	7.63E-17	-2.62E-16	1.857316

COMB COMB8 ———————— MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-67.044862	-10.082229	1.22E-15	5.44E-17	1.04E-15	-9.001178

FRAME ELEMENT INTERNAL FORCES

REL DIST	P	V2	V3	T	M2	M3
0.50000	-63.702433	-4.926992	5.96E-16	5.44E-17	5.76E-16	-5.172057
1.00000	-60.540954	-0.089187	1.02E-17	5.44E-17	4.23E-16	-3.901358

COMB COMB8 ———————— MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-67.044862	-10.082229	1.22E-15	5.44E-17	1.04E-15	-9.001178
0.50000	-63.702433	-4.926992	5.96E-16	5.44E-17	5.76E-16	-5.172057
1.00000	-60.540954	-0.089187	1.02E-17	5.44E-17	4.23E-16	-3.901358

ELEM 7 ========== LENGTH = 1.024082

COMB COMB1 ———————— MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-124.734172	-15.366056	1.86E-15	8.71E-17	-7.49E-16	5.556088
0.50000	-120.346939	-4.781676	5.79E-16	8.71E-17	-1.37E-15	10.685855
1.00000	-116.182243	5.135578	-6.22E-16	8.71E-17	-1.36E-15	10.566782

COMB COMB1 ———————— MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-124.734172	-15.366056	1.86E-15	8.71E-17	-7.49E-16	5.556088
0.50000	-120.346939	-4.781676	5.79E-16	8.71E-17	-1.37E-15	10.685855
1.00000	-116.182243	5.135578	-6.22E-16	8.71E-17	-1.36E-15	10.566782

COMB COMB2 ———————— MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-85.524345	-3.791315	4.59E-16	2.55E-17	-2.96E-15	24.257081
0.50000	-83.896704	4.372970	-5.30E-16	2.55E-17	-2.94E-15	24.085800
1.00000	-82.328564	12.013108	-1.45E-15	2.55E-17	-2.43E-15	19.868262

COMB COMB2 ———————— MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-85.524345	-3.791315	4.59E-16	2.55E-17	-2.96E-15	24.257081
0.50000	-83.896704	4.372970	-5.30E-16	2.55E-17	-2.94E-15	24.085800
1.00000	-82.328564	12.013108	-1.45E-15	2.55E-17	-2.43E-15	19.868262

COMB COMB3 ———————— MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-117.260843	-23.887665	2.89E-15	1.30E-16	2.72E-15	-23.403347
0.50000	-111.203799	-15.207342	1.84E-15	1.30E-16	1.51E-15	-13.416996
1.00000	-105.486273	-7.060752	8.55E-16	1.30E-16	8.24E-16	-7.738681

COMB COMB3 ———————— MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-117.260843	-23.887665	2.89E-15	1.30E-16	2.72E-15	-23.403347
0.50000	-111.203799	-15.207342	1.84E-15	1.30E-16	1.51E-15	-13.416996

FRAME ELEMENT INTERNAL FORCES

REL DIST	P	V2	V3	T	M2	M3
1.00000	-105.486273	-7.060752	8.55E-16	1.30E-16	8.24E-16	-7.738681

COMB COMB4 ———————— MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-92.071660	-13.708758	1.66E-15	9.89E-17	-1.15E-15	9.005779
0.50000	-88.781236	-5.770473	7.00E-16	9.89E-17	-1.76E-15	13.971512
1.00000	-85.657714	1.667467	-2.01E-16	9.89E-17	-1.88E-15	15.000617

COMB COMB4 ———————— MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-92.071660	-13.708758	1.66E-15	9.89E-17	-1.15E-15	9.005779
0.50000	-88.781236	-5.770473	7.00E-16	9.89E-17	-1.76E-15	13.971512
1.00000	-85.657714	1.667467	-2.01E-16	9.89E-17	-1.88E-15	15.000617

COMB COMB5 ———————— MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-94.024109	-10.486887	1.27E-15	6.38E-17	-1.23E-16	0.367768
0.50000	-90.733685	-2.548602	3.08E-16	6.38E-17	-5.24E-16	3.683771
1.00000	-87.610163	4.889338	-5.93E-16	6.38E-17	-4.48E-16	3.063145

COMB COMB5 ———————— MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-94.024109	-10.486887	1.27E-15	6.38E-17	-1.23E-16	0.367768
0.50000	-90.733685	-2.548602	3.08E-16	6.38E-17	-5.24E-16	3.683771
1.00000	-87.610163	4.889338	-5.93E-16	6.38E-17	-4.48E-16	3.063145

COMB COMB6 ———————— MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-79.594292	-11.576529	1.40E-15	6.45E-17	1.65E-16	-1.824657
0.50000	-76.432200	-5.060737	6.13E-16	6.45E-17	-3.49E-16	2.417408
1.00000	-73.436556	1.046879	-1.27E-16	6.45E-17	-4.72E-16	3.427622

COMB COMB6 ———————— MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-79.594292	-11.576529	1.40E-15	6.45E-17	1.65E-16	-1.824657
0.50000	-76.432200	-5.060737	6.13E-16	6.45E-17	-3.49E-16	2.417408
1.00000	-73.436556	1.046879	-1.27E-16	6.45E-17	-4.72E-16	3.427622

COMB COMB7 ———————— MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-58.709740	-10.138541	1.23E-15	7.08E-17	-2.72E-16	1.857316
0.50000	-56.338171	-5.251697	6.37E-16	7.08E-17	-7.48E-16	5.784471
1.00000	-54.091438	-0.670985	8.19E-17	7.08E-17	-9.30E-16	7.287736

FRAME ELEMENT INTERNAL FORCES

COMB COMB7 ———————— MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-58.709740	-10.138541	1.23E-15	7.08E-17	-2.72E-16	1.857316
0.50000	-56.338171	-5.251697	6.37E-16	7.08E-17	-7.48E-16	5.784471
1.00000	-54.091438	-0.670985	8.19E-17	7.08E-17	-9.30E-16	7.287736

COMB COMB8 ———————— MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-60.011373	-7.990627	9.67E-16	4.74E-17	4.16E-16	-3.901358
0.50000	-57.639804	-3.103783	3.75E-16	4.74E-17	7.40E-17	-1.074024
1.00000	-55.393071	1.476929	-1.79E-16	4.74E-17	2.54E-17	-0.670578

COMB COMB8 ———————— MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-60.011373	-7.990627	9.67E-16	4.74E-17	4.16E-16	-3.901358
0.50000	-57.639804	-3.103783	3.75E-16	4.74E-17	7.40E-17	-1.074024
1.00000	-55.393071	1.476929	-1.79E-16	4.74E-17	2.54E-17	-0.670578

ELEM 8 ========== LENGTH = 1.024082

COMB COMB1 ———————— MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-115.858608	-10.073272	1.22E-15	7.64E-17	-1.37E-15	10.566782
0.50000	-113.149326	-0.345130	4.18E-17	7.64E-17	-1.69E-15	13.208280
1.00000	-110.557120	8.777733	-1.06E-15	7.64E-17	-1.42E-15	11.023532

COMB COMB1 ———————— MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-115.858608	-10.073272	1.22E-15	7.64E-17	-1.37E-15	10.566782
0.50000	-113.149326	-0.345130	4.18E-17	7.64E-17	-1.69E-15	13.208280
1.00000	-110.557120	8.777733	-1.06E-15	7.64E-17	-1.42E-15	11.023532

COMB COMB2 ———————— MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-83.192257	1.164236	-1.41E-16	2.24E-17	-2.43E-15	19.868262
0.50000	-82.625933	8.448802	-1.02E-15	2.24E-17	-2.13E-15	17.387398
1.00000	-82.051347	15.271009	-1.85E-15	2.24E-17	-1.39E-15	11.294910

COMB COMB2 ———————— MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-83.192257	1.164236	-1.41E-16	2.24E-17	-2.43E-15	19.868262
0.50000	-82.625933	8.448802	-1.02E-15	2.24E-17	-2.13E-15	17.387398
1.00000	-82.051347	15.271009	-1.85E-15	2.24E-17	-1.39E-15	11.294910

FRAME ELEMENT INTERNAL FORCES

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-103.662194	-20.769147	2.52E-15	1.14E-16	8.08E-16	-7.738681
0.50000	-99.307412	-12.484069	1.51E-15	1.14E-16	-2.21E-16	0.753374
1.00000	-95.186643	-4.701719	5.69E-16	1.14E-16	-7.51E-16	5.131838

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-103.662194	-20.769147	2.52E-15	1.14E-16	8.08E-16	-7.738681
0.50000	-99.307412	-12.484069	1.51E-15	1.14E-16	-2.21E-16	0.753374
1.00000	-95.186643	-4.701719	5.69E-16	1.14E-16	-7.51E-16	5.131838

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-85.142541	-9.527438	1.15E-15	8.95E-17	-1.89E-15	15.000617
0.50000	-83.110579	-2.231332	2.71E-16	8.95E-17	-2.26E-15	17.991733
1.00000	-81.166425	4.610815	-5.57E-16	8.95E-17	-2.18E-15	17.363166

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-85.142541	-9.527438	1.15E-15	8.95E-17	-1.89E-15	15.000617
0.50000	-83.110579	-2.231332	2.71E-16	8.95E-17	-2.26E-15	17.991733
1.00000	-81.166425	4.610815	-5.57E-16	8.95E-17	-2.18E-15	17.363166

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-87.498828	-6.587979	7.97E-16	5.32E-17	-4.56E-16	3.063145
0.50000	-85.466866	0.708128	-8.67E-17	5.32E-17	-6.35E-16	4.549137
1.00000	-83.522712	7.550275	-9.15E-16	5.32E-17	-3.77E-16	2.415445

COMB COMB5 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-87.498828	-6.587979	7.97E-16	5.32E-17	-4.56E-16	3.063145
0.50000	-85.466866	0.708128	-8.67E-17	5.32E-17	-6.35E-16	4.549137
1.00000	-83.522712	7.550275	-9.15E-16	5.32E-17	-3.77E-16	2.415445

COMB COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-72.944935	-8.547527	1.04E-15	5.66E-17	-4.80E-16	3.427622
0.50000	-70.876981	-2.501256	3.03E-16	5.66E-17	-8.20E-16	6.240387
1.00000	-68.906987	3.171214	-3.84E-16	5.66E-17	-7.97E-16	6.052914

COMB COMB6 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-72.944935	-8.547527	1.04E-15	5.66E-17	-4.80E-16	3.427622

FRAME ELEMENT INTERNAL FORCES

REL DIST	P	V2	V3	T	M2	M3
0.50000	-70.876981	-2.501256	3.03E-16	5.66E-17	-8.20E-16	6.240387
1.00000	-68.906987	3.171214	-3.84E-16	5.66E-17	-7.97E-16	6.052914

COMB COMB7 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-53.541091	-7.725635	9.36E-16	6.40E-17	-9.39E-16	7.287736
0.50000	-51.990126	-3.190932	3.87E-16	6.40E-17	-1.28E-15	10.070639
1.00000	-50.512630	1.063421	-1.28E-16	6.40E-17	-1.34E-15	10.603363

COMB COMB7 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-53.541091	-7.725635	9.36E-16	6.40E-17	-9.39E-16	7.287736
0.50000	-51.990126	-3.190932	3.87E-16	6.40E-17	-1.28E-15	10.070639
1.00000	-50.512630	1.063421	-1.28E-16	6.40E-17	-1.34E-15	10.603363

COMB COMB8 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-55.111949	-5.765995	6.98E-16	3.97E-17	1.97E-17	-0.670578
0.50000	-53.560984	-1.231292	1.49E-16	3.97E-17	-1.95E-16	1.108908
1.00000	-52.083488	3.023061	-3.67E-16	3.97E-17	-1.38E-16	0.638216

COMB COMB8 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-55.111949	-5.765995	6.98E-16	3.97E-17	1.97E-17	-0.670578
0.50000	-53.560984	-1.231292	1.49E-16	3.97E-17	-1.95E-16	1.108908
1.00000	-52.083488	3.023061	-3.67E-16	3.97E-17	-1.38E-16	0.638216

ELEM 9 ========== LENGTH = 1.024083

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-110.757014	-5.727928	6.94E-16	6.44E-17	-1.43E-15	11.023532
0.50000	-109.411914	3.088183	-3.74E-16	6.44E-17	-1.51E-15	11.677227
1.00000	-108.098062	11.385549	-1.38E-15	6.44E-17	-1.06E-15	7.949516

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-110.757014	-5.727928	6.94E-16	6.44E-17	-1.43E-15	11.023532
0.50000	-109.411914	3.088183	-3.74E-16	6.44E-17	-1.51E-15	11.677227
1.00000	-108.098062	11.385549	-1.38E-15	6.44E-17	-1.06E-15	7.949516

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-83.342651	4.430539	-5.37E-16	1.89E-17	-1.40E-15	11.294910
0.50000	-83.600296	10.847971	-1.31E-15	1.89E-17	-9.20E-16	7.366845

FRAME ELEMENT INTERNAL FORCES

REL DIST	P	V2	V3	T	M2	M3
1.00000	-83.800164	16.879895	-2.04E-15	1.89E-17	-5.86E-17	0.251486

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-83.342651	4.430539	-5.37E-16	1.89E-17	-1.40E-15	11.294910
0.50000	-83.600296	10.847971	-1.31E-15	1.89E-17	-9.20E-16	7.366845
1.00000	-83.800164	16.879895	-2.04E-15	1.89E-17	-5.86E-17	0.251486

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-93.758615	-17.085817	2.07E-15	9.59E-17	-7.65E-16	5.131838
0.50000	-90.842221	-9.319611	1.13E-15	9.59E-17	-1.58E-15	11.873149
1.00000	-88.066088	-1.999310	2.42E-16	9.59E-17	-1.93E-15	14.752001

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-93.758615	-17.085817	2.07E-15	9.59E-17	-7.65E-16	5.131838
0.50000	-90.842221	-9.319611	1.13E-15	9.59E-17	-1.58E-15	11.873149
1.00000	-88.066088	-1.999310	2.42E-16	9.59E-17	-1.93E-15	14.752001

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-81.073869	-6.022951	7.30E-16	7.85E-17	-2.19E-15	17.363166
0.50000	-80.065044	0.589132	-7.04E-17	7.85E-17	-2.36E-15	18.737735
1.00000	-79.079655	6.812157	-8.24E-16	7.85E-17	-2.13E-15	16.826250

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-81.073869	-6.022951	7.30E-16	7.85E-17	-2.19E-15	17.363166
0.50000	-80.065044	0.589132	-7.04E-17	7.85E-17	-2.36E-15	18.737735
1.00000	-79.079655	6.812157	-8.24E-16	7.85E-17	-2.13E-15	16.826250

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-83.793673	-3.416195	4.13E-16	4.18E-17	-3.83E-16	2.415445
0.50000	-82.784848	3.195888	-3.88E-16	4.18E-17	-3.87E-16	2.455247
1.00000	-81.799459	9.418913	-1.14E-15	4.18E-17	6.46E-18	-0.791005

COMB COMB5 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-83.793673	-3.416195	4.13E-16	4.18E-17	-3.83E-16	2.415445
0.50000	-82.784848	3.195888	-3.88E-16	4.18E-17	-3.87E-16	2.455247
1.00000	-81.799459	9.418913	-1.14E-15	4.18E-17	6.46E-18	-0.791005

FRAME ELEMENT INTERNAL FORCES

COMB COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-68.731406	-5.850062	7.08E-16	4.77E-17	-8.04E-16	6.052914
0.50000	-67.563205	-0.322267	3.90E-17	4.77E-17	-9.94E-16	7.619068
1.00000	-66.435745	4.882345	-5.91E-16	4.77E-17	-8.51E-16	6.438103

COMB COMB6 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-68.731406	-5.850062	7.08E-16	4.77E-17	-8.04E-16	6.052914
0.50000	-67.563205	-0.322267	3.90E-17	4.77E-17	-9.94E-16	7.619068
1.00000	-66.435745	4.882345	-5.91E-16	4.77E-17	-8.51E-16	6.438103

COMB COMB7 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-50.219294	-5.538883	6.71E-16	5.59E-17	-1.35E-15	10.603363
0.50000	-49.343143	-1.393037	1.69E-16	5.59E-17	-1.56E-15	12.367736
1.00000	-48.497548	2.510422	-3.03E-16	5.59E-17	-1.53E-15	12.071319

COMB COMB7 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-50.219294	-5.538883	6.71E-16	5.59E-17	-1.35E-15	10.603363
0.50000	-49.343143	-1.393037	1.69E-16	5.59E-17	-1.56E-15	12.367736
1.00000	-48.497548	2.510422	-3.03E-16	5.59E-17	-1.53E-15	12.071319

COMB COMB8 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-52.032496	-3.801046	4.60E-16	3.14E-17	-1.43E-16	0.638216
0.50000	-51.156345	0.344801	-4.24E-17	3.14E-17	-2.48E-16	1.512744
1.00000	-50.310750	4.248260	-5.15E-16	3.14E-17	-1.04E-16	0.326482

COMB COMB8 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-52.032496	-3.801046	4.60E-16	3.14E-17	-1.43E-16	0.638216
0.50000	-51.156345	0.344801	-4.24E-17	3.14E-17	-2.48E-16	1.512744
1.00000	-50.310750	4.248260	-5.15E-16	3.14E-17	-1.04E-16	0.326482

ELEM 10 ========== LENGTH = 1.024082

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-108.659381	-2.821454	3.42E-16	5.13E-17	-1.07E-15	7.949516
0.50000	-108.406807	5.110865	-6.19E-16	5.13E-17	-9.93E-16	7.345770
1.00000	-108.124993	12.630480	-1.53E-15	5.13E-17	-4.41E-16	2.786013

FRAME ELEMENT INTERNAL FORCES

COMB COMB1 ———————— MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-108.659381	-2.821454	3.42E-16	5.13E-17	-1.07E-15	7.949516
0.50000	-108.406807	5.110865	-6.19E-16	5.13E-17	-9.93E-16	7.345770
1.00000	-108.124993	12.630480	-1.53E-15	5.13E-17	-4.41E-16	2.786013

COMB COMB2 ———————— MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-85.286509	5.797393	-7.02E-16	1.51E-17	-6.08E-17	0.251486
0.50000	-86.175355	11.415143	-1.38E-15	1.51E-17	4.74E-16	-4.168004
1.00000	-86.978535	16.734607	-2.03E-15	1.51E-17	1.35E-15	-11.387643

COMB COMB2 ———————— MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-85.286509	5.797393	-7.02E-16	1.51E-17	-6.08E-17	0.251486
0.50000	-86.175355	11.415143	-1.38E-15	1.51E-17	4.74E-16	-4.168004
1.00000	-86.978535	16.734607	-2.03E-15	1.51E-17	1.35E-15	-11.387643

COMB COMB3 ———————— MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-87.051712	-13.477113	1.63E-15	7.64E-17	-1.94E-15	14.752001
0.50000	-85.327437	-6.270557	7.59E-16	7.64E-17	-2.55E-15	19.792168
1.00000	-83.667538	0.569461	-6.90E-17	7.64E-17	-2.73E-15	21.236125

COMB COMB3 ———————— MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-87.051712	-13.477113	1.63E-15	7.64E-17	-1.94E-15	14.752001
0.50000	-85.327437	-6.270557	7.59E-16	7.64E-17	-2.55E-15	19.792168
1.00000	-83.667538	0.569461	-6.90E-17	7.64E-17	-2.73E-15	21.236125

COMB COMB4 ———————— MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-79.292283	-3.568066	4.33E-16	6.61E-17	-2.14E-15	16.826250
0.50000	-79.102853	2.381173	-2.87E-16	6.61E-17	-2.17E-15	17.116911
1.00000	-78.891492	8.020884	-9.70E-16	6.61E-17	-1.85E-15	14.440564

COMB COMB4 ———————— MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-79.292283	-3.568066	4.33E-16	6.61E-17	-2.14E-15	16.826250
0.50000	-79.102853	2.381173	-2.87E-16	6.61E-17	-2.17E-15	17.116911
1.00000	-78.891492	8.020884	-9.70E-16	6.61E-17	-1.85E-15	14.440564

COMB COMB5 ———————— MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-82.329068	-1.338616	1.61E-16	2.97E-17	1.77E-18	-0.791005

FRAME ELEMENT INTERNAL FORCES

REL DIST	P	V2	V3	T	M2	M3
0.50000	-82.139638	4.610623	-5.59E-16	2.97E-17	1.05E-16	-1.641913
1.00000	-81.928277	10.250334	-1.24E-15	2.97E-17	5.68E-16	-5.459830

COMB COMB5 ———————— MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-82.329068	-1.338616	1.61E-16	2.97E-17	1.77E-18	-0.791005
0.50000	-82.139638	4.610623	-5.59E-16	2.97E-17	1.05E-16	-1.641913
1.00000	-81.928277	10.250334	-1.24E-15	2.97E-17	5.68E-16	-5.459830

COMB COMB6 ———————— MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-66.504653	-3.831010	4.64E-16	3.80E-17	-8.57E-16	6.438103
0.50000	-66.064567	1.183700	-1.43E-16	3.80E-17	-9.37E-16	7.104803
1.00000	-65.623056	5.909081	-7.19E-16	3.80E-17	-7.15E-16	5.270159

COMB COMB6 ———————— MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-66.504653	-3.831010	4.64E-16	3.80E-17	-8.57E-16	6.438103
0.50000	-66.064567	1.183700	-1.43E-16	3.80E-17	-9.37E-16	7.104803
1.00000	-65.623056	5.909081	-7.19E-16	3.80E-17	-7.15E-16	5.270159

COMB COMB7 ———————— MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-48.410321	-3.841241	4.66E-16	4.69E-17	-1.53E-15	12.071319
0.50000	-48.080257	-0.080208	1.03E-17	4.69E-17	-1.66E-15	13.066991
1.00000	-47.749123	3.486327	-4.22E-16	4.69E-17	-1.55E-15	12.186656

COMB COMB7 ———————— MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-48.410321	-3.841241	4.66E-16	4.69E-17	-1.53E-15	12.071319
0.50000	-48.080257	-0.080208	1.03E-17	4.69E-17	-1.66E-15	13.066991
1.00000	-47.749123	3.486327	-4.22E-16	4.69E-17	-1.55E-15	12.186656

COMB COMB8 ———————— MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-50.434845	-2.354941	2.85E-16	2.27E-17	-1.08E-16	0.326482
0.50000	-50.104781	1.406092	-1.71E-16	2.27E-17	-1.36E-16	0.561108
1.00000	-49.773647	4.972627	-6.03E-16	2.27E-17	6.30E-17	-1.080274

COMB COMB8 ———————— MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-50.434845	-2.354941	2.85E-16	2.27E-17	-1.08E-16	0.326482
0.50000	-50.104781	1.406092	-1.71E-16	2.27E-17	-1.36E-16	0.561108
1.00000	-49.773647	4.972627	-6.03E-16	2.27E-17	6.30E-17	-1.080274

FRAME ELEMENT INTERNAL FORCES

ELEM 11 ========== LENGTH = 1.024082

COMB COMB1 ———————— MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-108.848578	-1.590674	1.93E-16	3.73E-17	-4.47E-16	2.786013
0.50000	-109.479068	5.551071	-6.72E-16	3.73E-17	-3.23E-16	1.759470
1.00000	-110.049199	12.397523	-1.50E-15	3.73E-17	2.35E-16	-2.848339

COMB COMB1 ———————— MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-108.848578	-1.590674	1.93E-16	3.73E-17	-4.47E-16	2.786013
0.50000	-109.479068	5.551071	-6.72E-16	3.73E-17	-3.23E-16	1.759470
1.00000	-110.049199	12.397523	-1.50E-15	3.73E-17	2.35E-16	-2.848339

COMB COMB2 ———————— MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-88.418724	5.238500	-6.34E-16	1.10E-17	1.35E-15	-11.387643
0.50000	-89.802311	10.161701	-1.23E-15	1.10E-17	1.83E-15	-15.339256
1.00000	-91.095663	14.877612	-1.80E-15	1.10E-17	2.60E-15	-21.758679

COMB COMB2 ———————— MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-88.418724	5.238500	-6.34E-16	1.10E-17	1.35E-15	-11.387643
0.50000	-89.802311	10.161701	-1.23E-15	1.10E-17	1.83E-15	-15.339256
1.00000	-91.095663	14.877612	-1.80E-15	1.10E-17	2.60E-15	-21.758679

COMB COMB3 ———————— MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-83.026084	-10.356181	1.25E-15	5.55E-17	-2.74E-15	21.236125
0.50000	-82.286995	-3.679346	4.46E-16	5.55E-17	-3.17E-15	24.817951
1.00000	-81.559549	2.726637	-3.30E-16	5.55E-17	-3.20E-15	25.050307

COMB COMB3 ———————— MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-83.026084	-10.356181	1.25E-15	5.55E-17	-2.74E-15	21.236125
0.50000	-82.286995	-3.679346	4.46E-16	5.55E-17	-3.17E-15	24.817951
1.00000	-81.559549	2.726637	-3.30E-16	5.55E-17	-3.20E-15	25.050307

COMB COMB4 ———————— MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-79.263501	-2.345109	2.85E-16	5.24E-17	-1.86E-15	14.440564
0.50000	-79.736369	3.011200	-3.64E-16	5.24E-17	-1.84E-15	14.260581
1.00000	-80.163967	8.146039	-9.86E-16	5.24E-17	-1.49E-15	11.394649

FRAME ELEMENT INTERNAL FORCES

COMB COMB4 ———————— MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-79.263501	-2.345109	2.85E-16	5.24E-17	-1.86E-15	14.440564
0.50000	-79.736369	3.011200	-3.64E-16	5.24E-17	-1.84E-15	14.260581
1.00000	-80.163967	8.146039	-9.86E-16	5.24E-17	-1.49E-15	11.394649

COMB COMB5 ———————— MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-82.565307	-0.531111	6.34E-17	1.73E-17	5.65E-16	-5.459830
0.50000	-83.038175	4.825198	-5.85E-16	1.73E-17	7.00E-16	-6.568655
1.00000	-83.465772	9.960038	-1.21E-15	1.73E-17	1.16E-15	-10.363429

COMB COMB5 ———————— MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-82.565307	-0.531111	6.34E-17	1.73E-17	5.65E-16	-5.459830
0.50000	-83.038175	4.825198	-5.85E-16	1.73E-17	7.00E-16	-6.568655
1.00000	-83.465772	9.960038	-1.21E-15	1.73E-17	1.16E-15	-10.363429

COMB COMB6 ———————— MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-65.836848	-2.677229	3.24E-16	2.76E-17	-7.19E-16	5.270159
0.50000	-65.989338	1.873056	-2.27E-16	2.76E-17	-7.43E-16	5.468058
1.00000	-66.116140	6.236176	-7.55E-16	2.76E-17	-4.91E-16	3.383942

COMB COMB6 ———————— MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-65.836848	-2.677229	3.24E-16	2.76E-17	-7.19E-16	5.270159
0.50000	-65.989338	1.873056	-2.27E-16	2.76E-17	-7.43E-16	5.468058
1.00000	-66.116140	6.236176	-7.55E-16	2.76E-17	-4.91E-16	3.383942

COMB COMB7 ———————— MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-47.795681	-2.775990	3.37E-16	3.70E-17	-1.55E-15	12.186656
0.50000	-47.910049	0.636723	-7.65E-17	3.70E-17	-1.62E-15	12.728362
1.00000	-48.005150	3.909064	-4.73E-16	3.70E-17	-1.48E-15	11.558558

COMB COMB7 ———————— MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-47.795681	-2.775990	3.37E-16	3.70E-17	-1.55E-15	12.186656
0.50000	-47.910049	0.636723	-7.65E-17	3.70E-17	-1.62E-15	12.728362
1.00000	-48.005150	3.909064	-4.73E-16	3.70E-17	-1.48E-15	11.558558

COMB COMB8 ———————— MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-49.996885	-1.566658	1.89E-16	1.36E-17	6.06E-17	-1.080274

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
0.50000	-50.111253	1.846055	-2.24E-16	1.36E-17	7.03E-17	-1.157795
1.00000	-50.206354	5.118396	-6.20E-16	1.36E-17	2.87E-16	-2.946827

COMB COMB8 ———————— MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-49.996885	-1.566658	1.89E-16	1.36E-17	6.06E-17	-1.080274
0.50000	-50.111253	1.846055	-2.24E-16	1.36E-17	7.03E-17	-1.157795
1.00000	-50.206354	5.118396	-6.20E-16	1.36E-17	2.87E-16	-2.946827

ELEM 12 ========== LENGTH = 1.024082

COMB COMB1 ———————— MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-110.725912	-2.072971	2.51E-16	2.27E-17	2.32E-16	-2.848339
0.50000	-112.105954	4.412150	-5.34E-16	2.27E-17	3.05E-16	-3.454547
1.00000	-113.426666	10.725475	-1.30E-15	2.27E-17	7.75E-16	-7.337422

COMB COMB1 ———————— MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-110.725912	-2.072971	2.51E-16	2.27E-17	2.32E-16	-2.848339
0.50000	-112.105954	4.412150	-5.34E-16	2.27E-17	3.05E-16	-3.454547
1.00000	-113.426666	10.725475	-1.30E-15	2.27E-17	7.75E-16	-7.337422

COMB COMB2 ———————— MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-92.258249	2.859855	-3.46E-16	6.69E-18	2.60E-15	-21.758679
0.50000	-94.062701	7.211319	-8.73E-16	6.69E-18	2.91E-15	-24.342092
1.00000	-95.796889	11.445954	-1.39E-15	6.69E-18	3.49E-15	-29.123723

COMB COMB2 ———————— MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-92.258249	2.859855	-3.46E-16	6.69E-18	2.60E-15	-21.758679
0.50000	-94.062701	7.211319	-8.73E-16	6.69E-18	2.91E-15	-24.342092
1.00000	-95.796889	11.445954	-1.39E-15	6.69E-18	3.49E-15	-29.123723

COMB COMB3 ———————— MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-81.217684	-7.942442	9.62E-16	3.38E-17	-3.20E-15	25.050307
0.50000	-81.313532	-1.712762	2.07E-16	3.38E-17	-3.50E-15	27.515289
1.00000	-81.395021	4.354067	-5.27E-16	3.38E-17	-3.42E-15	26.832111

COMB COMB3 ———————— MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-81.217684	-7.942442	9.62E-16	3.38E-17	-3.20E-15	25.050307
0.50000	-81.313532	-1.712762	2.07E-16	3.38E-17	-3.50E-15	27.515289

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
1.00000	-81.395021	4.354067	-5.27E-16	3.38E-17	-3.42E-15	26.832111

COMB COMB4 ———————— MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-80.541422	-2.387242	2.90E-16	3.76E-17	-1.50E-15	11.394649
0.50000	-81.576454	2.476599	-2.99E-16	3.76E-17	-1.49E-15	11.366274
1.00000	-82.566987	7.211592	-8.72E-16	3.76E-17	-1.19E-15	8.880400

COMB COMB4 ———————— MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-80.541422	-2.387242	2.90E-16	3.76E-17	-1.50E-15	11.394649
0.50000	-81.576454	2.476599	-2.99E-16	3.76E-17	-1.49E-15	11.366274
1.00000	-82.566987	7.211592	-8.72E-16	3.76E-17	-1.19E-15	8.880400

COMB COMB5 ———————— MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-84.051756	-1.019739	1.23E-16	4.75E-18	1.16E-15	-10.363429
0.50000	-85.086788	3.844102	-4.66E-16	4.75E-18	1.25E-15	-11.092022
1.00000	-86.077322	8.579095	-1.04E-15	4.75E-18	1.63E-15	-14.278114

COMB COMB5 ———————— MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-84.051756	-1.019739	1.23E-16	4.75E-18	1.16E-15	-10.363429
0.50000	-85.086788	3.844102	-4.66E-16	4.75E-18	1.25E-15	-11.092022
1.00000	-86.077322	8.579095	-1.04E-15	4.75E-18	1.63E-15	-14.278114

COMB COMB6 ———————— MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-66.364489	-2.447140	2.96E-16	1.68E-17	-4.94E-16	3.383942
0.50000	-67.019718	1.716059	-2.08E-16	1.68E-17	-5.16E-16	3.566425
1.00000	-67.644857	5.769381	-6.99E-16	1.68E-17	-2.83E-16	1.645310

COMB COMB6 ———————— MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-66.364489	-2.447140	2.96E-16	1.68E-17	-4.94E-16	3.383942
0.50000	-67.019718	1.716059	-2.08E-16	1.68E-17	-5.16E-16	3.566425
1.00000	-67.644857	5.769381	-6.99E-16	1.68E-17	-2.83E-16	1.645310

COMB COMB7 ———————— MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-48.104692	-2.390364	2.90E-16	2.63E-17	-1.48E-15	11.558558
0.50000	-48.596114	0.732035	-8.80E-17	2.63E-17	-1.53E-15	11.979608
1.00000	-49.064968	3.772026	-4.56E-16	2.63E-17	-1.39E-15	10.822959

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB7 ———————— MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-48.104692	-2.390364	2.90E-16	2.63E-17	-1.48E-15	11.558558
0.50000	-48.596114	0.732035	-8.80E-17	2.63E-17	-1.53E-15	11.979608
1.00000	-49.064968	3.772026	-4.56E-16	2.63E-17	-1.39E-15	10.822959

COMB COMB8 ———————— MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-50.444915	-1.478696	1.78E-16	4.43E-18	2.86E-16	-2.946827
0.50000	-50.936336	1.643704	-2.00E-16	4.43E-18	2.92E-16	-2.992589
1.00000	-51.405191	4.683695	-5.68E-16	4.43E-18	4.89E-16	-4.616050

COMB COMB8 ———————— MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-50.444915	-1.478696	1.78E-16	4.43E-18	2.86E-16	-2.946827
0.50000	-50.936336	1.643704	-2.00E-16	4.43E-18	2.92E-16	-2.992589
1.00000	-51.405191	4.683695	-5.68E-16	4.43E-18	4.89E-16	-4.616050

ELEM 13 ========== LENGTH = 1.024083

COMB COMB1 ———————— MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-113.856242	-4.171394	5.05E-16	7.70E-18	7.73E-16	-7.337422
0.50000	-115.935407	1.806874	-2.19E-16	7.70E-18	7.00E-16	-6.734391
1.00000	-117.987217	7.730404	-9.36E-16	7.70E-18	9.96E-16	-9.178467

COMB COMB1 ———————— MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-113.856242	-4.171394	5.05E-16	7.70E-18	7.73E-16	-7.337422
0.50000	-115.935407	1.806874	-2.19E-16	7.70E-18	7.00E-16	-6.734391
1.00000	-117.987217	7.730404	-9.36E-16	7.70E-18	9.96E-16	-9.178467

COMB COMB2 ———————— MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-96.471330	-1.155937	1.40E-16	2.30E-18	3.49E-15	-29.123723
0.50000	-98.686661	2.744830	-3.32E-16	2.30E-18	3.54E-15	-29.532045
1.00000	-100.873403	6.609686	-8.00E-16	2.30E-18	3.83E-15	-31.928526

COMB COMB2 ———————— MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-96.471330	-1.155937	1.40E-16	2.30E-18	3.49E-15	-29.123723
0.50000	-98.686661	2.744830	-3.32E-16	2.30E-18	3.54E-15	-29.532045
1.00000	-100.873403	6.609686	-8.00E-16	2.30E-18	3.83E-15	-31.928526

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB3 ———————— MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-81.266998	-6.307336	7.64E-16	1.14E-17	-3.42E-15	26.832111
0.50000	-82.115947	-0.409700	4.96E-17	1.14E-17	-3.63E-15	28.549519
1.00000	-82.952947	5.434207	-6.58E-16	1.14E-17	-3.47E-15	27.260849

COMB COMB3 ———————— MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-81.266998	-6.307336	7.64E-16	1.14E-17	-3.42E-15	26.832111
0.50000	-82.115947	-0.409700	4.96E-17	1.14E-17	-3.63E-15	28.549519
1.00000	-82.952947	5.434207	-6.58E-16	1.14E-17	-3.47E-15	27.260849

COMB COMB4 ———————— MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-82.801918	-3.627229	4.40E-16	2.21E-17	-1.20E-15	8.880400
0.50000	-84.361292	0.856472	-1.03E-16	2.21E-17	-1.28E-15	9.588019
1.00000	-85.900149	5.299119	-6.41E-16	2.21E-17	-1.09E-15	8.010309

COMB COMB4 ———————— MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-82.801918	-3.627229	4.40E-16	2.21E-17	-1.20E-15	8.880400
0.50000	-84.361292	0.856472	-1.03E-16	2.21E-17	-1.28E-15	9.588019
1.00000	-85.900149	5.299119	-6.41E-16	2.21E-17	-1.09E-15	8.010309

COMB COMB5 ———————— MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-86.460716	-2.729615	3.30E-16	-7.80E-18	1.63E-15	-14.278114
0.50000	-88.020089	1.754086	-2.13E-16	-7.80E-18	1.60E-15	-14.030110
1.00000	-89.558947	6.196734	-7.51E-16	-7.80E-18	1.85E-15	-16.067436

COMB COMB5 ———————— MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-86.460716	-2.729615	3.30E-16	-7.80E-18	1.63E-15	-14.278114
0.50000	-88.020089	1.754086	-2.13E-16	-7.80E-18	1.60E-15	-14.030110
1.00000	-89.558947	6.196734	-7.51E-16	-7.80E-18	1.85E-15	-16.067436

COMB COMB6 ———————— MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-67.819202	-3.109379	3.77E-16	5.69E-18	-2.85E-16	1.645310
0.50000	-68.938533	0.757487	-9.17E-17	5.69E-18	-3.58E-16	2.245934
1.00000	-70.042991	4.588999	-5.56E-16	5.69E-18	-1.92E-16	0.875614

COMB COMB6 ———————— MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-67.819202	-3.109379	3.77E-16	5.69E-18	-2.85E-16	1.645310

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
0.50000	-68.938533	0.757487	-9.17E-17	5.69E-18	-3.58E-16	2.245934
1.00000	-70.042991	4.588999	-5.56E-16	5.69E-18	-1.92E-16	0.875614

COMB COMB7 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-49.137560	-2.664490	3.23E-16	1.52E-17	-1.40E-15	10.822959
0.50000	-49.977058	0.235660	-2.79E-17	1.52E-17	-1.47E-15	11.443659
1.00000	-50.805401	3.109293	-3.76E-16	1.52E-17	-1.37E-15	10.586150

COMB COMB7 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-49.137560	-2.664490	3.23E-16	1.52E-17	-1.40E-15	10.822959
0.50000	-49.977058	0.235660	-2.79E-17	1.52E-17	-1.47E-15	11.443659
1.00000	-50.805401	3.109293	-3.76E-16	1.52E-17	-1.37E-15	10.586150

COMB COMB8 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-51.576758	-2.066081	2.50E-16	-4.78E-18	4.89E-16	-4.616050
0.50000	-52.416256	0.834069	-1.02E-16	-4.78E-18	4.51E-16	-4.301761
1.00000	-53.244599	3.707703	-4.50E-16	-4.78E-18	5.92E-16	-5.465680

COMB COMB8 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-51.576758	-2.066081	2.50E-16	-4.78E-18	4.89E-16	-4.616050
0.50000	-52.416256	0.834069	-1.02E-16	-4.78E-18	4.51E-16	-4.301761
1.00000	-53.244599	3.707703	-4.50E-16	-4.78E-18	5.92E-16	-5.465680

ELEM 14 ========== LENGTH = 1.024082

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-117.986843	-7.736112	9.37E-16	-7.44E-18	9.96E-16	-9.178467
0.50000	-115.935035	-1.812588	2.20E-16	-7.44E-18	7.00E-16	-6.731470
1.00000	-113.855873	4.165675	-5.04E-16	-7.44E-18	7.72E-16	-7.331572

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-117.986843	-7.736112	9.37E-16	-7.44E-18	9.96E-16	-9.178467
0.50000	-115.935035	-1.812588	2.20E-16	-7.44E-18	7.00E-16	-6.731470
1.00000	-113.855873	4.165675	-5.04E-16	-7.44E-18	7.72E-16	-7.331572

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-100.873157	-6.613447	8.01E-16	-2.13E-18	3.83E-15	-31.928526
0.50000	-98.686417	-2.748594	3.33E-16	-2.13E-18	3.54E-15	-29.530121

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
1.00000	-96.471089	1.152169	-1.40E-16	-2.13E-18	3.49E-15	-29.119871

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-100.873157	-6.613447	8.01E-16	-2.13E-18	3.83E-15	-31.928526
0.50000	-98.686417	-2.748594	3.33E-16	-2.13E-18	3.54E-15	-29.530121
1.00000	-96.471089	1.152169	-1.40E-16	-2.13E-18	3.49E-15	-29.119871

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-82.952582	-5.439787	6.59E-16	-1.11E-17	-3.47E-15	27.260849
0.50000	-82.115583	0.404114	-4.89E-17	-1.11E-17	-3.63E-15	28.552376
1.00000	-81.266634	6.301744	-7.63E-16	-1.11E-17	-3.42E-15	26.837832

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-82.952582	-5.439787	6.59E-16	-1.11E-17	-3.47E-15	27.260849
0.50000	-82.115583	0.404114	-4.89E-17	-1.11E-17	-3.63E-15	28.552376
1.00000	-81.266634	6.301744	-7.63E-16	-1.11E-17	-3.42E-15	26.837832

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-85.856938	-5.958405	7.23E-16	6.14E-18	-1.09E-15	8.010309
0.50000	-84.318082	-1.515762	1.84E-16	6.14E-18	-1.33E-15	9.925600
1.00000	-82.758710	2.967935	-3.59E-16	6.14E-18	-1.28E-15	9.555566

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-85.856938	-5.958405	7.23E-16	6.14E-18	-1.09E-15	8.010309
0.50000	-84.318082	-1.515762	1.84E-16	6.14E-18	-1.33E-15	9.925600
1.00000	-82.758710	2.967935	-3.59E-16	6.14E-18	-1.28E-15	9.555566

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-89.601596	-5.546038	6.71E-16	-2.01E-17	1.85E-15	-16.067436
0.50000	-88.062740	-1.103395	1.33E-16	-2.01E-17	1.65E-15	-14.363294
1.00000	-86.503368	3.380302	-4.10E-16	-2.01E-17	1.72E-15	-14.944477

COMB COMB5 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-89.601596	-5.546038	6.71E-16	-2.01E-17	1.85E-15	-16.067436
0.50000	-88.062740	-1.103395	1.33E-16	-2.01E-17	1.65E-15	-14.363294
1.00000	-86.503368	3.380302	-4.10E-16	-2.01E-17	1.72E-15	-14.944477

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-70.042749	-4.592681	5.56E-16	-5.53E-18	-1.92E-16	0.875614
0.50000	-68.938293	-0.761174	9.22E-17	-5.53E-18	-3.58E-16	2.247819
1.00000	-67.818964	3.105689	-3.76E-16	-5.53E-18	-2.85E-16	1.649084

COMB COMB6 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-70.042749	-4.592681	5.56E-16	-5.53E-18	-1.92E-16	0.875614
0.50000	-68.938293	-0.761174	9.22E-17	-5.53E-18	-3.58E-16	2.247819
1.00000	-67.818964	3.105689	-3.76E-16	-5.53E-18	-2.85E-16	1.649084

COMB COMB7 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-50.776599	-3.548725	4.30E-16	3.67E-18	-1.37E-15	10.586150
0.50000	-49.948257	-0.675095	8.24E-17	3.67E-18	-1.50E-15	11.668666
1.00000	-49.108760	2.225053	-2.69E-16	3.67E-18	-1.45E-15	11.272976

COMB COMB7 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-50.776599	-3.548725	4.30E-16	3.67E-18	-1.37E-15	10.586150
0.50000	-49.948257	-0.675095	8.24E-17	3.67E-18	-1.50E-15	11.668666
1.00000	-49.108760	2.225053	-2.69E-16	3.67E-18	-1.45E-15	11.272976

COMB COMB8 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-53.273038	-3.273813	3.96E-16	-1.38E-17	5.94E-16	-5.465680
0.50000	-52.444695	-0.400183	4.79E-17	-1.38E-17	4.80E-16	-4.523930
1.00000	-51.605198	2.499965	-3.03E-16	-1.38E-17	5.45E-16	-5.060386

COMB COMB8 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-53.273038	-3.273813	3.96E-16	-1.38E-17	5.94E-16	-5.465680
0.50000	-52.444695	-0.400183	4.79E-17	-1.38E-17	4.80E-16	-4.523930
1.00000	-51.605198	2.499965	-3.03E-16	-1.38E-17	5.45E-16	-5.060386

ELEM 15 ========== LENGTH = 1.024082

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-113.425554	-10.731090	1.30E-15	-2.24E-17	7.74E-16	-7.331572
0.50000	-112.104842	-4.417765	5.35E-16	-2.24E-17	3.04E-16	-3.445823
1.00000	-110.724800	2.067356	-2.50E-16	-2.24E-17	2.30E-16	-2.836739

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-113.425554	-10.731090	1.30E-15	-2.24E-17	7.74E-16	-7.331572
0.50000	-112.104842	-4.417765	5.35E-16	-2.24E-17	3.04E-16	-3.445823
1.00000	-110.724800	2.067356	-2.50E-16	-2.24E-17	2.30E-16	-2.836739

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-95.796158	-11.449652	1.39E-15	-6.52E-18	3.49E-15	-29.119871
0.50000	-94.061970	-7.215017	8.74E-16	-6.52E-18	2.91E-15	-24.336346
1.00000	-92.257518	-2.863553	3.47E-16	-6.52E-18	2.60E-15	-21.751040

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-95.796158	-11.449652	1.39E-15	-6.52E-18	3.49E-15	-29.119871
0.50000	-94.061970	-7.215017	8.74E-16	-6.52E-18	2.91E-15	-24.336346
1.00000	-92.257518	-2.863553	3.47E-16	-6.52E-18	2.60E-15	-21.751040

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-81.393931	-4.359559	5.28E-16	-3.35E-17	-3.42E-15	26.837832
0.50000	-81.312442	1.707271	-2.07E-16	-3.35E-17	-3.50E-15	27.523821
1.00000	-81.216594	7.936950	-9.61E-16	-3.35E-17	-3.20E-15	25.061651

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-81.393931	-4.359559	5.28E-16	-3.35E-17	-3.42E-15	26.837832
0.50000	-81.312442	1.707271	-2.07E-16	-3.35E-17	-3.50E-15	27.523821
1.00000	-81.216594	7.936950	-9.61E-16	-3.35E-17	-3.20E-15	25.061651

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-82.438094	-7.859602	9.53E-16	-1.01E-17	-1.28E-15	9.555566
0.50000	-81.447561	-3.124608	3.79E-16	-1.01E-17	-1.62E-15	12.373248
1.00000	-80.412529	1.739233	-2.10E-16	-1.01E-17	-1.67E-15	12.733430

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-82.438094	-7.859602	9.53E-16	-1.01E-17	-1.28E-15	9.555566
0.50000	-81.447561	-3.124608	3.79E-16	-1.01E-17	-1.62E-15	12.373248
1.00000	-80.412529	1.739233	-2.10E-16	-1.01E-17	-1.67E-15	12.733430

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-86.204541	-7.999536	9.61E-16	-3.19E-17	1.72E-15	-14.944477

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
0.50000	-85.214007	-3.204543	3.87E-16	-3.19E-17	1.38E-15	-12.085865
1.00000	-84.178975	1.659298	-2.02E-16	-3.19E-17	1.33E-15	-11.684753

COMB COMB5 ———————— MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-86.204541	-7.909536	9.61E-16	-3.19E-17	1.72E-15	-14.944477
0.50000	-85.214007	-3.204543	3.87E-16	-3.19E-17	1.38E-15	-12.085865
1.00000	-84.178975	1.659298	-2.02E-16	-3.19E-17	1.33E-15	-11.684753

COMB COMB6 ———————— MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-67.644139	-5.773004	6.99E-16	-1.67E-17	-2.84E-16	1.649084
0.50000	-67.019000	-1.719682	2.08E-16	-1.67E-17	-5.17E-16	3.572054
1.00000	-66.363771	2.443517	-2.96E-16	-1.67E-17	-4.95E-16	3.391426

COMB COMB6 ———————— MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-67.644139	-5.773004	6.99E-16	-1.67E-17	-2.84E-16	1.649084
0.50000	-67.019000	-1.719682	2.08E-16	-1.67E-17	-5.17E-16	3.572054
1.00000	-66.363771	2.443517	-2.96E-16	-1.67E-17	-4.95E-16	3.391426

COMB COMB7 ———————— MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-48.979057	-4.203942	5.10E-16	-7.99E-18	-1.45E-15	11.272976
0.50000	-48.510203	-1.163951	1.42E-16	-7.99E-18	-1.62E-15	12.650784
1.00000	-48.018781	1.958449	-2.37E-16	-7.99E-18	-1.60E-15	12.450892

COMB COMB7 ———————— MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-48.979057	-4.203942	5.10E-16	-7.99E-18	-1.45E-15	11.272976
0.50000	-48.510203	-1.163951	1.42E-16	-7.99E-18	-1.62E-15	12.650784
1.00000	-48.018781	1.958449	-2.37E-16	-7.99E-18	-1.60E-15	12.450892

COMB COMB8 ———————— MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-51.490021	-4.257232	5.15E-16	-2.25E-17	5.47E-16	-5.060386
0.50000	-51.021167	-1.217241	1.47E-16	-2.25E-17	3.78E-16	-3.655292
1.00000	-50.529745	1.905159	-2.31E-16	-2.25E-17	3.99E-16	-3.827896

COMB COMB8 ———————— MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-51.490021	-4.257232	5.15E-16	-2.25E-17	5.47E-16	-5.060386
0.50000	-51.021167	-1.217241	1.47E-16	-2.25E-17	3.78E-16	-3.655292
1.00000	-50.529745	1.905159	-2.31E-16	-2.25E-17	3.99E-16	-3.827896

F R A M E E L E M E N T I N T E R N A L F O R C E S

ELEM 16 ========== LENGTH = 1.024085

COMB COMB1 ———————— MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-110.047375	-12.402841	1.50E-15	-3.71E-17	2.34E-16	-2.836739
0.50000	-109.477237	-5.556371	6.73E-16	-3.71E-17	-3.24E-16	1.773801
1.00000	-108.846737	1.585394	-1.92E-16	-3.71E-17	-4.49E-16	2.803055

COMB COMB1 ———————— MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-110.047375	-12.402841	1.50E-15	-3.71E-17	2.34E-16	-2.836739
0.50000	-109.477237	-5.556371	6.73E-16	-3.71E-17	-3.24E-16	1.773801
1.00000	-108.846737	1.585394	-1.92E-16	-3.71E-17	-4.49E-16	2.803055

COMB COMB2 ———————— MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-91.094470	-14.881097	1.80E-15	-1.08E-17	2.60E-15	-21.751040
0.50000	-89.801109	-10.165174	1.23E-15	-1.08E-17	1.82E-15	-15.329817
1.00000	-88.417514	-5.241961	6.35E-16	-1.08E-17	1.35E-15	-11.376418

COMB COMB2 ———————— MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-91.094470	-14.881097	1.80E-15	-1.08E-17	2.60E-15	-21.751040
0.50000	-89.801109	-10.165174	1.23E-15	-1.08E-17	1.82E-15	-15.329817
1.00000	-88.417514	-5.241961	6.35E-16	-1.08E-17	1.35E-15	-11.376418

COMB COMB3 ———————— MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-81.557754	-2.731862	3.31E-16	-5.53E-17	-3.20E-15	25.061651
0.50000	-82.285197	3.674140	-4.45E-16	-5.53E-17	-3.17E-15	24.831966
1.00000	-83.024281	10.350994	-1.25E-15	-5.53E-17	-2.74E-15	21.252791

COMB COMB3 ———————— MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-81.557754	-2.731862	3.31E-16	-5.53E-17	-3.20E-15	25.061651
0.50000	-82.285197	3.674140	-4.45E-16	-5.53E-17	-3.17E-15	24.831966
1.00000	-83.024281	10.350994	-1.25E-15	-5.53E-17	-2.74E-15	21.252791

COMB COMB4 ———————— MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-79.951602	-8.771606	1.06E-15	-2.62E-17	-1.66E-15	12.733430
0.50000	-79.523998	-3.636752	4.41E-16	-2.62E-17	-2.05E-15	15.919684
1.00000	-79.051124	1.719571	-2.07E-16	-2.62E-17	-2.11E-15	16.419973

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB4 ———————— MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-79.951602	-8.771606	1.06E-15	-2.62E-17	-1.66E-15	12.733430
0.50000	-79.523998	-3.636752	4.41E-16	-2.62E-17	-2.05E-15	15.919684
1.00000	-79.051124	1.719571	-2.07E-16	-2.62E-17	-2.11E-15	16.419973

COMB COMB5 ———————— MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-83.675392	-9.342477	1.13E-15	-4.31E-17	1.33E-15	-11.684753
0.50000	-83.247789	-4.207624	5.09E-16	-4.31E-17	9.12E-16	-8.206189
1.00000	-82.774914	1.148700	-1.40E-16	-4.31E-17	8.16E-16	-7.413590

COMB COMB5 ———————— MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-83.675392	-9.342477	1.13E-15	-4.31E-17	1.33E-15	-11.684753
0.50000	-83.247789	-4.207624	5.09E-16	-4.31E-17	9.12E-16	-8.206189
1.00000	-82.774914	1.148700	-1.40E-16	-4.31E-17	8.16E-16	-7.413590

COMB COMB6 ———————— MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-66.114961	-6.239612	7.56E-16	-2.75E-17	-4.92E-16	3.391426
0.50000	-65.988155	-1.876480	2.27E-16	-2.75E-17	-7.45E-16	5.477304
1.00000	-65.835660	2.673817	-3.24E-16	-2.75E-17	-7.21E-16	5.281155

COMB COMB6 ———————— MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-66.114961	-6.239612	7.56E-16	-2.75E-17	-4.92E-16	3.391426
0.50000	-65.988155	-1.876480	2.27E-16	-2.75E-17	-7.45E-16	5.477304
1.00000	-65.835660	2.673817	-3.24E-16	-2.75E-17	-7.21E-16	5.281155

COMB COMB7 ———————— MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-47.863601	-4.326026	5.25E-16	-1.96E-17	-1.60E-15	12.450892
0.50000	-47.768496	-1.053676	1.28E-16	-1.96E-17	-1.76E-15	13.834200
1.00000	-47.654125	2.359046	-2.85E-16	-1.96E-17	-1.72E-15	13.505987

COMB COMB7 ———————— MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-47.863601	-4.326026	5.25E-16	-1.96E-17	-1.60E-15	12.450892
0.50000	-47.768496	-1.053676	1.28E-16	-1.96E-17	-1.76E-15	13.834200
1.00000	-47.654125	2.359046	-2.85E-16	-1.96E-17	-1.72E-15	13.505987

COMB COMB8 ———————— MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-50.346128	-4.706607	5.69E-16	-3.08E-17	4.02E-16	-3.827896

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
0.50000	-50.251024	-1.434257	1.73E-16	-3.08E-17	2.12E-16	-2.249715
1.00000	-50.136653	1.978466	-2.40E-16	-3.08E-17	2.28E-16	-2.383054

COMB COMB8 ———————— MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-50.346128	-4.706607	5.69E-16	-3.08E-17	4.02E-16	-3.827896
0.50000	-50.251024	-1.434257	1.73E-16	-3.08E-17	2.12E-16	-2.249715
1.00000	-50.136653	1.978466	-2.40E-16	-3.08E-17	2.28E-16	-2.383054

ELEM 17 ========== LENGTH = 1.024081

COMB COMB1 ———————— MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-108.122462	-12.635623	1.53E-15	-5.11E-17	-4.43E-16	2.803055
0.50000	-108.404279	-5.116015	6.20E-16	-5.11E-17	-9.96E-16	7.365444
1.00000	-108.656856	2.816297	-3.41E-16	-5.11E-17	-1.07E-15	7.971828

COMB COMB1 ———————— MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-108.122462	-12.635623	1.53E-15	-5.11E-17	-4.43E-16	2.803055
0.50000	-108.404279	-5.116015	6.20E-16	-5.11E-17	-9.96E-16	7.365444
1.00000	-108.656856	2.816297	-3.41E-16	-5.11E-17	-1.07E-15	7.971828

COMB COMB2 ———————— MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-86.976861	-16.738000	2.03E-15	-1.49E-17	1.35E-15	-11.376418
0.50000	-86.173684	-11.418540	1.38E-15	-1.49E-17	4.73E-16	-4.155047
1.00000	-85.284841	-5.800795	7.03E-16	-1.49E-17	-6.27E-17	0.266179

COMB COMB2 ———————— MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-86.976861	-16.738000	2.03E-15	-1.49E-17	1.35E-15	-11.376418
0.50000	-86.173684	-11.418540	1.38E-15	-1.49E-17	4.73E-16	-4.155047
1.00000	-85.284841	-5.800795	7.03E-16	-1.49E-17	-6.27E-17	0.266179

COMB COMB3 ———————— MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-83.665072	-0.574484	6.96E-17	-7.62E-17	-2.73E-15	21.252791
0.50000	-85.324973	6.265527	-7.59E-16	-7.62E-17	-2.55E-15	19.811409
1.00000	-87.049250	13.472076	-1.63E-15	-7.62E-17	-1.94E-15	14.773823

COMB COMB3 ———————— MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-83.665072	-0.574484	6.96E-17	-7.62E-17	-2.73E-15	21.252791
0.50000	-85.324973	6.265527	-7.59E-16	-7.62E-17	-2.55E-15	19.811409

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
1.00000	-87.049250	13.472076	-1.63E-15	-7.62E-17	-1.94E-15	14.773823

COMB COMB4 ———————— MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-78.599271	-8.613458	1.04E-15	-4.21E-17	-2.11E-15	16.419973
0.50000	-78.810634	-2.973752	3.61E-16	-4.21E-17	-2.47E-15	19.399741
1.00000	-79.000067	2.975482	-3.59E-16	-4.21E-17	-2.47E-15	19.412505

COMB COMB4 ———————— MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-78.599271	-8.613458	1.04E-15	-4.21E-17	-2.11E-15	16.419973
0.50000	-78.810634	-2.973752	3.61E-16	-4.21E-17	-2.47E-15	19.399741
1.00000	-79.000067	2.975482	-3.59E-16	-4.21E-17	-2.47E-15	19.412505

COMB COMB5 ———————— MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-82.216689	-9.665501	1.17E-15	-5.34E-17	8.22E-16	-7.413590
0.50000	-82.428052	-4.025795	4.87E-16	-5.34E-17	3.97E-16	-3.895133
1.00000	-82.617485	1.923439	-2.34E-16	-5.34E-17	3.30E-16	-3.343680

COMB COMB5 ———————— MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-82.216689	-9.665501	1.17E-15	-5.34E-17	8.22E-16	-7.413590
0.50000	-82.428052	-4.025795	4.87E-16	-5.34E-17	3.97E-16	-3.895133
1.00000	-82.617485	1.923439	-2.34E-16	-5.34E-17	3.30E-16	-3.343680

COMB COMB6 ———————— MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-65.621425	-5.942399	7.20E-16	-3.79E-17	-7.17E-16	5.281155
0.50000	-66.062938	-1.187022	1.44E-16	-3.79E-17	-9.39E-16	7.117497
1.00000	-66.503025	3.827684	-4.64E-16	-3.79E-17	-8.58E-16	6.452499

COMB COMB6 ———————— MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-65.621425	-5.942399	7.20E-16	-3.79E-17	-7.17E-16	5.281155
0.50000	-66.062938	-1.187022	1.44E-16	-3.79E-17	-9.39E-16	7.117497
1.00000	-66.503025	3.827684	-4.64E-16	-3.79E-17	-8.58E-16	6.452499

COMB COMB7 ———————— MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-47.554351	-3.881293	4.71E-16	-3.09E-17	-1.72E-15	13.505987
0.50000	-47.885486	-0.314760	3.87E-17	-3.09E-17	-1.85E-15	14.588561
1.00000	-48.215552	3.446269	-4.17E-16	-3.09E-17	-1.76E-15	13.795130

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB7 ———————— MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-47.554351	-3.881293	4.71E-16	-3.09E-17	-1.72E-15	13.505987
0.50000	-47.885486	-0.314760	3.87E-17	-3.09E-17	-1.85E-15	14.588561
1.00000	-48.215552	3.446269	-4.17E-16	-3.09E-17	-1.76E-15	13.795130

COMB COMB8 ———————— MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-49.965964	-4.582655	5.54E-16	-3.84E-17	2.33E-16	-2.383054
0.50000	-50.297099	-1.016122	1.22E-16	-3.84E-17	5.82E-17	-0.941355
1.00000	-50.627164	2.744907	-3.33E-16	-3.84E-17	1.11E-16	-1.375660

COMB COMB8 ———————— MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-49.965964	-4.582655	5.54E-16	-3.84E-17	2.33E-16	-2.383054
0.50000	-50.297099	-1.016122	1.22E-16	-3.84E-17	5.82E-17	-0.941355
1.00000	-50.627164	2.744907	-3.33E-16	-3.84E-17	1.11E-16	-1.375660

ELEM 18 ========== LENGTH = 1.024080

COMB COMB1 ———————— MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-108.094866	-11.390521	1.38E-15	-6.42E-17	-1.06E-15	7.971828
0.50000	-109.408731	-3.093184	3.75E-16	-6.42E-17	-1.51E-15	11.702080
1.00000	-110.753847	5.722895	-6.93E-16	-6.42E-17	-1.43E-15	11.050957

COMB COMB1 ———————— MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-108.094866	-11.390521	1.38E-15	-6.42E-17	-1.06E-15	7.971828
0.50000	-109.408731	-3.093184	3.75E-16	-6.42E-17	-1.51E-15	11.702080
1.00000	-110.753847	5.722895	-6.93E-16	-6.42E-17	-1.43E-15	11.050957

COMB COMB2 ———————— MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-83.798037	-16.883196	2.04E-15	-1.87E-17	-6.05E-17	0.266179
0.50000	-83.598183	-10.851290	1.31E-15	-1.87E-17	-9.22E-16	7.383210
1.00000	-83.340553	-4.433879	5.37E-16	-1.87E-17	-1.40E-15	11.312968

COMB COMB2 ———————— MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-83.798037	-16.883196	2.04E-15	-1.87E-17	-6.05E-17	0.266179
0.50000	-83.598183	-10.851290	1.31E-15	-1.87E-17	-9.22E-16	7.383210
1.00000	-83.340553	-4.433879	5.37E-16	-1.87E-17	-1.40E-15	11.312968

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB3 ———————— MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-88.062993	1.994485	-2.42E-16	-9.57E-17	-1.93E-15	14.773823
0.50000	-90.839133	9.314757	-1.13E-15	-9.57E-17	-1.58E-15	11.897458
1.00000	-93.755534	17.080931	-2.07E-15	-9.57E-17	-7.68E-16	5.158663

COMB COMB3 ———————— MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-88.062993	1.994485	-2.42E-16	-9.57E-17	-1.93E-15	14.773823
0.50000	-90.839133	9.314757	-1.13E-15	-9.57E-17	-1.58E-15	11.897458
1.00000	-93.755534	17.080931	-2.07E-15	-9.57E-17	-7.68E-16	5.158663

COMB COMB4 ———————— MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-78.712578	-7.361666	8.92E-16	-5.73E-17	-2.46E-15	19.412505
0.50000	-79.697977	-1.138664	1.39E-16	-5.73E-17	-2.73E-15	21.605360
1.00000	-80.706814	5.473395	-6.62E-16	-5.73E-17	-2.60E-15	20.512183

COMB COMB4 ———————— MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-78.712578	-7.361666	8.92E-16	-5.73E-17	-2.46E-15	19.412505
0.50000	-79.697977	-1.138664	1.39E-16	-5.73E-17	-2.73E-15	21.605360
1.00000	-80.706814	5.473395	-6.62E-16	-5.73E-17	-2.60E-15	20.512183

COMB COMB5 ———————— MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-82.161728	-8.876882	1.07E-15	-6.26E-17	3.38E-16	-3.343680
0.50000	-83.147127	-2.653880	3.21E-16	-6.26E-17	-2.10E-17	-0.374974
1.00000	-84.155963	3.958180	-4.80E-16	-6.26E-17	1.79E-17	-0.692300

COMB COMB5 ———————— MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-82.161728	-8.876882	1.07E-15	-6.26E-17	3.38E-16	-3.343680
0.50000	-83.147127	-2.653880	3.21E-16	-6.26E-17	-2.10E-17	-0.374974
1.00000	-84.155963	3.958180	-4.80E-16	-6.26E-17	1.79E-17	-0.692300

COMB COMB6 ———————— MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-66.433688	-4.885546	5.92E-16	-4.76E-17	-8.53E-16	6.452499
0.50000	-67.561156	0.319047	-3.86E-17	-4.76E-17	-9.96E-16	7.635404
1.00000	-68.729366	5.846822	-7.08E-16	-4.76E-17	-8.07E-16	6.070609

COMB COMB6 ———————— MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-66.433688	-4.885546	5.92E-16	-4.76E-17	-8.53E-16	6.452499

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
0.50000	-67.561156	0.319047	-3.86E-17	-4.76E-17	-9.96E-16	7.635404
1.00000	-68.729366	5.846822	-7.08E-16	-4.76E-17	-8.07E-16	6.070609

COMB COMB7 ———————— MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-48.252885	-2.876677	3.49E-16	-4.18E-17	-1.75E-15	13.795130
0.50000	-49.098486	1.026768	-1.24E-16	-4.18E-17	-1.81E-15	14.279087
1.00000	-49.974643	5.172599	-6.26E-16	-4.18E-17	-1.62E-15	12.702268

COMB COMB7 ———————— MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-48.252885	-2.876677	3.49E-16	-4.18E-17	-1.75E-15	13.795130
0.50000	-49.098486	1.026768	-1.24E-16	-4.18E-17	-1.81E-15	14.279087
1.00000	-49.974643	5.172599	-6.26E-16	-4.18E-17	-1.62E-15	12.702268

COMB COMB8 ———————— MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-50.552318	-3.886821	4.70E-16	-4.54E-17	1.17E-16	-1.375660
0.50000	-51.397919	0.016624	-2.61E-18	-4.54E-17	-4.33E-18	-0.374470
1.00000	-52.274076	4.162455	-5.05E-16	-4.54E-17	1.24E-16	-1.434055

COMB COMB8 ———————— MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-50.552318	-3.886821	4.70E-16	-4.54E-17	1.17E-16	-1.375660
0.50000	-51.397919	0.016624	-2.61E-18	-4.54E-17	-4.33E-18	-0.374470
1.00000	-52.274076	4.162455	-5.05E-16	-4.54E-17	1.24E-16	-1.434055

ELEM 19 ========== LENGTH = 1.024085

COMB COMB1 ———————— MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-110.553364	-8.781785	1.06E-15	-7.62E-17	-1.43E-15	11.050957
0.50000	-113.145554	0.341111	-4.13E-17	-7.62E-17	-1.69E-15	13.237776
1.00000	-115.854819	10.069289	-1.22E-15	-7.62E-17	-1.37E-15	10.598320

COMB COMB1 ———————— MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-110.553364	-8.781785	1.06E-15	-7.62E-17	-1.43E-15	11.050957
0.50000	-113.145554	0.341111	-4.13E-17	-7.62E-17	-1.69E-15	13.237776
1.00000	-115.854819	10.069289	-1.22E-15	-7.62E-17	-1.37E-15	10.598320

COMB COMB2 ———————— MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-82.048903	-15.273658	1.85E-15	-2.23E-17	-1.40E-15	11.312968
0.50000	-82.623473	-8.451428	1.02E-15	-2.23E-17	-2.13E-15	17.406824

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
1.00000	-83.189780	-1.166840	1.41E-16	-2.23E-17	-2.43E-15	19.889035

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-82.048903	-15.273658	1.85E-15	-2.23E-17	-1.40E-15	11.312968
0.50000	-82.623473	-8.451428	1.02E-15	-2.23E-17	-2.13E-15	17.406824
1.00000	-83.189780	-1.166840	1.41E-16	-2.23E-17	-2.43E-15	19.889035

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-95.182928	4.697729	-5.69E-16	-1.14E-16	-7.55E-16	5.158663
0.50000	-99.303690	12.480112	-1.51E-15	-1.14E-16	-2.24E-16	0.782222
1.00000	-103.658463	20.765226	-2.51E-15	-1.14E-16	8.04E-16	-7.707841

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-95.182928	4.697729	-5.69E-16	-1.14E-16	-7.55E-16	5.158663
0.50000	-99.303690	12.480112	-1.51E-15	-1.14E-16	-2.24E-16	0.782222
1.00000	-103.658463	20.765226	-2.51E-15	-1.14E-16	8.04E-16	-7.707841

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-80.730803	-5.107376	6.19E-16	-7.17E-17	-2.59E-15	20.512183
0.50000	-82.674945	1.734797	-2.09E-16	-7.17E-17	-2.70E-15	21.395006
1.00000	-84.706894	9.030930	-1.09E-15	-7.17E-17	-2.37E-15	18.658122

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-80.730803	-5.107376	6.19E-16	-7.17E-17	-2.59E-15	20.512183
0.50000	-82.674945	1.734797	-2.09E-16	-7.17E-17	-2.70E-15	21.395006
1.00000	-84.706894	9.030930	-1.09E-15	-7.17E-17	-2.37E-15	18.658122

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-83.952679	-7.059817	8.54E-16	-7.07E-17	2.66E-17	-0.692300
0.50000	-85.896821	-0.217644	2.55E-17	-7.07E-17	-2.01E-16	1.190256
1.00000	-87.928770	7.078489	-8.58E-16	-7.07E-17	9.91E-18	-0.546896

COMB COMB5 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-83.952679	-7.059817	8.54E-16	-7.07E-17	2.66E-17	-0.692300
0.50000	-85.896821	-0.217644	2.55E-17	-7.07E-17	-2.01E-16	1.190256
1.00000	-87.928770	7.078489	-8.58E-16	-7.07E-17	9.91E-18	-0.546896

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-68.904556	-3.173833	3.84E-16	-5.65E-17	-8.00E-16	6.070609
0.50000	-70.874541	2.498658	-3.03E-16	-5.65E-17	-8.23E-16	6.259419
1.00000	-72.942485	8.544952	-1.03E-15	-5.65E-17	-4.82E-16	3.447970

COMB COMB6 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-68.904556	-3.173833	3.84E-16	-5.65E-17	-8.00E-16	6.070609
0.50000	-70.874541	2.498658	-3.03E-16	-5.65E-17	-8.23E-16	6.259419
1.00000	-72.942485	8.544952	-1.03E-15	-5.65E-17	-4.82E-16	3.447970

COMB COMB7 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-50.222270	-1.394400	1.69E-16	-5.21E-17	-1.61E-15	12.702268
0.50000	-51.699759	2.859969	-3.46E-16	-5.21E-17	-1.57E-15	12.339013
1.00000	-53.250717	7.394689	-8.95E-16	-5.21E-17	-1.25E-15	9.725565

COMB COMB7 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-50.222270	-1.394400	1.69E-16	-5.21E-17	-1.61E-15	12.702268
0.50000	-51.699759	2.859969	-3.46E-16	-5.21E-17	-1.57E-15	12.339013
1.00000	-53.250717	7.394689	-8.95E-16	-5.21E-17	-1.25E-15	9.725565

COMB COMB8 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-52.370187	-2.696027	3.26E-16	-5.14E-17	1.31E-16	-1.434055
0.50000	-53.847676	1.558342	-1.89E-16	-5.14E-17	9.42E-17	-1.130820
1.00000	-55.398634	6.093062	-7.39E-16	-5.14E-17	3.30E-16	-3.077780

COMB COMB8 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-52.370187	-2.696027	3.26E-16	-5.14E-17	1.31E-16	-1.434055
0.50000	-53.847676	1.558342	-1.89E-16	-5.14E-17	9.42E-17	-1.130820
1.00000	-55.398634	6.093062	-7.39E-16	-5.14E-17	3.30E-16	-3.077780

ELEM 20 ========== LENGTH = 1.024080

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-116.177939	-5.139673	6.22E-16	-8.69E-17	-1.36E-15	10.598320
0.50000	-120.342653	4.777543	-5.79E-16	-8.69E-17	-1.37E-15	10.719498
1.00000	-124.729905	15.361884	-1.86E-15	-8.69E-17	-7.54E-16	5.591870

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-116.177939	-5.139673	6.22E-16	-8.69E-17	-1.36E-15	10.598320
0.50000	-120.342653	4.777543	-5.79E-16	-8.69E-17	-1.37E-15	10.719498
1.00000	-124.729905	15.361884	-1.86E-15	-8.69E-17	-7.54E-16	5.591870

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-82.325702	-12.015820	1.46E-15	-2.54E-17	-2.43E-15	19.889035
0.50000	-83.893861	-4.375707	5.30E-16	-2.54E-17	-2.94E-15	24.107957
1.00000	-85.521521	3.788553	-4.59E-16	-2.54E-17	-2.96E-15	24.280645

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-82.325702	-12.015820	1.46E-15	-2.54E-17	-2.43E-15	19.889035
0.50000	-83.893861	-4.375707	5.30E-16	-2.54E-17	-2.94E-15	24.107957
1.00000	-85.521521	3.788553	-4.59E-16	-2.54E-17	-2.96E-15	24.280645

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-105.482101	7.056770	-8.55E-16	-1.30E-16	8.20E-16	-7.707841
0.50000	-111.199636	15.203322	-1.84E-15	-1.30E-16	1.51E-15	-13.384093
1.00000	-117.256690	23.883605	-2.89E-15	-1.30E-16	2.72E-15	-23.368349

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-105.482101	7.056770	-8.55E-16	-1.30E-16	8.20E-16	-7.707841
0.50000	-111.199636	15.203322	-1.84E-15	-1.30E-16	1.51E-15	-13.384093
1.00000	-117.256690	23.883605	-2.89E-15	-1.30E-16	2.72E-15	-23.368349

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-85.160974	-2.103334	2.56E-16	-8.50E-17	-2.36E-15	18.658122
0.50000	-88.284510	5.334578	-6.45E-16	-8.50E-17	-2.26E-15	17.852208
1.00000	-91.574949	13.272833	-1.61E-15	-8.50E-17	-1.68E-15	13.109691

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-85.160974	-2.103334	2.56E-16	-8.50E-17	-2.36E-15	18.658122
0.50000	-88.284510	5.334578	-6.45E-16	-8.50E-17	-2.26E-15	17.852208
1.00000	-91.574949	13.272833	-1.61E-15	-8.50E-17	-1.68E-15	13.109691

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-88.100427	-4.459629	5.39E-16	-7.75E-17	1.96E-17	-0.546896

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
0.50000	-91.223963	2.978283	-3.62E-16	-7.75E-17	-2.84E-17	-0.146292
1.00000	-94.514402	10.916538	-1.32E-15	-7.75E-17	4.00E-16	-3.682293

COMB COMB5 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-88.100427	-4.459629	5.39E-16	-7.75E-17	1.96E-17	-0.546896
0.50000	-91.223963	2.978283	-3.62E-16	-7.75E-17	-2.84E-17	-0.146292
1.00000	-94.514402	10.916538	-1.32E-15	-7.75E-17	4.00E-16	-3.682293

COMB COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-73.433786	-1.049517	1.27E-16	-6.44E-17	-4.74E-16	3.447970
0.50000	-76.429440	5.058075	-6.13E-16	-6.44E-17	-3.52E-16	2.439116
1.00000	-79.591543	11.573840	-1.40E-15	-6.44E-17	1.62E-16	-1.801568

COMB COMB6 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-73.433786	-1.049517	1.27E-16	-6.44E-17	-4.74E-16	3.447970
0.50000	-76.429440	5.058075	-6.13E-16	-6.44E-17	-3.52E-16	2.439116
1.00000	-79.591543	11.573840	-1.40E-15	-6.44E-17	1.62E-16	-1.801568

COMB COMB7 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-53.760353	0.380476	-4.55E-17	-6.15E-17	-1.25E-15	9.725565
0.50000	-56.007093	4.961170	-6.00E-16	-6.15E-17	-1.08E-15	8.371060
1.00000	-58.378671	9.847994	-1.19E-15	-6.15E-17	-6.25E-16	4.592682

COMB COMB7 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-53.760353	0.380476	-4.55E-17	-6.15E-17	-1.25E-15	9.725565
0.50000	-56.007093	4.961170	-6.00E-16	-6.15E-17	-1.08E-15	8.371060
1.00000	-58.378671	9.847994	-1.19E-15	-6.15E-17	-6.25E-16	4.592682

COMB COMB8 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-55.719988	-1.190387	1.44E-16	-5.65E-17	3.37E-16	-3.077780
0.50000	-57.966729	3.390306	-4.11E-16	-5.65E-17	4.04E-16	-3.627940
1.00000	-60.338306	8.277131	-1.00E-15	-5.65E-17	7.65E-16	-6.601973

COMB COMB8 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-55.719988	-1.190387	1.44E-16	-5.65E-17	3.37E-16	-3.077780
0.50000	-57.966729	3.390306	-4.11E-16	-5.65E-17	4.04E-16	-3.627940
1.00000	-60.338306	8.277131	-1.00E-15	-5.65E-17	7.65E-16	-6.601973

F R A M E E L E M E N T I N T E R N A L F O R C E S

ELEM 21 ========== LENGTH = 1.024082

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-125.667956	-1.049584	1.27E-16	-9.62E-17	-7.42E-16	5.591870
0.50000	-131.723079	9.537236	-1.16E-15	-9.62E-17	-4.82E-16	3.448679
1.00000	-138.118281	20.822951	-2.52E-15	-9.62E-17	4.56E-16	-4.294331

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-125.667956	-1.049584	1.27E-16	-9.62E-17	-7.42E-16	5.591870
0.50000	-131.723079	9.537236	-1.16E-15	-9.62E-17	-4.82E-16	3.448679
1.00000	-138.118281	20.822951	-2.52E-15	-9.62E-17	4.56E-16	-4.294331

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-85.284406	-7.406335	8.97E-16	-2.81E-17	-2.96E-15	24.280645
0.50000	-88.097875	1.014479	-1.23E-16	-2.81E-17	-3.16E-15	25.941232
1.00000	-91.052152	10.001040	-1.21E-15	-2.81E-17	-2.82E-15	23.145173

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-85.284406	-7.406335	8.97E-16	-2.81E-17	-2.96E-15	24.280645
0.50000	-88.097875	1.014479	-1.23E-16	-2.81E-17	-3.16E-15	25.941232
1.00000	-91.052152	10.001040	-1.21E-15	-2.81E-17	-2.82E-15	23.145173

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-119.370947	8.374659	-1.01E-15	-1.43E-16	2.73E-15	-23.368349
0.50000	-126.936825	16.700478	-2.02E-15	-1.43E-16	3.51E-15	-29.765235
1.00000	-134.951721	25.562152	-3.10E-15	-1.43E-16	4.82E-15	-40.562472

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-119.370947	8.374659	-1.01E-15	-1.43E-16	2.73E-15	-23.368349
0.50000	-126.936825	16.700478	-2.02E-15	-1.43E-16	3.51E-15	-29.765235
1.00000	-134.951721	25.562152	-3.10E-15	-1.43E-16	4.82E-15	-40.562472

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-92.523961	1.206703	-1.45E-16	-9.69E-17	-1.67E-15	13.109691
0.50000	-97.065303	9.146818	-1.11E-15	-9.69E-17	-1.35E-15	10.481343
1.00000	-101.861705	17.611104	-2.13E-15	-9.69E-17	-5.29E-16	3.653132

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-92.523961	1.206703	-1.45E-16	-9.69E-17	-1.67E-15	13.109691
0.50000	-97.065303	9.146818	-1.11E-15	-9.69E-17	-1.35E-15	10.481343
1.00000	-101.861705	17.611104	-2.13E-15	-9.69E-17	-5.29E-16	3.653132

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-95.130718	-1.513100	1.82E-16	-8.28E-17	4.11E-16	-3.682293
0.50000	-99.672061	6.427015	-7.79E-16	-8.28E-17	5.61E-16	-4.917990
1.00000	-104.468462	14.891302	-1.80E-15	-8.28E-17	1.22E-15	-10.353551

COMB COMB5 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-95.130718	-1.513100	1.82E-16	-8.28E-17	4.11E-16	-3.682293
0.50000	-99.672061	6.427015	-7.79E-16	-8.28E-17	5.61E-16	-4.917990
1.00000	-104.468462	14.891302	-1.80E-15	-8.28E-17	1.22E-15	-10.353551

COMB COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-80.421312	1.086347	-1.32E-16	-7.13E-17	1.70E-16	-1.801568
0.50000	-84.636613	7.536764	-9.13E-16	-7.13E-17	4.36E-16	-3.991202
1.00000	-89.093180	14.410425	-1.75E-15	-7.13E-17	1.11E-15	-9.592074

COMB COMB6 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-80.421312	1.086347	-1.32E-16	-7.13E-17	1.70E-16	-1.801568
0.50000	-84.636613	7.536764	-9.13E-16	-7.13E-17	4.36E-16	-3.991202
1.00000	-89.093180	14.410425	-1.75E-15	-7.13E-17	1.11E-15	-9.592074

COMB COMB7 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-59.164646	2.144021	-2.59E-16	-7.00E-17	-6.17E-16	4.592682
0.50000	-62.326122	6.981834	-8.45E-16	-7.00E-17	-3.36E-16	2.269821
1.00000	-65.668548	12.137079	-1.47E-15	-7.00E-17	2.55E-16	-2.611469

COMB COMB7 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-59.164646	2.144021	-2.59E-16	-7.00E-17	-6.17E-16	4.592682
0.50000	-62.326122	6.981834	-8.45E-16	-7.00E-17	-3.36E-16	2.269821
1.00000	-65.668548	12.137079	-1.47E-15	-7.00E-17	2.55E-16	-2.611469

COMB COMB8 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-60.902485	0.330819	-4.07E-17	-6.06E-17	7.72E-16	-6.601973

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
0.50000	-64.063961	5.168632	-6.27E-16	-6.06E-17	9.42E-16	-7.996401
1.00000	-67.406386	10.323877	-1.25E-15	-6.06E-17	1.42E-15	-11.949257

COMB COMB8 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-60.902485	0.330819	-4.07E-17	-6.06E-17	7.72E-16	-6.601973
0.50000	-64.063961	5.168632	-6.27E-16	-6.06E-17	9.42E-16	-7.996401
1.00000	-67.406386	10.323877	-1.25E-15	-6.06E-17	1.42E-15	-11.949257

ELEM 22 ========== LENGTH = 1.034682

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-139.678453	-0.429797	5.21E-17	-1.05E-16	4.71E-16	-4.294331
0.50000	-148.269056	10.535773	-1.28E-15	-1.05E-16	7.84E-16	-6.877768
1.00000	-157.352374	22.212993	-2.69E-15	-1.05E-16	1.81E-15	-15.318225

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-139.678453	-0.429797	5.21E-17	-1.05E-16	4.71E-16	-4.294331
0.50000	-148.269056	10.535773	-1.28E-15	-1.05E-16	7.84E-16	-6.877768
1.00000	-157.352374	22.212993	-2.69E-15	-1.05E-16	1.81E-15	-15.318225

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-91.513852	-3.966113	4.80E-16	-3.07E-17	-2.82E-15	23.145173
0.50000	-96.084339	5.124822	-6.21E-16	-3.07E-17	-2.78E-15	22.871267
1.00000	-100.905650	14.814610	-1.79E-15	-3.07E-17	-2.16E-15	17.739343

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-91.513852	-3.966113	4.80E-16	-3.07E-17	-2.82E-15	23.145173
0.50000	-96.084339	5.124822	-6.21E-16	-3.07E-17	-2.78E-15	22.871267
1.00000	-100.905650	14.814610	-1.79E-15	-3.07E-17	-2.16E-15	17.739343

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-137.269667	4.735944	-5.74E-16	-1.56E-16	4.84E-15	-40.562472
0.50000	-147.193132	12.843218	-1.56E-15	-1.56E-16	5.39E-15	-45.087533
1.00000	-157.701600	21.464232	-2.60E-15	-1.56E-16	6.46E-15	-53.939708

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-137.269667	4.735944	-5.74E-16	-1.56E-16	4.84E-15	-40.562472
0.50000	-147.193132	12.843218	-1.56E-15	-1.56E-16	5.39E-15	-45.087533

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
1.00000	-157.701600	21.464232	-2.60E-15	-1.56E-16	6.46E-15	-53.939708

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-103.355241	1.911048	-2.31E-16	-1.09E-16	-5.13E-16	3.653132
0.50000	-109.798193	10.135226	-1.23E-15	-1.09E-16	-1.39E-16	0.560127
1.00000	-116.610682	18.893141	-2.29E-15	-1.09E-16	7.67E-16	-6.925644

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-103.355241	1.911048	-2.31E-16	-1.09E-16	-5.13E-16	3.653132
0.50000	-109.798193	10.135226	-1.23E-15	-1.09E-16	-1.39E-16	0.560127
1.00000	-116.610682	18.893141	-2.29E-15	-1.09E-16	7.67E-16	-6.925644

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-105.517928	-1.173639	1.41E-16	-8.70E-17	1.23E-15	-10.353551
0.50000	-111.960880	7.050539	-8.55E-16	-8.70E-17	1.41E-15	-11.850721
1.00000	-118.773369	15.808454	-1.92E-15	-8.70E-17	2.13E-15	-17.740656

COMB COMB5 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-105.517928	-1.173639	1.41E-16	-8.70E-17	1.23E-15	-10.353551
0.50000	-111.960880	7.050539	-8.55E-16	-8.70E-17	1.41E-15	-11.850721
1.00000	-118.773369	15.808454	-1.92E-15	-8.70E-17	2.13E-15	-17.740656

COMB COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-90.248429	0.689953	-8.36E-17	-7.77E-17	1.13E-15	-9.592074
0.50000	-96.076775	7.274265	-8.81E-16	-7.77E-17	1.37E-15	-11.633860
1.00000	-102.242378	14.283561	-1.73E-15	-7.77E-17	2.05E-15	-17.191911

COMB COMB6 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-90.248429	0.689953	-8.36E-17	-7.77E-17	1.13E-15	-9.592074
0.50000	-96.076775	7.274265	-8.81E-16	-7.77E-17	1.37E-15	-11.633860
1.00000	-102.242378	14.283561	-1.73E-15	-7.77E-17	2.05E-15	-17.191911

COMB COMB7 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-66.750590	2.006396	-2.42E-16	-7.85E-17	2.67E-16	-2.611469
0.50000	-71.121849	6.944630	-8.40E-16	-7.85E-17	5.45E-16	-4.913093
1.00000	-75.746051	12.201602	-1.48E-15	-7.85E-17	1.14E-15	-9.851916

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB7 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-66.750590	2.006396	-2.42E-16	-7.85E-17	2.67E-16	-2.611469
0.50000	-71.121849	5.944630	-8.40E-16	-7.85E-17	5.45E-16	-4.913093
1.00000	-75.746051	12.201602	-1.48E-15	-7.85E-17	1.14E-15	-9.851916

COMB COMB8 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-68.192381	-0.050062	5.46E-18	-6.39E-17	1.43E-15	-11.949257
0.50000	-72.563640	4.888172	-5.93E-16	-6.39E-17	1.58E-15	-13.186992
1.00000	-77.187842	10.145144	-1.23E-15	-6.39E-17	2.05E-15	-17.061925

COMB COMB8 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-68.192381	-0.050062	5.46E-18	-6.39E-17	1.43E-15	-11.949257
0.50000	-72.563640	4.888172	-5.93E-16	-6.39E-17	1.58E-15	-13.186992
1.00000	-77.187842	10.145144	-1.23E-15	-6.39E-17	2.05E-15	-17.061925

ELEM 23 ========== LENGTH = 1.034679

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-158.819032	-5.449923	6.60E-16	-1.12E-16	1.83E-15	-15.318225
0.50000	-170.420748	5.107735	-6.19E-16	-1.12E-16	1.81E-15	-15.201461
1.00000	-182.670865	16.320676	-1.98E-15	-1.12E-16	2.48E-15	-20.716091

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-158.819032	-5.449923	6.60E-16	-1.12E-16	1.83E-15	-15.318225
0.50000	-170.420748	5.107735	-6.19E-16	-1.12E-16	1.81E-15	-15.201461
1.00000	-182.670865	16.320676	-1.98E-15	-1.12E-16	2.48E-15	-20.716091

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-101.945169	-2.933501	3.55E-16	-3.27E-17	-2.16E-15	17.739343
0.50000	-108.738332	6.335733	-7.67E-16	-3.27E-17	-2.05E-15	16.884368
1.00000	-115.905330	16.186681	-1.96E-15	-3.27E-17	-1.35E-15	11.083582

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-101.945169	-2.933501	3.55E-16	-3.27E-17	-2.16E-15	17.739343
0.50000	-108.738332	6.335733	-7.67E-16	-3.27E-17	-2.05E-15	16.884368
1.00000	-115.905330	16.186681	-1.96E-15	-3.27E-17	-1.35E-15	11.083582

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-159.032924	-6.247952	7.57E-16	-1.67E-16	6.49E-15	-53.939708
0.50000	-171.565756	0.834671	-1.01E-16	-1.67E-16	6.32E-15	-52.520891
1.00000	-184.807182	8.347932	-1.01E-15	-1.67E-16	6.60E-15	-54.877587

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-159.032924	-6.247952	7.57E-16	-1.67E-16	6.49E-15	-53.939708
0.50000	-171.565756	0.834671	-1.01E-16	-1.67E-16	6.32E-15	-52.520891
1.00000	-184.807182	8.347932	-1.01E-15	-1.67E-16	6.60E-15	-54.877587

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-118.119847	-1.644234	2.00E-16	-1.20E-16	7.87E-16	-6.925644
0.50000	-126.821134	6.274009	-7.59E-16	-1.20E-16	9.29E-16	-8.102038
1.00000	-136.008722	14.683715	-1.78E-15	-1.20E-16	1.58E-15	-13.501978

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-118.119847	-1.644234	2.00E-16	-1.20E-16	7.87E-16	-6.925644
0.50000	-126.821134	6.274009	-7.59E-16	-1.20E-16	9.29E-16	-8.102038
1.00000	-136.008722	14.683715	-1.78E-15	-1.20E-16	1.58E-15	-13.501978

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-119.713996	-5.057620	6.12E-16	-8.92E-17	2.14E-15	-17.740656
0.50000	-128.415283	2.860623	-3.47E-16	-8.92E-17	2.07E-15	-17.151172
1.00000	-137.602871	11.270329	-1.37E-15	-8.92E-17	2.51E-15	-20.785233

COMB COMB5 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-119.713996	-5.057620	6.12E-16	-8.92E-17	2.14E-15	-17.740656
0.50000	-128.415283	2.860623	-3.47E-16	-8.92E-17	2.07E-15	-17.151172
1.00000	-137.602871	11.270329	-1.37E-15	-8.92E-17	2.51E-15	-20.785233

COMB COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-103.169366	-3.688613	4.47E-16	-8.29E-17	2.06E-15	-17.191911
0.50000	-110.877616	2.515126	-3.05E-16	-8.29E-17	2.02E-15	-16.871838
1.00000	-119.018197	9.102233	-1.10E-15	-8.29E-17	2.38E-15	-19.860368

COMB COMB6 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-103.169366	-3.688613	4.47E-16	-8.29E-17	2.06E-15	-17.191911

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
0.50000	-110.877616	2.515126	-3.05E-16	-8.29E-17	2.02E-15	-16.871838
1.00000	-119.018197	9.102233	-1.10E-15	-8.29E-17	2.38E-15	-19.860368

COMB COMB7 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-76.714073	-1.137655	1.38E-16	-8.60E-17	1.16E-15	-9.851916
0.50000	-82.495261	3.515150	-4.25E-16	-8.60E-17	1.23E-15	-10.454506
1.00000	-88.600697	8.455480	-1.02E-15	-8.60E-17	1.60E-15	-13.538549

COMB COMB7 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-76.714073	-1.137655	1.38E-16	-8.60E-17	1.16E-15	-9.851916
0.50000	-82.495261	3.515150	-4.25E-16	-8.60E-17	1.23E-15	-10.454506
1.00000	-88.600697	8.455480	-1.02E-15	-8.60E-17	1.60E-15	-13.538549

COMB COMB8 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-77.776839	-3.413245	4.13E-16	-6.57E-17	2.06E-15	-17.061925
0.50000	-83.558026	1.239559	-1.51E-16	-6.57E-17	1.99E-15	-16.487262
1.00000	-89.663462	6.179890	-7.49E-16	-6.57E-17	2.22E-15	-18.394053

COMB COMB8 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-77.776839	-3.413245	4.13E-16	-6.57E-17	2.06E-15	-17.061925
0.50000	-83.558026	1.239559	-1.51E-16	-6.57E-17	1.99E-15	-16.487262
1.00000	-89.663462	6.179890	-7.49E-16	-6.57E-17	2.22E-15	-18.394053

ELEM 24 ========== LENGTH = 1.034680

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-182.729836	-15.646612	1.89E-15	-1.15E-16	2.50E-15	-20.716091
0.50000	-197.505311	-6.189858	7.50E-16	-1.15E-16	1.81E-15	-15.043946
1.00000	-213.057223	3.816701	-4.62E-16	-1.15E-16	1.73E-15	-14.406378

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-182.729836	-15.646612	1.89E-15	-1.15E-16	2.50E-15	-20.716091
0.50000	-197.505311	-6.189858	7.50E-16	-1.15E-16	1.81E-15	-15.043946
1.00000	-213.057223	3.816701	-4.62E-16	-1.15E-16	1.73E-15	-14.406378

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-116.955281	-4.185263	5.07E-16	-3.38E-17	-1.35E-15	11.083582
0.50000	-126.200640	4.787660	-5.80E-16	-3.38E-17	-1.33E-15	10.950360

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
1.00000	-135.930195	14.284820	-1.73E-15	-3.38E-17	-7.34E-16	6.039480

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-116.955281	-4.185263	5.07E-16	-3.38E-17	-1.35E-15	11.083582
0.50000	-126.200640	4.787660	-5.80E-16	-3.38E-17	-1.33E-15	10.950360
1.00000	-135.930195	14.284820	-1.73E-15	-3.38E-17	-7.34E-16	6.039480

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-183.449296	-23.869196	2.89E-15	-1.72E-16	6.63E-15	-54.877587
0.50000	-198.579195	-18.463455	2.24E-15	-1.72E-16	5.30E-15	-43.914001
1.00000	-214.506450	-12.747016	1.54E-15	-1.72E-16	4.32E-15	-35.827390

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-183.449296	-23.869196	2.89E-15	-1.72E-16	6.63E-15	-54.877587
0.50000	-198.579195	-18.463455	2.24E-15	-1.72E-16	5.30E-15	-43.914001
1.00000	-214.506450	-12.747016	1.54E-15	-1.72E-16	4.32E-15	-35.827390

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-136.492301	-9.156192	1.11E-15	-1.27E-16	1.60E-15	-13.501978
0.50000	-147.573907	-2.063626	2.51E-16	-1.27E-16	1.25E-15	-10.581969
1.00000	-159.237841	5.441293	-6.58E-16	-1.27E-16	1.35E-15	-11.437893

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-136.492301	-9.156192	1.11E-15	-1.27E-16	1.60E-15	-13.501978
0.50000	-147.573907	-2.063626	2.51E-16	-1.27E-16	1.25E-15	-10.581969
1.00000	-159.237841	5.441293	-6.58E-16	-1.27E-16	1.35E-15	-11.437893

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-137.469525	-12.794536	1.55E-15	-8.86E-17	2.53E-15	-20.785233
0.50000	-148.551131	-5.701970	6.90E-16	-8.86E-17	1.95E-15	-15.962963
1.00000	-160.215065	1.802949	-2.19E-16	-8.86E-17	1.82E-15	-14.956625

COMB COMB5 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-137.469525	-12.794536	1.55E-15	-8.86E-17	2.53E-15	-20.785233
0.50000	-148.551131	-5.701970	6.90E-16	-8.86E-17	1.95E-15	-15.962963
1.00000	-160.215065	1.802949	-2.19E-16	-8.86E-17	1.82E-15	-14.956625

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB6 ———————— MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-118.790701	-11.702614	1.42E-15	-8.55E-17	2.40E-15	-19.860368
0.50000	-128.451652	-6.321795	7.66E-16	-8.55E-17	1.83E-15	-15.184535
1.00000	-138.620707	-0.828813	7.62E-17	-8.55E-17	1.61E-15	-13.373163

COMB COMB6 ———————— MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-118.790701	-11.702614	1.42E-15	-8.55E-17	2.40E-15	-19.860368
0.50000	-128.451652	-6.321795	7.66E-16	-8.55E-17	1.83E-15	-15.184535
1.00000	-138.620707	-0.828813	7.62E-17	-8.55E-17	1.61E-15	-13.373163

COMB COMB7 ———————— MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-88.722975	-7.057782	8.55E-16	-9.10E-17	1.62E-15	-13.538549
0.50000	-95.968688	-3.022168	3.67E-16	-9.10E-17	1.30E-15	-10.921074
1.00000	-103.595479	1.247568	-1.50E-16	-9.10E-17	1.24E-15	-10.451945

COMB COMB7 ———————— MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-88.722975	-7.057782	8.55E-16	-9.10E-17	1.62E-15	-13.538549
0.50000	-95.968688	-3.022168	3.67E-16	-9.10E-17	1.30E-15	-10.921074
1.00000	-103.595479	1.247568	-1.50E-16	-9.10E-17	1.24E-15	-10.451945

COMB COMB8 ———————— MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-89.374458	-9.483345	1.15E-15	-6.55E-17	2.23E-15	-18.394053
0.50000	-96.620171	-5.447730	6.59E-16	-6.55E-17	1.77E-15	-14.521737
1.00000	-104.246962	-1.177995	1.42E-16	-6.55E-17	1.56E-15	-12.797766

COMB COMB8 ———————— MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-89.374458	-9.483345	1.15E-15	-6.55E-17	2.23E-15	-18.394053
0.50000	-96.620171	-5.447730	6.59E-16	-6.55E-17	1.77E-15	-14.521737
1.00000	-104.246962	-1.177995	1.42E-16	-6.55E-17	1.56E-15	-12.797766

ELEM 25 ========== LENGTH = 1.200000

COMB COMB1 ———————— MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-212.579099	-14.767326	6.69E-21	-1.16E-16	-1.76E-19	-14.406378
0.50000	-214.466114	-4.175766	6.69E-21	-1.16E-16	-1.80E-19	-8.691050
1.00000	-216.353129	7.063794	6.69E-21	-1.16E-16	-1.84E-19	-9.525059

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB1 ———————— MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-212.579099	-14.767326	6.69E-21	-1.16E-16	-1.76E-19	-14.406378
0.50000	-214.466114	-4.175766	6.69E-21	-1.16E-16	-1.80E-19	-8.691050
1.00000	-216.353129	7.063794	6.69E-21	-1.16E-16	-1.84E-19	-9.525059

COMB COMB2 ———————— MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-136.657948	2.383144	4.48E-21	-3.39E-17	-1.16E-19	6.039480
0.50000	-137.871028	12.974704	4.48E-21	-3.39E-17	-1.18E-19	1.464526
1.00000	-139.084109	24.214264	4.48E-21	-3.39E-17	-1.21E-19	-9.659765

COMB COMB2 ———————— MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-136.657948	2.383144	4.48E-21	-3.39E-17	-1.16E-19	6.039480
0.50000	-137.871028	12.974704	4.48E-21	-3.39E-17	-1.18E-19	1.464526
1.00000	-139.084109	24.214264	4.48E-21	-3.39E-17	-1.21E-19	-9.659765

COMB COMB3 ———————— MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-212.579162	-31.394321	6.43E-21	-1.72E-16	-1.72E-19	-35.827390
0.50000	-214.466177	-26.098541	6.43E-21	-1.72E-16	-1.76E-19	-18.563332
1.00000	-216.353192	-20.478761	6.43E-21	-1.72E-16	-1.80E-19	-4.573942

COMB COMB3 ———————— MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-212.579162	-31.394321	6.43E-21	-1.72E-16	-1.72E-19	-35.827390
0.50000	-214.466177	-26.098541	6.43E-21	-1.72E-16	-1.76E-19	-18.563332
1.00000	-216.353192	-20.478761	6.43E-21	-1.72E-16	-1.80E-19	-4.573942

COMB COMB4 ———————— MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-159.106119	-8.458162	9.10E-19	-1.29E-16	-2.04E-17	-11.437893
0.50000	-160.521380	-0.514492	9.10E-19	-1.29E-16	-2.10E-17	-8.721797
1.00000	-161.936641	7.915178	9.10E-19	-1.29E-16	-2.15E-17	-10.917703

COMB COMB4 ———————— MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-159.106119	-8.458162	9.10E-19	-1.29E-16	-2.04E-17	-11.437893
0.50000	-160.521380	-0.514492	9.10E-19	-1.29E-16	-2.10E-17	-8.721797
1.00000	-161.936641	7.915178	9.10E-19	-1.29E-16	-2.15E-17	-10.917703

COMB COMB5 ———————— MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-159.762516	-12.167832	-9.00E-19	-8.71E-17	2.02E-17	-14.956625

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
0.50000	-161.177777	-4.224162	-9.00E-19	-8.71E-17	2.07E-17	-10.014727
1.00000	-162.593038	4.205508	-9.00E-19	-8.71E-17	2.12E-17	-9.984831

COMB COMB5 ———————— MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-159.762516	-12.167832	-9.00E-19	-8.71E-17	2.02E-17	-14.956625
0.50000	-161.177777	-4.224162	-9.00E-19	-8.71E-17	2.07E-17	-10.014727
1.00000	-162.593038	4.205508	-9.00E-19	-8.71E-17	2.12E-17	-9.984831

COMB COMB6 ———————— MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-138.038388	-12.708234	4.29E-21	-8.58E-17	-1.14E-19	-13.373163
0.50000	-139.263722	-6.824034	4.29E-21	-8.58E-17	-1.16E-19	-7.495482
1.00000	-140.489056	-0.579834	4.29E-21	-8.58E-17	-1.19E-19	-5.256322

COMB COMB6 ———————— MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-138.038388	-12.708234	4.29E-21	-8.58E-17	-1.14E-19	-13.373163
0.50000	-139.263722	-6.824034	4.29E-21	-8.58E-17	-1.16E-19	-7.495482
1.00000	-140.489056	-0.579834	4.29E-21	-8.58E-17	-1.19E-19	-5.256322

COMB COMB7 ———————— MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-103.309987	-7.786287	6.07E-19	-9.26E-17	-1.36E-17	-10.451945
0.50000	-104.228988	-3.373137	6.07E-19	-9.26E-17	-1.40E-17	-7.090618
1.00000	-105.147989	1.310013	6.07E-19	-9.26E-17	-1.43E-17	-6.458181

COMB COMB7 ———————— MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-103.309987	-7.786287	6.07E-19	-9.26E-17	-1.36E-17	-10.451945
0.50000	-104.228988	-3.373137	6.07E-19	-9.26E-17	-1.40E-17	-7.090618
1.00000	-105.147989	1.310013	6.07E-19	-9.26E-17	-1.43E-17	-6.458181

COMB COMB8 ———————— MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-103.747585	-10.259400	-6.00E-19	-6.46E-17	1.34E-17	-12.797766
0.50000	-104.666586	-5.846250	-6.00E-19	-6.46E-17	1.38E-17	-7.952571
1.00000	-105.585586	-1.163100	-6.00E-19	-6.46E-17	1.42E-17	-5.836266

COMB COMB8 ———————— MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-103.747585	-10.259400	-6.00E-19	-6.46E-17	1.34E-17	-12.797766
0.50000	-104.666586	-5.846250	-6.00E-19	-6.46E-17	1.38E-17	-7.952571
1.00000	-105.585586	-1.163100	-6.00E-19	-6.46E-17	1.42E-17	-5.836266

F R A M E E L E M E N T I N T E R N A L F O R C E S

ELEM 26 ========== LENGTH = 1.687847

COMB COMB1 ———————— MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-216.353129	7.063794	6.69E-21	9.88E-15	-1.84E-19	-9.525059
0.50000	-219.475670	23.969439	6.69E-21	9.88E-15	-1.90E-19	-22.529731
1.00000	-222.598211	42.157172	6.69E-21	9.88E-15	-1.95E-19	-50.342466

COMB COMB1 ———————— MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-216.353129	7.063794	6.69E-21	9.88E-15	-1.84E-19	-9.525059
0.50000	-219.475670	23.969439	6.69E-21	9.88E-15	-1.90E-19	-22.529731
1.00000	-222.598211	42.157172	6.69E-21	9.88E-15	-1.95E-19	-50.342466

COMB COMB2 ———————— MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-139.084109	24.214264	4.48E-21	-1.48E-15	-1.21E-19	-9.659765
0.50000	-141.091457	41.119909	4.48E-21	-1.48E-15	-1.25E-19	-37.138121
1.00000	-143.098805	59.307642	4.48E-21	-1.48E-15	-1.29E-19	-79.424541

COMB COMB2 ———————— MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-139.084109	24.214264	4.48E-21	-1.48E-15	-1.21E-19	-9.659765
0.50000	-141.091457	41.119909	4.48E-21	-1.48E-15	-1.25E-19	-37.138121
1.00000	-143.098805	59.307642	4.48E-21	-1.48E-15	-1.29E-19	-79.424541

COMB COMB3 ———————— MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-216.353192	-20.478761	6.43E-21	2.08E-14	-1.80E-19	-4.573942
0.50000	-219.475733	-12.025939	6.43E-21	2.08E-14	-1.86E-19	9.186881
1.00000	-222.598274	-2.932072	6.43E-21	2.08E-14	-1.91E-19	15.543672

COMB COMB3 ———————— MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-216.353192	-20.478761	6.43E-21	2.08E-14	-1.80E-19	-4.573942
0.50000	-219.475733	-12.025939	6.43E-21	2.08E-14	-1.86E-19	9.186881
1.00000	-222.598274	-2.932072	6.43E-21	2.08E-14	-1.91E-19	15.543672

COMB COMB4 ———————— MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-161.936641	7.915178	9.10E-19	7.86E-15	-2.15E-17	-10.917703
0.50000	-164.278547	20.594412	9.10E-19	7.86E-15	-2.23E-17	-22.880035
1.00000	-166.620453	34.235211	9.10E-19	7.86E-15	-2.31E-17	-45.948415

FRAME ELEMENT INTERNAL FORCES

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-161.936641	7.915178	9.10E-19	7.86E-15	-2.15E-17	-10.917703
0.50000	-164.278547	20.594412	9.10E-19	7.86E-15	-2.23E-17	-22.880035
1.00000	-166.620453	34.235211	9.10E-19	7.86E-15	-2.31E-17	-45.948415

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-162.593038	4.205508	-9.00E-19	5.38E-15	2.12E-17	-9.984831
0.50000	-164.934944	16.884741	-9.00E-19	5.38E-15	2.20E-17	-18.816485
1.00000	-167.276849	30.525541	-9.00E-19	5.38E-15	2.28E-17	-38.754187

COMB COMB5 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-162.593038	4.205508	-9.00E-19	5.38E-15	2.12E-17	-9.984831
0.50000	-164.934944	16.884741	-9.00E-19	5.38E-15	2.20E-17	-18.816485
1.00000	-167.276849	30.525541	-9.00E-19	5.38E-15	2.28E-17	-38.754187

COMB COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-140.489056	-0.579834	4.29E-21	8.47E-15	-1.19E-19	-5.256322
0.50000	-142.516681	8.812191	4.29E-21	8.47E-15	-1.22E-19	-8.679970
1.00000	-144.544305	18.916487	4.29E-21	8.47E-15	-1.26E-19	-20.330320

COMB COMB6 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-140.489056	-0.579834	4.29E-21	8.47E-15	-1.19E-19	-5.256322
0.50000	-142.516681	8.812191	4.29E-21	8.47E-15	-1.22E-19	-8.679970
1.00000	-144.544305	18.916487	4.29E-21	8.47E-15	-1.26E-19	-20.330320

COMB COMB7 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-105.147989	1.310013	6.07E-19	6.66E-15	-1.43E-17	-6.458181
0.50000	-106.668707	8.354032	6.07E-19	6.66E-15	-1.49E-17	-10.498469
1.00000	-108.189425	15.932254	6.07E-19	6.66E-15	-1.54E-17	-20.708784

COMB COMB7 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-105.147989	1.310013	6.07E-19	6.66E-15	-1.43E-17	-6.458181
0.50000	-106.668707	8.354032	6.07E-19	6.66E-15	-1.49E-17	-10.498469
1.00000	-108.189425	15.932254	6.07E-19	6.66E-15	-1.54E-17	-20.708784

COMB COMB8 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-105.585586	-1.163100	-6.00E-19	5.00E-15	1.42E-17	-5.836266

FRAME ELEMENT INTERNAL FORCES

REL DIST	P	V2	V3	T	M2	M3
0.50000	-107.106305	5.880918	-6.00E-19	5.00E-15	1.47E-17	-7.789436
1.00000	-108.627023	13.459140	-6.00E-19	5.00E-15	1.52E-17	-15.912632

COMB COMB8 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-105.585586	-1.163100	-6.00E-19	5.00E-15	1.42E-17	-5.836266
0.50000	-107.106305	5.880918	-6.00E-19	5.00E-15	1.47E-17	-7.789436
1.00000	-108.627023	13.459140	-6.00E-19	5.00E-15	1.52E-17	-15.912632

ELEM 27 ========== LENGTH = 1.075000

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-42.157166	70.764416	-8.57E-15	-1.95E-19	-5.97E-15	50.230884
0.25000	-42.157166	71.758799	-8.69E-15	-1.95E-19	-3.65E-15	31.079327
0.50000	-42.157166	72.753182	-8.81E-15	-1.95E-19	-1.30E-15	11.660529
0.75000	-42.157166	73.747565	-8.93E-15	-1.95E-19	1.09E-15	-8.025508
1.00000	-42.157166	74.741947	-9.05E-15	-1.95E-19	3.50E-15	-27.978786

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-42.157166	70.764416	-8.57E-15	-1.95E-19	-5.97E-15	50.230884
0.25000	-42.157166	71.758799	-8.69E-15	-1.95E-19	-3.65E-15	31.079327
0.50000	-42.157166	72.753182	-8.81E-15	-1.95E-19	-1.30E-15	11.660529
0.75000	-42.157166	73.747565	-8.93E-15	-1.95E-19	1.09E-15	-8.025508
1.00000	-42.157166	74.741947	-9.05E-15	-1.95E-19	3.50E-15	-27.978786

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-59.307636	66.444614	-8.05E-15	-1.29E-19	-9.58E-15	79.353484
0.25000	-59.307636	67.083860	-8.12E-15	-1.29E-19	-7.40E-15	61.410596
0.50000	-59.307636	67.723106	-8.20E-15	-1.29E-19	-5.21E-15	43.295909
0.75000	-59.307636	68.362353	-8.28E-15	-1.29E-19	-2.99E-15	25.009426
1.00000	-59.307636	69.001599	-8.36E-15	-1.29E-19	-7.60E-16	6.551145

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-59.307636	66.444614	-8.05E-15	-1.29E-19	-9.58E-15	79.353484
0.25000	-59.307636	67.083860	-8.12E-15	-1.29E-19	-7.40E-15	61.410596
0.50000	-59.307636	67.723106	-8.20E-15	-1.29E-19	-5.21E-15	43.295909
0.75000	-59.307636	68.362353	-8.28E-15	-1.29E-19	-2.99E-15	25.009426
1.00000	-59.307636	69.001599	-8.36E-15	-1.29E-19	-7.60E-16	6.551145

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	2.932075	41.429931	-5.02E-15	-1.91E-19	2.07E-15	-15.656198

FRAME ELEMENT INTERNAL FORCES

REL DIST	P	V2	V3	T	M2	M3
0.25000	2.932075	42.424314	-5.14E-15	-1.91E-19	3.43E-15	-26.924113
0.50000	2.932075	43.418696	-5.26E-15	-1.91E-19	4.83E-15	-38.459267
0.75000	2.932075	44.413079	-5.38E-15	-1.91E-19	6.26E-15	-50.261662
1.00000	2.932075	45.407462	-5.50E-15	-1.91E-19	7.72E-15	-62.331297

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	2.932075	41.429931	-5.02E-15	-1.91E-19	2.07E-15	-15.656198
0.25000	2.932075	42.424314	-5.14E-15	-1.91E-19	3.43E-15	-26.924113
0.50000	2.932075	43.418696	-5.26E-15	-1.91E-19	4.83E-15	-38.459267
0.75000	2.932075	44.413079	-5.38E-15	-1.91E-19	6.26E-15	-50.261662
1.00000	2.932075	45.407462	-5.50E-15	-1.91E-19	7.72E-15	-62.331297

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-34.235207	55.082549	-6.67E-15	-2.31E-17	-6.04E-15	50.837042
0.25000	-34.235207	55.828336	-6.76E-15	-2.31E-17	-4.24E-15	35.933391
0.50000	-34.235207	56.574123	-6.85E-15	-2.31E-17	-2.41E-15	20.829311
0.75000	-34.235207	57.319910	-6.94E-15	-2.31E-17	-5.53E-16	5.524800
1.00000	-34.235207	58.065697	-7.03E-15	-2.31E-17	1.33E-15	-9.980141

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-34.235207	55.082549	-6.67E-15	-2.31E-17	-6.04E-15	50.837042
0.25000	-34.235207	55.828336	-6.76E-15	-2.31E-17	-4.24E-15	35.933391
0.50000	-34.235207	56.574123	-6.85E-15	-2.31E-17	-2.41E-15	20.829311
0.75000	-34.235207	57.319910	-6.94E-15	-2.31E-17	-5.53E-16	5.524800
1.00000	-34.235207	58.065697	-7.03E-15	-2.31E-17	1.33E-15	-9.980141

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-30.525537	55.155290	-6.68E-15	2.28E-17	-3.99E-15	33.698404
0.25000	-30.525537	55.901077	-6.77E-15	2.28E-17	-2.17E-15	18.775205
0.50000	-30.525537	56.646864	-6.86E-15	2.28E-17	-3.42E-16	3.651575
0.75000	-30.525537	57.392651	-6.95E-15	2.28E-17	1.51E-15	-11.672484
1.00000	-30.525537	58.138438	-7.04E-15	2.28E-17	3.39E-15	-27.196974

COMB COMB5 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-30.525537	55.155290	-6.68E-15	2.28E-17	-3.99E-15	33.698404
0.25000	-30.525537	55.901077	-6.77E-15	2.28E-17	-2.17E-15	18.775205
0.50000	-30.525537	56.646864	-6.86E-15	2.28E-17	-3.42E-16	3.651575
0.75000	-30.525537	57.392651	-6.95E-15	2.28E-17	1.51E-15	-11.672484
1.00000	-30.525537	58.138438	-7.04E-15	2.28E-17	3.39E-15	-27.196974

FRAME ELEMENT INTERNAL FORCES

COMB COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-18.916484	40.448058	-4.90E-15	-1.26E-19	-2.37E-15	20.257687
0.25000	-18.916484	41.093761	-4.98E-15	-1.26E-19	-1.04E-15	9.300505
0.50000	-18.916484	41.739464	-5.05E-15	-1.26E-19	3.07E-16	-1.830210
0.75000	-18.916484	42.385167	-5.13E-15	-1.26E-19	1.68E-15	-13.134457
1.00000	-18.916484	43.030870	-5.21E-15	-1.26E-19	3.07E-15	-24.612237

COMB COMB6 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-18.916484	40.448058	-4.90E-15	-1.26E-19	-2.37E-15	20.257687
0.25000	-18.916484	41.093761	-4.98E-15	-1.26E-19	-1.04E-15	9.300505
0.50000	-18.916484	41.739464	-5.05E-15	-1.26E-19	3.07E-16	-1.830210
0.75000	-18.916484	42.385167	-5.13E-15	-1.26E-19	1.68E-15	-13.134457
1.00000	-18.916484	43.030870	-5.21E-15	-1.26E-19	3.07E-15	-24.612237

COMB COMB7 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-15.932251	31.675535	-3.84E-15	-1.54E-17	-2.82E-15	23.969184
0.25000	-15.932251	32.159812	-3.90E-15	-1.54E-17	-1.78E-15	15.391310
0.50000	-15.932251	32.644089	-3.95E-15	-1.54E-17	-7.26E-16	6.683285
0.75000	-15.932251	33.128367	-4.01E-15	-1.54E-17	3.45E-16	-2.154889
1.00000	-15.932251	33.612644	-4.07E-15	-1.54E-17	1.43E-15	-11.123212

COMB COMB7 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-15.932251	31.675535	-3.84E-15	-1.54E-17	-2.82E-15	23.969184
0.25000	-15.932251	32.159812	-3.90E-15	-1.54E-17	-1.78E-15	15.391310
0.50000	-15.932251	32.644089	-3.95E-15	-1.54E-17	-7.26E-16	6.683285
0.75000	-15.932251	33.128367	-4.01E-15	-1.54E-17	3.45E-16	-2.154889
1.00000	-15.932251	33.612644	-4.07E-15	-1.54E-17	1.43E-15	-11.123212

COMB COMB8 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-13.459138	31.724029	-3.84E-15	1.52E-17	-1.45E-15	12.543426
0.25000	-13.459138	32.208306	-3.90E-15	1.52E-17	-4.05E-16	3.952519
0.50000	-13.459138	32.692583	-3.96E-15	1.52E-17	6.51E-16	-4.768538
0.75000	-13.459138	33.176860	-4.02E-15	1.52E-17	1.72E-15	-13.619745
1.00000	-13.459138	33.661138	-4.08E-15	1.52E-17	2.81E-15	-22.601101

COMB COMB8 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-13.459138	31.724029	-3.84E-15	1.52E-17	-1.45E-15	12.543426
0.25000	-13.459138	32.208306	-3.90E-15	1.52E-17	-4.05E-16	3.952519
0.50000	-13.459138	32.692583	-3.96E-15	1.52E-17	6.51E-16	-4.768538
0.75000	-13.459138	33.176860	-4.02E-15	1.52E-17	1.72E-15	-13.619745
1.00000	-13.459138	33.661138	-4.08E-15	1.52E-17	2.81E-15	-22.601101

F R A M E E L E M E N T I N T E R N A L F O R C E S

ELEM 28 ========== LENGTH = 1.000000

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-42.157166	-1.539976	1.86E-16	-1.95E-19	3.50E-15	-27.978786
0.25000	-42.157166	-0.614969	7.45E-17	-1.95E-19	3.47E-15	-27.709418
0.50000	-42.157166	0.310038	-3.76E-17	-1.95E-19	3.47E-15	-27.671302
0.75000	-42.157166	1.235045	-1.50E-16	-1.95E-19	3.49E-15	-27.864437
1.00000	-42.157166	2.160052	-2.62E-16	-1.95E-19	3.54E-15	-28.288824

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-42.157166	-1.539976	1.86E-16	-1.95E-19	3.50E-15	-27.978786
0.25000	-42.157166	-0.614969	7.45E-17	-1.95E-19	3.47E-15	-27.709418
0.50000	-42.157166	0.310038	-3.76E-17	-1.95E-19	3.47E-15	-27.671302
0.75000	-42.157166	1.235045	-1.50E-16	-1.95E-19	3.49E-15	-27.864437
1.00000	-42.157166	2.160052	-2.62E-16	-1.95E-19	3.54E-15	-28.288824

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-59.307636	15.674550	-1.90E-15	-1.29E-19	-7.60E-16	6.551145
0.25000	-59.307636	16.269197	-1.97E-15	-1.29E-19	-2.76E-16	2.558177
0.50000	-59.307636	16.863845	-2.04E-15	-1.29E-19	2.26E-16	-1.583454
0.75000	-59.307636	17.458492	-2.11E-15	-1.29E-19	7.45E-16	-5.873746
1.00000	-59.307636	18.053140	-2.19E-15	-1.29E-19	1.28E-15	-10.312700

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-59.307636	15.674550	-1.90E-15	-1.29E-19	-7.60E-16	6.551145
0.25000	-59.307636	16.269197	-1.97E-15	-1.29E-19	-2.76E-16	2.558177
0.50000	-59.307636	16.863845	-2.04E-15	-1.29E-19	2.26E-16	-1.583454
0.75000	-59.307636	17.458492	-2.11E-15	-1.29E-19	7.45E-16	-5.873746
1.00000	-59.307636	18.053140	-2.19E-15	-1.29E-19	1.28E-15	-10.312700

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	2.932075	-24.870325	3.01E-15	-1.91E-19	7.72E-15	-62.331297
0.25000	2.932075	-23.945318	2.90E-15	-1.91E-19	6.98E-15	-56.229342
0.50000	2.932075	-23.020310	2.79E-15	-1.91E-19	6.27E-15	-50.358638
0.75000	2.932075	-22.095303	2.68E-15	-1.91E-19	5.59E-15	-44.719187
1.00000	2.932075	-21.170296	2.56E-15	-1.91E-19	4.93E-15	-39.310987

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	2.932075	-24.870325	3.01E-15	-1.91E-19	7.72E-15	-62.331297
0.25000	2.932075	-23.945318	2.90E-15	-1.91E-19	6.98E-15	-56.229342
0.50000	2.932075	-23.020310	2.79E-15	-1.91E-19	6.27E-15	-50.358638

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
0.75000	2.932075	-22.095303	2.68E-15	-1.91E-19	5.59E-15	-44.719187
1.00000	2.932075	-21.170296	2.56E-15	-1.91E-19	4.93E-15	-39.310987

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-34.235207	1.632692	-1.99E-16	-2.31E-17	1.33E-15	-9.980141
0.25000	-34.235207	2.326448	-2.83E-16	-2.31E-17	1.39E-15	-10.475034
0.50000	-34.235207	3.020203	-3.67E-16	-2.31E-17	1.47E-15	-11.143365
0.75000	-34.235207	3.713959	-4.51E-16	-2.31E-17	1.57E-15	-11.985135
1.00000	-34.235207	4.407714	-5.35E-16	-2.31E-17	1.69E-15	-13.000344

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-34.235207	1.632692	-1.99E-16	-2.31E-17	1.33E-15	-9.980141
0.25000	-34.235207	2.326448	-2.83E-16	-2.31E-17	1.39E-15	-10.475034
0.50000	-34.235207	3.020203	-3.67E-16	-2.31E-17	1.47E-15	-11.143365
0.75000	-34.235207	3.713959	-4.51E-16	-2.31E-17	1.57E-15	-11.985135
1.00000	-34.235207	4.407714	-5.35E-16	-2.31E-17	1.69E-15	-13.000344

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-30.525537	-0.688827	8.43E-17	2.28E-17	3.39E-15	-27.196974
0.25000	-30.525537	0.004928	3.03E-19	2.28E-17	3.38E-15	-27.111487
0.50000	-30.525537	0.696683	-8.37E-17	2.28E-17	3.39E-15	-27.199438
0.75000	-30.525537	1.392439	-1.68E-16	2.28E-17	3.42E-15	-27.460829
1.00000	-30.525537	2.086194	-2.52E-16	2.28E-17	3.48E-15	-27.895658

COMB COMB5 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-30.525537	-0.688827	8.43E-17	2.28E-17	3.39E-15	-27.196974
0.25000	-30.525537	0.004928	3.03E-19	2.28E-17	3.38E-15	-27.111487
0.50000	-30.525537	0.696683	-8.37E-17	2.28E-17	3.39E-15	-27.199438
0.75000	-30.525537	1.392439	-1.68E-16	2.28E-17	3.42E-15	-27.460829
1.00000	-30.525537	2.086194	-2.52E-16	2.28E-17	3.48E-15	-27.895658

COMB COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-18.916484	-5.376529	6.51E-16	-1.26E-19	3.07E-15	-24.612237
0.25000	-18.916484	-4.775875	5.78E-16	-1.26E-19	2.91E-15	-23.343187
0.50000	-18.916484	-4.175221	5.06E-16	-1.26E-19	2.78E-15	-22.224300
0.75000	-18.916484	-3.574567	4.33E-16	-1.26E-19	2.66E-15	-21.255576
1.00000	-18.916484	-2.973913	3.60E-16	-1.26E-19	2.56E-15	-20.437016

COMB COMB6 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-18.916484	-5.376529	6.51E-16	-1.26E-19	3.07E-15	-24.612237

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
0.25000	-18.916484	-4.775875	5.78E-16	-1.26E-19	2.91E-15	-23.343187
0.50000	-18.916484	-4.175221	5.06E-16	-1.26E-19	2.78E-15	-22.224300
0.75000	-18.916484	-3.574567	4.33E-16	-1.26E-19	2.66E-15	-21.255576
1.00000	-18.916484	-2.973913	3.60E-16	-1.26E-19	2.56E-15	-20.437016

COMB COMB7 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-15.932251	-2.173947	2.63E-16	-1.54E-17	1.43E-15	-11.123212
0.25000	-15.932251	-1.723457	2.08E-16	-1.54E-17	1.37E-15	-10.636036
0.50000	-15.932251	-1.272966	1.54E-16	-1.54E-17	1.33E-15	-10.261484
0.75000	-15.932251	-0.822476	9.90E-17	-1.54E-17	1.30E-15	-9.999553
1.00000	-15.932251	-0.371985	4.44E-17	-1.54E-17	1.28E-15	-9.850246

COMB COMB7 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-15.932251	-2.173947	2.63E-16	-1.54E-17	1.43E-15	-11.123212
0.25000	-15.932251	-1.723457	2.08E-16	-1.54E-17	1.37E-15	-10.636036
0.50000	-15.932251	-1.272966	1.54E-16	-1.54E-17	1.33E-15	-10.261484
0.75000	-15.932251	-0.822476	9.90E-17	-1.54E-17	1.30E-15	-9.999553
1.00000	-15.932251	-0.371985	4.44E-17	-1.54E-17	1.28E-15	-9.850246

COMB COMB8 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-13.459138	-3.721627	4.51E-16	1.52E-17	2.81E-15	-22.601101
0.25000	-13.459138	-3.271136	3.97E-16	1.52E-17	2.70E-15	-21.727005
0.50000	-13.459138	-2.820646	3.42E-16	1.52E-17	2.61E-15	-20.965533
0.75000	-13.459138	-2.370155	2.88E-16	1.52E-17	2.53E-15	-20.316682
1.00000	-13.459138	-1.919665	2.33E-16	1.52E-17	2.47E-15	-19.780455

COMB COMB8 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-13.459138	-3.721627	4.51E-16	1.52E-17	2.81E-15	-22.601101
0.25000	-13.459138	-3.271136	3.97E-16	1.52E-17	2.70E-15	-21.727005
0.50000	-13.459138	-2.820646	3.42E-16	1.52E-17	2.61E-15	-20.965533
0.75000	-13.459138	-2.370155	2.88E-16	1.52E-17	2.53E-15	-20.316682
1.00000	-13.459138	-1.919665	2.33E-16	1.52E-17	2.47E-15	-19.780455

ELEM 29 ========== LENGTH = 1.000000

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-42.157166	-16.904119	2.05E-15	-1.95E-19	3.54E-15	-28.288824
0.25000	-42.157166	-16.191863	1.96E-15	-1.95E-19	3.04E-15	-24.151827
0.50000	-42.157166	-15.479608	1.87E-15	-1.95E-19	2.56E-15	-20.192893
0.75000	-42.157166	-14.767352	1.79E-15	-1.95E-19	2.10E-15	-16.412023
1.00000	-42.157166	-14.055097	1.70E-15	-1.95E-19	1.67E-15	-12.809216

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-42.157166	-16.904119	2.05E-15	-1.95E-19	3.54E-15	-28.288824
0.25000	-42.157166	-16.191863	1.96E-15	-1.95E-19	3.04E-15	-24.151827
0.50000	-42.157166	-15.479608	1.87E-15	-1.95E-19	2.56E-15	-20.192893
0.75000	-42.157166	-14.767352	1.79E-15	-1.95E-19	2.10E-15	-16.412023
1.00000	-42.157166	-14.055097	1.70E-15	-1.95E-19	1.67E-15	-12.809216

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-59.307636	-3.308438	4.01E-16	-1.29E-19	1.28E-15	-10.312700
0.25000	-59.307636	-2.850560	3.45E-16	-1.29E-19	1.19E-15	-9.542825
0.50000	-59.307636	-2.392681	2.90E-16	-1.29E-19	1.11E-15	-8.887420
0.75000	-59.307636	-1.934803	2.34E-16	-1.29E-19	1.04E-15	-8.346484
1.00000	-59.307636	-1.476924	1.79E-16	-1.29E-19	9.93E-16	-7.920018

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-59.307636	-3.308438	4.01E-16	-1.29E-19	1.28E-15	-10.312700
0.25000	-59.307636	-2.850560	3.45E-16	-1.29E-19	1.19E-15	-9.542825
0.50000	-59.307636	-2.392681	2.90E-16	-1.29E-19	1.11E-15	-8.887420
0.75000	-59.307636	-1.934803	2.34E-16	-1.29E-19	1.04E-15	-8.346484
1.00000	-59.307636	-1.476924	1.79E-16	-1.29E-19	9.93E-16	-7.920018

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	2.932075	-27.486012	3.33E-15	-1.91E-19	4.93E-15	-39.310987
0.25000	2.932075	-26.773757	3.24E-15	-1.91E-19	4.11E-15	-32.528516
0.50000	2.932075	-26.061501	3.16E-15	-1.91E-19	3.31E-15	-25.924108
0.75000	2.932075	-25.349246	3.07E-15	-1.91E-19	2.53E-15	-19.497765
1.00000	2.932075	-24.636990	2.98E-15	-1.91E-19	1.78E-15	-13.249485

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	2.932075	-27.486012	3.33E-15	-1.91E-19	4.93E-15	-39.310987
0.25000	2.932075	-26.773757	3.24E-15	-1.91E-19	4.11E-15	-32.528516
0.50000	2.932075	-26.061501	3.16E-15	-1.91E-19	3.31E-15	-25.924108
0.75000	2.932075	-25.349246	3.07E-15	-1.91E-19	2.53E-15	-19.497765
1.00000	2.932075	-24.636990	2.98E-15	-1.91E-19	1.78E-15	-13.249485

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-34.235207	-10.557934	1.28E-15	-2.31E-17	1.69E-15	-13.000344
0.25000	-34.235207	-10.023742	1.21E-15	-2.31E-17	1.38E-15	-10.427635
0.50000	-34.235207	-9.489551	1.15E-15	-2.31E-17	1.09E-15	-7.988473
0.75000	-34.235207	-8.955359	1.08E-15	-2.31E-17	8.06E-16	-5.682859
1.00000	-34.235207	-8.421167	1.02E-15	-2.31E-17	5.43E-16	-3.510794

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-34.235207	-10.557934	1.28E-15	-2.31E-17	1.69E-15	-13.000344
0.25000	-34.235207	-10.023742	1.21E-15	-2.31E-17	1.38E-15	-10.427635
0.50000	-34.235207	-9.489551	1.15E-15	-2.31E-17	1.09E-15	-7.988473
0.75000	-34.235207	-8.955359	1.08E-15	-2.31E-17	8.06E-16	-5.682859
1.00000	-34.235207	-8.421167	1.02E-15	-2.31E-17	5.43E-16	-3.510794

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-30.525537	-13.322413	1.61E-15	2.28E-17	3.48E-15	-27.895658
0.25000	-30.525537	-12.788221	1.55E-15	2.28E-17	3.08E-15	-24.631828
0.50000	-30.525537	-12.254030	1.48E-15	2.28E-17	2.70E-15	-21.501547
0.75000	-30.525537	-11.719838	1.42E-15	2.28E-17	2.34E-15	-18.504814
1.00000	-30.525537	-11.185646	1.36E-15	2.28E-17	1.99E-15	-15.641628

COMB COMB5 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-30.525537	-13.322413	1.61E-15	2.28E-17	3.48E-15	-27.895658
0.25000	-30.525537	-12.788221	1.55E-15	2.28E-17	3.08E-15	-24.631828
0.50000	-30.525537	-12.254030	1.48E-15	2.28E-17	2.70E-15	-21.501547
0.75000	-30.525537	-11.719838	1.42E-15	2.28E-17	2.34E-15	-18.504814
1.00000	-30.525537	-11.185646	1.36E-15	2.28E-17	1.99E-15	-15.641628

COMB COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-18.916484	-12.961760	1.57E-15	-1.26E-19	2.56E-15	-20.437016
0.25000	-18.916484	-12.499256	1.51E-15	-1.26E-19	2.18E-15	-17.254389
0.50000	-18.916484	-12.036753	1.46E-15	-1.26E-19	1.80E-15	-14.187388
0.75000	-18.916484	-11.574249	1.40E-15	-1.26E-19	1.45E-15	-11.236013
1.00000	-18.916484	-11.111746	1.35E-15	-1.26E-19	1.10E-15	-8.400263

COMB COMB6 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-18.916484	-12.961760	1.57E-15	-1.26E-19	2.56E-15	-20.437016
0.25000	-18.916484	-12.499256	1.51E-15	-1.26E-19	2.18E-15	-17.254389
0.50000	-18.916484	-12.036753	1.46E-15	-1.26E-19	1.80E-15	-14.187388
0.75000	-18.916484	-11.574249	1.40E-15	-1.26E-19	1.45E-15	-11.236013
1.00000	-18.916484	-11.111746	1.35E-15	-1.26E-19	1.10E-15	-8.400263

COMB COMB7 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-15.932251	-8.307883	1.01E-15	-1.54E-17	1.28E-15	-9.850246
0.25000	-15.932251	-7.961005	9.64E-16	-1.54E-17	1.03E-15	-7.816635
0.50000	-15.932251	-7.614128	9.22E-16	-1.54E-17	7.96E-16	-5.869743
0.75000	-15.932251	-7.267250	8.80E-16	-1.54E-17	5.71E-16	-4.009571
1.00000	-15.932251	-6.920372	8.37E-16	-1.54E-17	3.56E-16	-2.236118

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB7 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-15.932251	-8.307883	1.01E-15	-1.54E-17	1.28E-15	-9.850246
0.25000	-15.932251	-7.961005	9.64E-16	-1.54E-17	1.03E-15	-7.816635
0.50000	-15.932251	-7.614128	9.22E-16	-1.54E-17	7.96E-16	-5.869743
0.75000	-15.932251	-7.267250	8.80E-16	-1.54E-17	5.71E-16	-4.009571
1.00000	-15.932251	-6.920372	8.37E-16	-1.54E-17	3.56E-16	-2.236118

COMB COMB8 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-13.459138	-10.150869	1.23E-15	1.52E-17	2.47E-15	-19.780455
0.25000	-13.459138	-9.803991	1.19E-15	1.52E-17	2.17E-15	-17.286097
0.50000	-13.459138	-9.457114	1.15E-15	1.52E-17	1.87E-15	-14.878459
0.75000	-13.459138	-9.110236	1.10E-15	1.52E-17	1.59E-15	-12.557541
1.00000	-13.459138	-8.763358	1.06E-15	1.52E-17	1.32E-15	-10.323341

COMB COMB8 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-13.459138	-10.150869	1.23E-15	1.52E-17	2.47E-15	-19.780455
0.25000	-13.459138	-9.803991	1.19E-15	1.52E-17	2.17E-15	-17.286097
0.50000	-13.459138	-9.457114	1.15E-15	1.52E-17	1.87E-15	-14.878459
0.75000	-13.459138	-9.110236	1.10E-15	1.52E-17	1.59E-15	-12.557541
1.00000	-13.459138	-8.763358	1.06E-15	1.52E-17	1.32E-15	-10.323341

ELEM 30 ========== LENGTH = 1.000000

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-42.157166	-11.359713	1.38E-15	-1.95E-19	1.67E-15	-12.809216
0.25000	-42.157166	-10.647457	1.29E-15	-1.95E-19	1.33E-15	-10.058320
0.50000	-42.157166	-9.935202	1.20E-15	-1.95E-19	1.02E-15	-7.485488
0.75000	-42.157166	-9.222946	1.12E-15	-1.95E-19	7.32E-16	-5.090719
1.00000	-42.157166	-8.510691	1.03E-15	-1.95E-19	4.64E-16	-2.874015

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-42.157166	-11.359713	1.38E-15	-1.95E-19	1.67E-15	-12.809216
0.25000	-42.157166	-10.647457	1.29E-15	-1.95E-19	1.33E-15	-10.058320
0.50000	-42.157166	-9.935202	1.20E-15	-1.95E-19	1.02E-15	-7.485488
0.75000	-42.157166	-9.222946	1.12E-15	-1.95E-19	7.32E-16	-5.090719
1.00000	-42.157166	-8.510691	1.03E-15	-1.95E-19	4.64E-16	-2.874015

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-59.307636	-5.690758	6.89E-16	-1.29E-19	9.93E-16	-7.920018
0.25000	-59.307636	-5.232880	6.34E-16	-1.29E-19	8.28E-16	-6.554564
0.50000	-59.307636	-4.775001	5.78E-16	-1.29E-19	6.76E-16	-5.303579

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
0.75000	-59.307636	-4.317122	5.23E-16	-1.29E-19	5.39E-16	-4.167063
1.00000	-59.307636	-3.859244	4.67E-16	-1.29E-19	4.15E-16	-3.145017

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-59.307636	-5.690758	6.89E-16	-1.29E-19	9.93E-16	-7.920018
0.25000	-59.307636	-5.232880	6.34E-16	-1.29E-19	8.28E-16	-6.554564
0.50000	-59.307636	-4.775001	5.78E-16	-1.29E-19	6.76E-16	-5.303579
0.75000	-59.307636	-4.317122	5.23E-16	-1.29E-19	5.39E-16	-4.167063
1.00000	-59.307636	-3.859244	4.67E-16	-1.29E-19	4.15E-16	-3.145017

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	2.932075	-13.616393	1.65E-15	-1.91E-19	1.78E-15	-13.249485
0.25000	2.932075	-12.904138	1.56E-15	-1.91E-19	1.38E-15	-9.934419
0.50000	2.932075	-12.191882	1.48E-15	-1.91E-19	9.96E-16	-6.797417
0.75000	2.932075	-11.479627	1.39E-15	-1.91E-19	6.37E-16	-3.838478
1.00000	2.932075	-10.767371	1.30E-15	-1.91E-19	3.00E-16	-1.057603

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	2.932075	-13.616393	1.65E-15	-1.91E-19	1.78E-15	-13.249485
0.25000	2.932075	-12.904138	1.56E-15	-1.91E-19	1.38E-15	-9.934419
0.50000	2.932075	-12.191882	1.48E-15	-1.91E-19	9.96E-16	-6.797417
0.75000	2.932075	-11.479627	1.39E-15	-1.91E-19	6.37E-16	-3.838478
1.00000	2.932075	-10.767371	1.30E-15	-1.91E-19	3.00E-16	-1.057603

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-34.235207	-7.708364	9.33E-16	-2.31E-17	5.43E-16	-3.510794
0.25000	-34.235207	-7.174173	8.68E-16	-2.31E-17	3.18E-16	-1.650476
0.50000	-34.235207	-6.639981	8.03E-16	-2.31E-17	1.09E-16	0.076293
0.75000	-34.235207	-6.105789	7.39E-16	-2.31E-17	-8.33E-17	1.669514
1.00000	-34.235207	-5.571598	6.74E-16	-2.31E-17	-2.60E-16	3.129188

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-34.235207	-7.708364	9.33E-16	-2.31E-17	5.43E-16	-3.510794
0.25000	-34.235207	-7.174173	8.68E-16	-2.31E-17	3.18E-16	-1.650476
0.50000	-34.235207	-6.639981	8.03E-16	-2.31E-17	1.09E-16	0.076293
0.75000	-34.235207	-6.105789	7.39E-16	-2.31E-17	-8.33E-17	1.669514
1.00000	-34.235207	-5.571598	6.74E-16	-2.31E-17	-2.60E-16	3.129188

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-30.525537	-9.016471	1.09E-15	2.28E-17	1.99E-15	-15.641628

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
0.25000	-30.525537	-8.482280	1.03E-15	2.28E-17	1.73E-15	-13.454284
0.50000	-30.525537	-7.948088	9.63E-16	2.28E-17	1.48E-15	-11.400488
0.75000	-30.525537	-7.413897	8.99E-16	2.28E-17	1.25E-15	-9.480240
1.00000	-30.525537	-6.879705	8.34E-16	2.28E-17	1.03E-15	-7.693540

COMB COMB5 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-30.525537	-9.016471	1.09E-15	2.28E-17	1.99E-15	-15.641628
0.25000	-30.525537	-8.482280	1.03E-15	2.28E-17	1.73E-15	-13.454284
0.50000	-30.525537	-7.948088	9.63E-16	2.28E-17	1.48E-15	-11.400488
0.75000	-30.525537	-7.413897	8.99E-16	2.28E-17	1.25E-15	-9.480240
1.00000	-30.525537	-6.879705	8.34E-16	2.28E-17	1.03E-15	-7.693540

COMB COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-18.916484	-7.799768	9.45E-16	-1.26E-19	1.10E-15	-8.400263
0.25000	-18.916484	-7.337265	8.89E-16	-1.26E-19	8.74E-16	-6.508134
0.50000	-18.916484	-6.874761	8.33E-16	-1.26E-19	6.59E-16	-4.731631
0.75000	-18.916484	-6.412257	7.77E-16	-1.26E-19	4.58E-16	-3.070754
1.00000	-18.916484	-5.949754	7.21E-16	-1.26E-19	2.71E-16	-1.525502

COMB COMB6 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-18.916484	-7.799768	9.45E-16	-1.26E-19	1.10E-15	-8.400263
0.25000	-18.916484	-7.337265	8.89E-16	-1.26E-19	8.74E-16	-6.508134
0.50000	-18.916484	-6.874761	8.33E-16	-1.26E-19	6.59E-16	-4.731631
0.75000	-18.916484	-6.412257	7.77E-16	-1.26E-19	4.58E-16	-3.070754
1.00000	-18.916484	-5.949754	7.21E-16	-1.26E-19	2.71E-16	-1.525502

COMB COMB7 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-15.932251	-5.308879	6.42E-16	-1.54E-17	3.56E-16	-2.236118
0.25000	-15.932251	-4.962001	6.00E-16	-1.54E-17	2.01E-16	-0.952258
0.50000	-15.932251	-4.615124	5.58E-16	-1.54E-17	5.59E-17	0.244883
0.75000	-15.932251	-4.268246	5.16E-16	-1.54E-17	-7.84E-17	1.355304
1.00000	-15.932251	-3.921368	4.74E-16	-1.54E-17	-2.02E-16	2.379006

COMB COMB7 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-15.932251	-5.308879	6.42E-16	-1.54E-17	3.56E-16	-2.236118
0.25000	-15.932251	-4.962001	6.00E-16	-1.54E-17	2.01E-16	-0.952258
0.50000	-15.932251	-4.615124	5.58E-16	-1.54E-17	5.59E-17	0.244883
0.75000	-15.932251	-4.268246	5.16E-16	-1.54E-17	-7.84E-17	1.355304
1.00000	-15.932251	-3.921368	4.74E-16	-1.54E-17	-2.02E-16	2.379006

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB8 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-13.459138	-6.180951	7.49E-16	1.52E-17	1.32E-15	-10.323341
0.25000	-13.459138	-5.834073	7.07E-16	1.52E-17	1.14E-15	-8.821463
0.50000	-13.459138	-5.487195	6.65E-16	1.52E-17	9.68E-16	-7.406305
0.75000	-13.459138	-5.140317	6.23E-16	1.52E-17	8.07E-16	-6.077866
1.00000	-13.459138	-4.793440	5.81E-16	1.52E-17	6.57E-16	-4.836146

COMB COMB8 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-13.459138	-6.180951	7.49E-16	1.52E-17	1.32E-15	-10.323341
0.25000	-13.459138	-5.834073	7.07E-16	1.52E-17	1.14E-15	-8.821463
0.50000	-13.459138	-5.487195	6.65E-16	1.52E-17	9.68E-16	-7.406305
0.75000	-13.459138	-5.140317	6.23E-16	1.52E-17	8.07E-16	-6.077866
1.00000	-13.459138	-4.793440	5.81E-16	1.52E-17	6.57E-16	-4.836146

ELEM 31 ========== LENGTH = 1.000000

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-42.157166	-4.762150	5.77E-16	-1.95E-19	4.64E-16	-2.874015
0.25000	-42.157166	-4.049894	4.90E-16	-1.95E-19	3.30E-16	-1.772509
0.50000	-42.157166	-3.337639	4.04E-16	-1.95E-19	2.19E-16	-0.849067
0.75000	-42.157166	-2.625383	3.18E-16	-1.95E-19	1.28E-16	-0.103690
1.00000	-42.157166	-1.913128	2.32E-16	-1.95E-19	5.95E-17	0.463624

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-42.157166	-4.762150	5.77E-16	-1.95E-19	4.64E-16	-2.874015
0.25000	-42.157166	-4.049894	4.90E-16	-1.95E-19	3.30E-16	-1.772509
0.50000	-42.157166	-3.337639	4.04E-16	-1.95E-19	2.19E-16	-0.849067
0.75000	-42.157166	-2.625383	3.18E-16	-1.95E-19	1.28E-16	-0.103690
1.00000	-42.157166	-1.913128	2.32E-16	-1.95E-19	5.95E-17	0.463624

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-59.307636	-3.487980	4.22E-16	-1.29E-19	4.15E-16	-3.145017
0.25000	-59.307636	-3.030102	3.67E-16	-1.29E-19	3.16E-16	-2.330257
0.50000	-59.307636	-2.572223	3.12E-16	-1.29E-19	2.31E-16	-1.629967
0.75000	-59.307636	-2.114344	2.56E-16	-1.29E-19	1.60E-16	-1.044146
1.00000	-59.307636	-1.656466	2.01E-16	-1.29E-19	1.03E-16	-0.572794

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-59.307636	-3.487980	4.22E-16	-1.29E-19	4.15E-16	-3.145017
0.25000	-59.307636	-3.030102	3.67E-16	-1.29E-19	3.16E-16	-2.330257
0.50000	-59.307636	-2.572223	3.12E-16	-1.29E-19	2.31E-16	-1.629967

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
0.75000	-59.307636	-2.114344	2.56E-16	-1.29E-19	1.60E-16	-1.044146
1.00000	-59.307636	-1.656466	2.01E-16	-1.29E-19	1.03E-16	-0.572794

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	2.932075	-4.164912	5.04E-16	-1.91E-19	3.00E-16	-1.057603
0.25000	2.932075	-3.452657	4.18E-16	-1.91E-19	1.85E-16	-0.105407
0.50000	2.932075	-2.740401	3.32E-16	-1.91E-19	9.14E-17	0.668725
0.75000	2.932075	-2.028146	2.46E-16	-1.91E-19	1.92E-17	1.264793
1.00000	2.932075	-1.315890	1.59E-16	-1.91E-19	-3.14E-17	1.682798

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	2.932075	-4.164912	5.04E-16	-1.91E-19	3.00E-16	-1.057603
0.25000	2.932075	-3.452657	4.18E-16	-1.91E-19	1.85E-16	-0.105407
0.50000	2.932075	-2.740401	3.32E-16	-1.91E-19	9.14E-17	0.668725
0.75000	2.932075	-2.028146	2.46E-16	-1.91E-19	1.92E-17	1.264793
1.00000	2.932075	-1.315890	1.59E-16	-1.91E-19	-3.14E-17	1.682798

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-34.235207	-3.462353	4.18E-16	-2.31E-17	-2.60E-16	3.129188
0.25000	-34.235207	-2.928161	3.54E-16	-2.31E-17	-3.56E-16	3.928002
0.50000	-34.235207	-2.393970	2.89E-16	-2.31E-17	-4.37E-16	4.593268
0.75000	-34.235207	-1.859778	2.24E-16	-2.31E-17	-5.01E-16	5.124987
1.00000	-34.235207	-1.325586	1.60E-16	-2.31E-17	-5.49E-16	5.523157

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-34.235207	-3.462353	4.18E-16	-2.31E-17	-2.60E-16	3.129188
0.25000	-34.235207	-2.928161	3.54E-16	-2.31E-17	-3.56E-16	3.928002
0.50000	-34.235207	-2.393970	2.89E-16	-2.31E-17	-4.37E-16	4.593268
0.75000	-34.235207	-1.859778	2.24E-16	-2.31E-17	-5.01E-16	5.124987
1.00000	-34.235207	-1.325586	1.60E-16	-2.31E-17	-5.49E-16	5.523157

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-30.525537	-3.764167	4.57E-16	2.28E-17	1.03E-15	-7.693540
0.25000	-30.525537	-3.229975	3.92E-16	2.28E-17	9.23E-16	-6.819272
0.50000	-30.525537	-2.695784	3.27E-16	2.28E-17	8.33E-16	-6.078552
0.75000	-30.525537	-2.161592	2.63E-16	2.28E-17	7.59E-16	-5.471380
1.00000	-30.525537	-1.627400	1.98E-16	2.28E-17	7.01E-16	-4.997756

COMB COMB5 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-30.525537	-3.764167	4.57E-16	2.28E-17	1.03E-15	-7.693540

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
0.25000	-30.525537	-3.229975	3.92E-16	2.28E-17	9.23E-16	-6.819272
0.50000	-30.525537	-2.695784	3.27E-16	2.28E-17	8.33E-16	-6.078552
0.75000	-30.525537	-2.161592	2.63E-16	2.28E-17	7.59E-16	-5.471380
1.00000	-30 525537	-1.627400	1.98E-16	2.28E-17	7.01E-16	-4.997756

COMB COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-18.916484	-2.980269	3.61E-16	-1.26E-19	2.71E-16	-1.525502
0.25000	-18.916484	-2.517765	3.05E-16	-1.26E-19	1.87E-16	-0.838248
0.50000	-18.916484	-2.055262	2.49E-16	-1.26E-19	1.18E-16	-0.266620
0.75000	-18.916484	-1.592758	1.93E-16	-1.26E-19	6.28E-17	0.189383
1.00000	-18.916484	-1.130255	1.37E-16	-1.26E-19	2.16E-17	0.529760

COMB COMB6 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-18.916484	-2.980269	3.61E-16	-1.26E-19	2.71E-16	-1.525502
0.25000	-18.916484	-2.517765	3.05E-16	-1.26E-19	1.87E-16	-0.838248
0.50000	-18.916484	-2.055262	2.49E-16	-1.26E-19	1.18E-16	-0.266620
0.75000	-18.916484	-1.592758	1.93E-16	-1.26E-19	6.28E-17	0.189383
1.00000	-18.916484	-1.130255	1.37E-16	-1.26E-19	2.16E-17	0.529760

COMB COMB7 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-15.932251	-2.162362	2.61E-16	-1.54E-17	-2.02E-16	2.379006
0.25000	-15.932251	-1.815484	2.19E-16	-1.54E-17	-2.62E-16	2.876236
0.50000	-15.932251	-1.468607	1.77E-16	-1.54E-17	-3.12E-16	3.286748
0.75000	-15.932251	-1.121729	1.35E-16	-1.54E-17	-3.51E-16	3.610540
1.00000	-15.932251	-0.774851	9.32E-17	-1.54E-17	-3.79E-16	3.847612

COMB COMB7 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-15.932251	-2.162362	2.61E-16	-1.54E-17	-2.02E-16	2.379006
0.25000	-15.932251	-1.815484	2.19E-16	-1.54E-17	-2.62E-16	2.876236
0.50000	-15.932251	-1.468607	1.77E-16	-1.54E-17	-3.12E-16	3.286748
0.75000	-15.932251	-1.121729	1.35E-16	-1.54E-17	-3.51E-16	3.610540
1.00000	-15.932251	-0.774851	9.32E-17	-1.54E-17	-3.79E-16	3.847612

COMB COMB8 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-13.459138	-2.363572	2.87E-16	1.52E-17	6.57E-16	-4.836146
0.25000	-13.459138	-2.016694	2.45E-16	1.52E-17	5.90E-16	-4.288613
0.50000	-13.459138	-1.669816	2.03E-16	1.52E-17	5.34E-16	-3.827799
0.75000	-13.459138	-1.322939	1.61E-16	1.52E-17	4.89E-16	-3.453705
1.00000	-13.459138	-0.976061	1.19E-16	1.52E-17	4.54E-16	-3.166330

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB8 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-13.459138	-2.363572	2.87E-16	1.52E-17	6.57E-16	-4.836146
0.25000	-13.459138	-2.016694	2.45E-16	1.52E-17	5.90E-16	-4.288613
0.50000	-13.459138	-1.669816	2.03E-16	1.52E-17	5.34E-16	-3.827799
0.75000	-13.459138	-1.322939	1.61E-16	1.52E-17	4.89E-16	-3.453705
1.00000	-13.459138	-0.976061	1.19E-16	1.52E-17	4.54E-16	-3.166330

ELEM 32 ========== LENGTH = 1.000000

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-42.157166	-1.669868	2.02E-16	-1.95E-19	5.95E-17	0.463624
0.25000	-42.157166	-0.957613	1.16E-16	-1.95E-19	1.98E-17	0.792059
0.50000	-42.157166	-0.245357	2.97E-17	-1.95E-19	1.56E-18	0.942430
0.75000	-42.157166	0.466898	-5.66E-17	-1.95E-19	4.92E-18	0.914738
1.00000	-42.157166	1.179154	-1.43E-16	-1.95E-19	2.98E-17	0.708981

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-42.157166	-1.669868	2.02E-16	-1.95E-19	5.95E-17	0.463624
0.25000	-42.157166	-0.957613	1.16E-16	-1.95E-19	1.98E-17	0.792059
0.50000	-42.157166	-0.245357	2.97E-17	-1.95E-19	1.56E-18	0.942430
0.75000	-42.157166	0.466898	-5.66E-17	-1.95E-19	4.92E-18	0.914738
1.00000	-42.157166	1.179154	-1.43E-16	-1.95E-19	2.98E-17	0.708981

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-59.307636	-1.663796	2.01E-16	-1.29E-19	1.03E-16	-0.572794
0.25000	-59.307636	-1.205917	1.46E-16	-1.29E-19	5.96E-17	-0.214080
0.50000	-59.307636	-0.748039	9.06E-17	-1.29E-19	3.02E-17	0.030164
0.75000	-59.307636	-0.290160	3.51E-17	-1.29E-19	1.45E-17	0.159939
1.00000	-59.307636	0.167718	-2.03E-17	-1.29E-19	1.26E-17	0.175244

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-59.307636	-1.663796	2.01E-16	-1.29E-19	1.03E-16	-0.572794
0.25000	-59.307636	-1.205917	1.46E-16	-1.29E-19	5.96E-17	-0.214080
0.50000	-59.307636	-0.748039	9.06E-17	-1.29E-19	3.02E-17	0.030164
0.75000	-59.307636	-0.290160	3.51E-17	-1.29E-19	1.45E-17	0.159939
1.00000	-59.307636	0.167718	-2.03E-17	-1.29E-19	1.26E-17	0.175244

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	2.932075	-0.843436	1.02E-16	-1.91E-19	-3.14E-17	1.682798
0.25000	2.932075	-0.131180	1.59E-17	-1.91E-19	-4.61E-17	1.804625
0.50000	2.932075	0.581075	-7.04E-17	-1.91E-19	-3.93E-17	1.748388

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
0.75000	2.932075	1.293331	-1.57E-16	-1.91E-19	-1.09E-17	1.514087
1.00000	2.932075	2.005586	-2.43E-16	-1.91E-19	3.90E-17	1.101722

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	2.932075	-0.843436	1.02E-16	-1.91E-19	-3.14E-17	1.682798
0.25000	2.932075	-0.131180	1.59E-17	-1.91E-19	-4.61E-17	1.804625
0.50000	2.932075	0.581075	-7.04E-17	-1.91E-19	-3.90E-17	1.748388
0.75000	2.932075	1.293331	-1.57E-16	-1.91E-19	-1.09E-17	1.514087
1.00000	2.932075	2.005586	-2.43E-16	-1.91E-19	3.90E-17	1.101722

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-34.235207	-1.337268	1.61E-16	-2.31E-17	-5.49E-16	5.523157
0.25000	-34.235207	-0.803077	9.63E-17	-2.31E-17	-5.81E-16	5.790700
0.50000	-34.235207	-0.268885	3.17E-17	-2.31E-17	-5.97E-16	5.924695
0.75000	-34.235207	0.265307	-3.30E-17	-2.31E-17	-5.97E-16	5.925143
1.00000	-34.235207	0.799498	-9.77E-17	-2.31E-17	-5.81E-16	5.792042

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-34.235207	-1.337268	1.61E-16	-2.31E-17	-5.49E-16	5.523157
0.25000	-34.235207	-0.803077	9.63E-17	-2.31E-17	-5.81E-16	5.790700
0.50000	-34.235207	-0.268885	3.17E-17	-2.31E-17	-5.97E-16	5.924695
0.75000	-34.235207	0.265307	-3.30E-17	-2.31E-17	-5.97E-16	5.925143
1.00000	-34.235207	0.799498	-9.77E-17	-2.31E-17	-5.81E-16	5.792042

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-30.525537	-1.282795	1.56E-16	2.28E-17	7.01E-16	-4.997756
0.25000	-30.525537	-0.748603	9.16E-17	2.28E-17	6.70E-16	-4.743832
0.50000	-30.525537	-0.214412	2.69E-17	2.28E-17	6.56E-16	-4.623455
0.75000	-30.525537	0.319780	-3.78E-17	2.28E-17	6.57E-16	-4.636626
1.00000	-30.525537	0.853971	-1.03E-16	2.28E-17	6.75E-16	-4.783345

COMB COMB5 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-30.525537	-1.282795	1.56E-16	2.28E-17	7.01E-16	-4.997756
0.25000	-30.525537	-0.748603	9.16E-17	2.28E-17	6.70E-16	-4.743832
0.50000	-30.525537	-0.214412	2.69E-17	2.28E-17	6.56E-16	-4.623455
0.75000	-30.525537	0.319780	-3.78E-17	2.28E-17	6.57E-16	-4.636626
1.00000	-30.525537	0.853971	-1.03E-16	2.28E-17	6.75E-16	-4.783345

COMB COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-18.916484	-0.929299	1.13E-16	-1.26E-19	2.16E-17	0.529760

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
0.25000	-18.916484	-0.466796	5.65E-17	-1.26E-19	4.75E-19	0.704272
0.50000	-18.916484	-0.004292	5.16E-19	-1.26E-19	-6.66E-18	0.763158
0.75000	-18.916484	0.458211	-5.55E-17	-1.26E-19	2.17E-19	0.706418
1.00000	-18.916484	0.920715	-1.12E-16	-1.26E-19	2.11E-17	0.534052

COMB COMB6 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-18.916484	-0.929299	1.13E-16	-1.26E-19	2.16E-17	0.529760
0.25000	-18.916484	-0.466796	5.65E-17	-1.26E-19	4.75E-19	0.704272
0.50000	-18.916484	-0.004292	5.16E-19	-1.26E-19	-6.66E-18	0.763158
0.75000	-18.916484	0.458211	-5.55E-17	-1.26E-19	2.17E-19	0.706418
1.00000	-18.916484	0.920715	-1.12E-16	-1.26E-19	2.11E-17	0.534052

COMB COMB7 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-15.932251	-0.753553	9.07E-17	-1.54E-17	-3.79E-16	3.847612
0.25000	-15.932251	-0.406675	4.86E-17	-1.54E-17	-3.97E-16	3.992641
0.50000	-15.932251	-0.059797	6.64E-18	-1.54E-17	-4.04E-16	4.050950
0.75000	-15.932251	0.287081	-3.54E-17	-1.54E-17	-4.00E-16	4.022539
1.00000	-15.932251	0.633958	-7.74E-17	-1.54E-17	-3.86E-16	3.907410

COMB COMB7 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-15.932251	-0.753553	9.07E-17	-1.54E-17	-3.79E-16	3.847612
0.25000	-15.932251	-0.406675	4.86E-17	-1.54E-17	-3.97E-16	3.992641
0.50000	-15.932251	-0.059797	6.64E-18	-1.54E-17	-4.04E-16	4.050950
0.75000	-15.932251	0.287081	-3.54E-17	-1.54E-17	-4.00E-16	4.022539
1.00000	-15.932251	0.633958	-7.74E-17	-1.54E-17	-3.86E-16	3.907410

COMB COMB8 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-13.459138	-0.717237	8.75E-17	1.52E-17	4.54E-16	-3.166330
0.25000	-13.459138	-0.370359	4.55E-17	1.52E-17	4.37E-16	-3.030380
0.50000	-13.459138	-0.023482	3.44E-18	1.52E-17	4.31E-16	-2.981150
0.75000	-13.459138	0.323396	-3.86E-17	1.52E-17	4.36E-16	-3.018639
1.00000	-13.459138	0.670274	-8.06E-17	1.52E-17	4.51E-16	-3.142848

COMB COMB8 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-13.459138	-0.717237	8.75E-17	1.52E-17	4.54E-16	-3.166330
0.25000	-13.459138	-0.370359	4.55E-17	1.52E-17	4.37E-16	-3.030380
0.50000	-13.459138	-0.023482	3.44E-18	1.52E-17	4.31E-16	-2.981150
0.75000	-13.459138	0.323396	-3.86E-17	1.52E-17	4.36E-16	-3.018639
1.00000	-13.459138	0.670274	-8.06E-17	1.52E-17	4.51E-16	-3.142848

F R A M E E L E M E N T I N T E R N A L F O R C E S

ELEM 33 ========== LENGTH = 1.000000

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-42.157166	-1.063298	1.29E-16	-1.95E-19	2.98E-17	0.708981
0.25000	-42.157166	-0.351043	4.25E-17	-1.95E-19	8.43E-18	0.885774
0.50000	-42.157166	0.361213	-4.38E-17	-1.95E-19	8.58E-18	0.884503
0.75000	-42.157166	1.073468	-1.30E-16	-1.95E-19	3.03E-17	0.705168
1.00000	-42.157166	1.785724	-2.16E-16	-1.95E-19	7.36E-17	0.347769

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-42.157166	-1.063298	1.29E-16	-1.95E-19	2.98E-17	0.708981
0.25000	-42.157166	-0.351043	4.25E-17	-1.95E-19	8.43E-18	0.885774
0.50000	-42.157166	0.361213	-4.38E-17	-1.95E-19	8.58E-18	0.884503
0.75000	-42.157166	1.073468	-1.30E-16	-1.95E-19	3.03E-17	0.705168
1.00000	-42.157166	1.785724	-2.16E-16	-1.95E-19	7.36E-17	0.347769

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-59.307636	-0.975329	1.18E-16	-1.29E-19	1.26E-17	0.175244
0.25000	-59.307636	-0.517451	6.27E-17	-1.29E-19	-9.96E-18	0.361842
0.50000	-59.307636	-0.059572	7.21E-18	-1.29E-19	-1.87E-17	0.433970
0.75000	-59.307636	0.398306	-4.82E-17	-1.29E-19	-1.36E-17	0.391628
1.00000	-59.307636	0.856185	-1.04E-16	-1.29E-19	5.43E-18	0.234817

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-59.307636	-0.975329	1.18E-16	-1.29E-19	1.26E-17	0.175244
0.25000	-59.307636	-0.517451	6.27E-17	-1.29E-19	-9.96E-18	0.361842
0.50000	-59.307636	-0.059572	7.21E-18	-1.29E-19	-1.87E-17	0.433970
0.75000	-59.307636	0.398306	-4.82E-17	-1.29E-19	-1.36E-17	0.391628
1.00000	-59.307636	0.856185	-1.04E-16	-1.29E-19	5.43E-18	0.234817

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	2.932075	-0.654805	7.93E-17	-1.91E-19	3.90E-17	1.101722
0.25000	2.932075	0.057450	-6.96E-18	-1.91E-19	3.00E-17	1.176392
0.50000	2.932075	0.769706	-9.32E-17	-1.91E-19	4.25E-17	1.072997
0.75000	2.932075	1.481961	-1.79E-16	-1.91E-19	7.66E-17	0.791539
1.00000	2.932075	2.194217	-2.66E-16	-1.91E-19	1.32E-16	0.332017

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	2.932075	-0.654805	7.93E-17	-1.91E-19	3.90E-17	1.101722
0.25000	2.932075	0.057450	-6.96E-18	-1.91E-19	3.00E-17	1.176392
0.50000	2.932075	0.769706	-9.32E-17	-1.91E-19	4.25E-17	1.072997

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
0.75000	2.932075	1.481961	-1.79E-16	-1.91E-19	7.66E-17	0.791539
1.00000	2.932075	2.194217	-2.66E-16	-1.91E-19	1.32E-16	0.332017

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-34.235207	-0.865189	1.04E-16	-2.31E-17	-5.81E-16	5.792042
0.25000	-34.235207	-0.330997	3.92E-17	-2.31E-17	-5.98E-16	5.941565
0.50000	-34.235207	0.203194	-2.55E-17	-2.31E-17	-6.00E-16	5.957541
0.75000	-34.235207	0.737386	-9.02E-17	-2.31E-17	-5.86E-16	5.839968
1.00000	-34.235207	1.271578	-1.55E-16	-2.31E-17	-5.55E-16	5.588848

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-34.235207	-0.865189	1.04E-16	-2.31E-17	-5.81E-16	5.792042
0.25000	-34.235207	-0.330997	3.92E-17	-2.31E-17	-5.98E-16	5.941565
0.50000	-34.235207	0.203194	-2.55E-17	-2.31E-17	-6.00E-16	5.957541
0.75000	-34.235207	0.737386	-9.02E-17	-2.31E-17	-5.86E-16	5.839968
1.00000	-34.235207	1.271578	-1.55E-16	-2.31E-17	-5.55E-16	5.588848

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-30.525537	-0.786730	9.62E-17	2.28E-17	6.75E-16	-4.783345
0.25000	-30.525537	-0.252538	3.15E-17	2.28E-17	6.59E-16	-4.653436
0.50000	-30.525537	0.281653	-3.32E-17	2.28E-17	6.59E-16	-4.657075
0.75000	-30.525537	0.815845	-9.79E-17	2.28E-17	6.75E-16	-4.794263
1.00000	-30.525537	1.350037	-1.63E-16	2.28E-17	7.08E-16	-5.064998

COMB COMB5 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-30.525537	-0.786730	9.62E-17	2.28E-17	6.75E-16	-4.783345
0.25000	-30.525537	-0.252538	3.15E-17	2.28E-17	6.59E-16	-4.653436
0.50000	-30.525537	0.281653	-3.32E-17	2.28E-17	6.59E-16	-4.657075
0.75000	-30.525537	0.815845	-9.79E-17	2.28E-17	6.75E-16	-4.794263
1.00000	-30.525537	1.350037	-1.63E-16	2.28E-17	7.08E-16	-5.064998

COMB COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-18.916484	-0.613824	7.43E-17	-1.26E-19	2.11E-17	0.534052
0.25000	-18.916484	-0.151321	1.83E-17	-1.26E-19	9.51E-18	0.629696
0.50000	-18.916484	0.311183	-3.77E-17	-1.26E-19	1.19E-17	0.609712
0.75000	-18.916484	0.773687	-9.37E-17	-1.26E-19	2.84E-17	0.474103
1.00000	-18.916484	1.236190	-1.50E-16	-1.26E-19	5.88E-17	0.222869

COMB COMB6 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-18.916484	-0.613824	7.43E-17	-1.26E-19	2.11E-17	0.534052

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
0.25000	-18.916484	-0.151321	1.83E-17	-1.26E-19	9.51E-18	0.629695
0.50000	-18.916484	0.311183	-3.77E-17	-1.26E-19	1.19E-17	0.609712
0.75000	-18.916484	0.773687	-9.37E-17	-1.26E-19	2.84E-17	0.474103
1.00000	-18.916484	1.236190	-1.50E-16	-1.26E-19	5.88E-17	0.222869

COMB COMB7 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-15.932251	-0.505512	6.06E-17	-1.54E-17	-3.86E-16	3.907410
0.25000	-15.932251	-0.158634	1.86E-17	-1.54E-17	-3.96E-16	3.990428
0.50000	-15.932251	0.188244	-2.34E-17	-1.54E-17	-3.95E-16	3.986727
0.75000	-15.932251	0.535121	-6.54E-17	-1.54E-17	-3.84E-16	3.896306
1.00000	-15.932251	0.881999	-1.07E-16	-1.54E-17	-3.63E-16	3.719166

COMB COMB7 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-15.932251	-0.505512	6.06E-17	-1.54E-17	-3.86E-16	3.907410
0.25000	-15.932251	-0.158634	1.86E-17	-1.54E-17	-3.96E-16	3.990428
0.50000	-15.932251	0.188244	-2.34E-17	-1.54E-17	-3.95E-16	3.986727
0.75000	-15.932251	0.535121	-6.54E-17	-1.54E-17	-3.84E-16	3.896306
1.00000	-15.932251	0.881999	-1.07E-16	-1.54E-17	-3.63E-16	3.719166

COMB COMB8 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-13.459138	-0.453206	5.55E-17	1.52E-17	4.51E-16	-3.142848
0.25000	-13.459138	-0.106328	1.35E-17	1.52E-17	4.42E-16	-3.072906
0.50000	-13.459138	0.240550	-2.85E-17	1.52E-17	4.44E-16	-3.089684
0.75000	-13.459138	0.587427	-7.05E-17	1.52E-17	4.56E-16	-3.193181
1.00000	-13.459138	0.934305	-1.13E-16	1.52E-17	4.79E-16	-3.383398

COMB COMB8 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-13.459138	-0.453206	5.55E-17	1.52E-17	4.51E-16	-3.142848
0.25000	-13.459138	-0.106328	1.35E-17	1.52E-17	4.42E-16	-3.072906
0.50000	-13.459138	0.240550	-2.85E-17	1.52E-17	4.44E-16	-3.089684
0.75000	-13.459138	0.587427	-7.05E-17	1.52E-17	4.56E-16	-3.193181
1.00000	-13.459138	0.934305	-1.13E-16	1.52E-17	4.79E-16	-3.383398

ELEM 34 ========== LENGTH = 1.000000

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-42.157166	-1.424333	1.72E-16	-1.95E-19	7.36E-17	0.347769
0.25000	-42.157166	-0.712078	8.62E-17	-1.95E-19	4.12E-17	0.614820
0.50000	-42.157166	0.000178	-2.82E-20	-1.95E-19	3.05E-17	0.703808
0.75000	-42.157166	0.712433	-8.63E-17	-1.95E-19	4.13E-17	0.614731
1.00000	-42.157166	1.424689	-1.73E-16	-1.95E-19	7.36E-17	0.347591

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-42.157166	-1.424333	1.72E-16	-1.95E-19	7.36E-17	0.347769
0.25000	-42.157166	-0.712078	8.62E-17	-1.95E-19	4.12E-17	0.614820
0.50000	-42.157166	0.000178	-2.82E-20	-1.95E-19	3.05E-17	0.703808
0.75000	-42.157166	0.712433	-8.63E-17	-1.95E-19	4.13E-17	0.614731
1.00000	-42.157166	1.424689	-1.73E-16	-1.95E-19	7.36E-17	0.347591

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-59.307636	-0.915644	1.11E-16	-1.29E-19	5.43E-18	0.234817
0.25000	-59.307636	-0.457765	5.54E-17	-1.29E-19	-1.54E-17	0.406493
0.50000	-59.307636	0.000113	-1.82E-20	-1.29E-19	-2.23E-17	0.463699
0.75000	-59.307636	0.457992	-5.55E-17	-1.29E-19	-1.54E-17	0.406436
1.00000	-59.307636	0.915870	-1.11E-16	-1.29E-19	5.44E-18	0.234703

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-59.307636	-0.915644	1.11E-16	-1.29E-19	5.43E-18	0.234817
0.25000	-59.307636	-0.457765	5.54E-17	-1.29E-19	-1.54E-17	0.406493
0.50000	-59.307636	0.000113	-1.82E-20	-1.29E-19	-2.23E-17	0.463699
0.75000	-59.307636	0.457992	-5.55E-17	-1.29E-19	-1.54E-17	0.406436
1.00000	-59.307636	0.915870	-1.11E-16	-1.29E-19	5.44E-18	0.234703

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	2.932075	-1.424332	1.72E-16	-1.91E-19	1.32E-16	0.332017
0.25000	2.932075	-0.712077	8.62E-17	-1.91E-19	9.99E-17	0.599068
0.50000	2.932075	0.000179	-2.81E-20	-1.91E-19	8.91E-17	0.688055
0.75000	2.932075	0.712434	-8.63E-17	-1.91E-19	9.99E-17	0.598979
1.00000	2.932075	1.424690	-1.73E-16	-1.91E-19	1.32E-16	0.331838

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	2.932075	-1.424332	1.72E-16	-1.91E-19	1.32E-16	0.332017
0.25000	2.932075	-0.712077	8.62E-17	-1.91E-19	9.99E-17	0.599068
0.50000	2.932075	0.000179	-2.81E-20	-1.91E-19	8.91E-17	0.688055
0.75000	2.932075	0.712434	-8.63E-17	-1.91E-19	9.99E-17	0.598979
1.00000	2.932075	1.424690	-1.73E-16	-1.91E-19	1.32E-16	0.331838

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-34.235207	-1.074390	1.29E-16	-2.31E-17	-5.55E-16	5.588848
0.25000	-34.235207	-0.540198	6.45E-17	-2.31E-17	-5.79E-16	5.790671
0.50000	-34.235207	-0.006006	-1.83E-19	-2.31E-17	-5.87E-16	5.858947
0.75000	-34.235207	0.528185	-6.49E-17	-2.31E-17	-5.79E-16	5.793674
1.00000	-34.235207	1.062377	-1.30E-16	-2.31E-17	-5.55E-16	5.594854

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-34.235207	-1.074390	1.29E-16	-2.31E-17	-5.55E-16	5.588848
0.25000	-34.235207	-0.540198	6.45E-17	-2.31E-17	-5.79E-16	5.790671
0.50000	-34.235207	-0.006006	-1.83E-19	-2.31E-17	-5.87E-16	5.858947
0.75000	-34.235207	0.528185	-6.49E-17	-2.31E-17	-5.79E-16	5.793674
1.00000	-34.235207	1.062377	-1.30E-16	-2.31E-17	-5.55E-16	5.594854

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-30.525537	-1.062111	1.30E-16	2.28E-17	7.08E-16	-5.064998
0.25000	-30.525537	-0.527919	6.48E-17	2.28E-17	6.84E-16	-4.866244
0.50000	-30.525537	0.006272	1.40E-19	2.28E-17	6.75E-16	-4.801038
0.75000	-30.525537	0.540464	-6.46E-17	2.28E-17	6.83E-16	-4.869380
1.00000	-30.525537	1.074656	-1.29E-16	2.28E-17	7.08E-16	-5.071270

COMB COMB5 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-30.525537	-1.062111	1.30E-16	2.28E-17	7.08E-16	-5.064998
0.25000	-30.525537	-0.527919	6.48E-17	2.28E-17	6.84E-16	-4.866244
0.50000	-30.525537	0.006272	1.40E-19	2.28E-17	6.75E-16	-4.801038
0.75000	-30.525537	0.540464	-6.46E-17	2.28E-17	6.83E-16	-4.869380
1.00000	-30.525537	1.074656	-1.29E-16	2.28E-17	7.08E-16	-5.071270

COMB COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-18.916484	-0.924892	1.12E-16	-1.26E-19	5.88E-17	0.222869
0.25000	-18.916484	-0.462388	5.60E-17	-1.26E-19	3.78E-17	0.396279
0.50000	-18.916484	0.000116	-1.83E-20	-1.26E-19	3.08E-17	0.454063
0.75000	-18.916484	0.462619	-5.60E-17	-1.26E-19	3.78E-17	0.396221
1.00000	-18.916484	0.925123	-1.12E-16	-1.26E-19	5.88E-17	0.222753

COMB COMB6 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-18.916484	-0.924892	1.12E-16	-1.26E-19	5.88E-17	0.222869
0.25000	-18.916484	-0.462388	5.60E-17	-1.26E-19	3.78E-17	0.396279
0.50000	-18.916484	0.000116	-1.83E-20	-1.26E-19	3.08E-17	0.454063
0.75000	-18.916484	0.462619	-5.60E-17	-1.26E-19	3.78E-17	0.396221
1.00000	-18.916484	0.925123	-1.12E-16	-1.26E-19	5.88E-17	0.222753

COMB COMB7 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-15.932251	-0.697762	8.39E-17	-1.54E-17	-3.63E-16	3.719166
0.25000	-15.932251	-0.350884	4.19E-17	-1.54E-17	-3.78E-16	3.850247
0.50000	-15.932251	-0.004006	-1.21E-19	-1.54E-17	-3.84E-16	3.894608
0.75000	-15.932251	0.342871	-4.21E-17	-1.54E-17	-3.78E-16	3.852250
1.00000	-15.932251	0.689749	-8.41E-17	-1.54E-17	-3.63E-16	3.723172

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB7 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-15.932251	-0.697762	8.39E-17	-1.54E-17	-3.63E-16	3.719166
0.25000	-15.932251	-0.350884	4.19E-17	-1.54E-17	-3.78E-16	3.850247
0.50000	-15.932251	-0.004006	-1.21E-19	-1.54E-17	-3.84E-16	3.894608
0.75000	-15.932251	0.342871	-4.21E-17	-1.54E-17	-3.78E-16	3.852250
1.00000	-15.932251	0.689749	-8.41E-17	-1.54E-17	-3.63E-16	3.723172

COMB COMB8 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-13.459138	-0.689576	8.41E-17	1.52E-17	4.79E-16	-3.383398
0.25000	-13.459138	-0.342698	4.21E-17	1.52E-17	4.63E-16	-3.254364
0.50000	-13.459138	0.004179	9.40E-20	1.52E-17	4.58E-16	-3.212049
0.75000	-13.459138	0.351057	-4.19E-17	1.52E-17	4.63E-16	-3.256453
1.00000	-13.459138	0.697935	-8.39E-17	1.52E-17	4.79E-16	-3.387577

COMB COMB8 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-13.459138	-0.689576	8.41E-17	1.52E-17	4.79E-16	-3.383398
0.25000	-13.459138	-0.342698	4.21E-17	1.52E-17	4.63E-16	-3.254364
0.50000	-13.459138	0.004179	9.40E-20	1.52E-17	4.58E-16	-3.212049
0.75000	-13.459138	0.351057	-4.19E-17	1.52E-17	4.63E-16	-3.256453
1.00000	-13.459138	0.697935	-8.39E-17	1.52E-17	4.79E-16	-3.387577

ELEM 35 ========== LENGTH = 1.000000

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-42.157166	-1.785053	2.16E-16	-1.95E-19	7.36E-17	0.347591
0.25000	-42.157166	-1.072797	1.30E-16	-1.95E-19	3.04E-17	0.704822
0.50000	-42.157166	-0.360541	4.37E-17	-1.95E-19	8.66E-18	0.883990
0.75000	-42.157166	0.351714	-4.26E-17	-1.95E-19	8.53E-18	0.885093
1.00000	-42.157166	1.063970	-1.29E-16	-1.95E-19	3.00E-17	0.708133

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-42.157166	-1.785053	2.16E-16	-1.95E-19	7.36E-17	0.347591
0.25000	-42.157166	-1.072797	1.30E-16	-1.95E-19	3.04E-17	0.704822
0.50000	-42.157166	-0.360541	4.37E-17	-1.95E-19	8.66E-18	0.883990
0.75000	-42.157166	0.351714	-4.26E-17	-1.95E-19	8.53E-18	0.885093
1.00000	-42.157166	1.063970	-1.29E-16	-1.95E-19	3.00E-17	0.708133

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-59.307636	-0.855757	1.04E-16	-1.29E-19	5.44E-18	0.234703
0.25000	-59.307636	-0.397878	4.82E-17	-1.29E-19	-1.35E-17	0.391408
0.50000	-59.307636	0.060000	-7.27E-18	-1.29E-19	-1.86E-17	0.433643

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
0.75000	-59.307636	0.517879	-6.27E-17	-1.29E-19	-9.90E-18	0.361408
1.00000	-59.307636	0.975757	-1.18E-16	-1.29E-19	1.27E-17	0.174703

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-59.307636	-0.855757	1.04E-16	-1.29E-19	5.44E-18	0.234703
0.25000	-59.307636	-0.397878	4.82E-17	-1.29E-19	-1.35E-17	0.391408
0.50000	-59.307636	0.060000	-7.27E-18	-1.29E-19	-1.86E-17	0.433643
0.75000	-59.307636	0.517879	-6.27E-17	-1.29E-19	-9.90E-18	0.361408
1.00000	-59.307636	0.975757	-1.18E-16	-1.29E-19	1.27E-17	0.174703

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	2.932075	-2.193540	2.66E-16	-1.91E-19	1.32E-16	0.331838
0.25000	2.932075	-1.481285	1.79E-16	-1.91E-19	7.66E-17	0.791191
0.50000	2.932075	-0.769029	9.31E-17	-1.91E-19	4.26E-17	1.072480
0.75000	2.932075	-0.056774	6.87E-18	-1.91E-19	3.01E-17	1.175706
1.00000	2.932075	0.655482	-7.94E-17	-1.91E-19	3.91E-17	1.100867

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	2.932075	-2.193540	2.66E-16	-1.91E-19	1.32E-16	0.331838
0.25000	2.932075	-1.481285	1.79E-16	-1.91E-19	7.66E-17	0.791191
0.50000	2.932075	-0.769029	9.31E-17	-1.91E-19	4.26E-17	1.072480
0.75000	2.932075	-0.056774	6.87E-18	-1.91E-19	3.01E-17	1.175706
1.00000	2.932075	0.655482	-7.94E-17	-1.91E-19	3.91E-17	1.100867

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-34.235207	-1.297202	1.56E-16	-2.31E-17	-5.55E-16	5.594854
0.25000	-34.235207	-0.763010	9.15E-17	-2.31E-17	-5.86E-16	5.852381
0.50000	-34.235207	-0.228819	2.68E-17	-2.31E-17	-6.01E-16	5.976359
0.75000	-34.235207	0.305373	-3.79E-17	-2.31E-17	-5.99E-16	5.966790
1.00000	-34.235207	0.839564	-1.03E-16	-2.31E-17	-5.82E-16	5.823673

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-34.235207	-1.297202	1.56E-16	-2.31E-17	-5.55E-16	5.594854
0.25000	-34.235207	-0.763010	9.15E-17	-2.31E-17	-5.86E-16	5.852381
0.50000	-34.235207	-0.228819	2.68E-17	-2.31E-17	-6.01E-16	5.976359
0.75000	-34.235207	0.305373	-3.79E-17	-2.31E-17	-5.99E-16	5.966790
1.00000	-34.235207	0.839564	-1.03E-16	-2.31E-17	-5.82E-16	5.823673

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-30.525537	-1.323406	1.61E-16	2.28E-17	7.08E-16	-5.071270

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
0.25000	-30.525537	-0.789215	9.65E-17	2.28E-17	6.75E-16	-4.807193
0.50000	-30.525537	-0.255023	3.18E-17	2.28E-17	6.59E-16	-4.676663
0.75000	-30.525537	0.279169	-3.29E-17	2.28E-17	6.60E-16	-4.679681
1.00000	-30.525537	0.813360	-9.76E-17	2.28E-17	6.76E-16	-4.816247

COMB COMB5 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-30.525537	-1.323406	1.61E-16	2.28E-17	7.08E-16	-5.071270
0.25000	-30.525537	-0.789215	9.65E-17	2.28E-17	6.75E-16	-4.807193
0.50000	-30.525537	-0.255023	3.18E-17	2.28E-17	6.59E-16	-4.676663
0.75000	-30.525537	0.279169	-3.29E-17	2.28E-17	6.60E-16	-4.679681
1.00000	-30.525537	0.813360	-9.76E-17	2.28E-17	6.76E-16	-4.816247

COMB COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-18.916484	-1.235753	1.50E-16	-1.26E-19	5.88E-17	0.222753
0.25000	-18.916484	-0.773250	9.36E-17	-1.26E-19	2.84E-17	0.473879
0.50000	-18.916484	-0.310746	3.76E-17	-1.26E-19	1.20E-17	0.609378
0.75000	-18.916484	0.151757	-1.84E-17	-1.26E-19	9.58E-18	0.629252
1.00000	-18.916484	0.614261	-7.44E-17	-1.26E-19	2.12E-17	0.533500

COMB COMB6 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-18.916484	-1.235753	1.50E-16	-1.26E-19	5.88E-17	0.222753
0.25000	-18.916484	-0.773250	9.36E-17	-1.26E-19	2.84E-17	0.473879
0.50000	-18.916484	-0.310746	3.76E-17	-1.26E-19	1.20E-17	0.609378
0.75000	-18.916484	0.151757	-1.84E-17	-1.26E-19	9.58E-18	0.629252
1.00000	-18.916484	0.614261	-7.44E-17	-1.26E-19	2.12E-17	0.533500

COMB COMB7 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-15.932251	-0.899090	1.08E-16	-1.54E-17	-3.63E-16	3.723172
0.25000	-15.932251	-0.552212	6.63E-17	-1.54E-17	-3.84E-16	3.904585
0.50000	-15.932251	-0.205335	2.43E-17	-1.54E-17	-3.96E-16	3.999278
0.75000	-15.932251	0.141543	-1.77E-17	-1.54E-17	-3.97E-16	4.007252
1.00000	-15.932251	0.488421	-5.98E-17	-1.54E-17	-3.87E-16	3.928507

COMB COMB7 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-15.932251	-0.899090	1.08E-16	-1.54E-17	-3.63E-16	3.723172
0.25000	-15.932251	-0.552212	6.63E-17	-1.54E-17	-3.84E-16	3.904585
0.50000	-15.932251	-0.205335	2.43E-17	-1.54E-17	-3.96E-16	3.999278
0.75000	-15.932251	0.141543	-1.77E-17	-1.54E-17	-3.97E-16	4.007252
1.00000	-15.932251	0.488421	-5.98E-17	-1.54E-17	-3.87E-16	3.928507

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB8 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-13.459138	-0.916560	1.12E-16	1.52E-17	4.79E-16	-3.387577
0.25000	-13.459138	-0.569682	6.96E-17	1.52E-17	4.56E-16	-3.201797
0.50000	-13.459138	-0.222804	2.76E-17	1.52E-17	4.44E-16	-3.102736
0.75000	-13.459138	0.124073	-1.44E-17	1.52E-17	4.43E-16	-3.090395
1.00000	-13.459138	0.470951	-5.64E-17	1.52E-17	4.51E-16	-3.164773

COMB COMB8 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-13.459138	-0.916560	1.12E-16	1.52E-17	4.79E-16	-3.387577
0.25000	-13.459138	-0.569682	6.96E-17	1.52E-17	4.56E-16	-3.201797
0.50000	-13.459138	-0.222804	2.76E-17	1.52E-17	4.44E-16	-3.102736
0.75000	-13.459138	0.124073	-1.44E-17	1.52E-17	4.43E-16	-3.090395
1.00000	-13.459138	0.470951	-5.64E-17	1.52E-17	4.51E-16	-3.164773

ELEM 36 ========== LENGTH = 1.000000

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-42.157166	-1.177835	1.43E-16	-1.95E-19	3.00E-17	0.708133
0.25000	-42.157166	-0.465580	5.64E-17	-1.95E-19	5.08E-18	0.913559
0.50000	-42.157166	0.246676	-2.99E-17	-1.95E-19	1.77E-18	0.940922
0.75000	-42.157166	0.958931	-1.16E-16	-1.95E-19	2.00E-17	0.790221
1.00000	-42.157166	1.671187	-2.02E-16	-1.95E-19	5.98E-17	0.461457

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-42.157166	-1.177835	1.43E-16	-1.95E-19	3.00E-17	0.708133
0.25000	-42.157166	-0.465580	5.64E-17	-1.95E-19	5.08E-18	0.913559
0.50000	-42.157166	0.246676	-2.99E-17	-1.95E-19	1.77E-18	0.940922
0.75000	-42.157166	0.958931	-1.16E-16	-1.95E-19	2.00E-17	0.790221
1.00000	-42.157166	1.671187	-2.02E-16	-1.95E-19	5.98E-17	0.461457

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-59.307636	-0.166878	2.02E-17	-1.29E-19	1.27E-17	0.174703
0.25000	-59.307636	0.291000	-3.52E-17	-1.29E-19	1.46E-17	0.159188
0.50000	-59.307636	0.748879	-9.07E-17	-1.29E-19	3.03E-17	0.029203
0.75000	-59.307636	1.206757	-1.46E-16	-1.29E-19	1.03E-16	-0.215251
1.00000	-59.307636	1.664636	-2.02E-16	-1.29E-19	1.03E-16	-0.574176

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-59.307636	-0.166878	2.02E-17	-1.29E-19	1.27E-17	0.174703
0.25000	-59.307636	0.291000	-3.52E-17	-1.29E-19	1.46E-17	0.159188
0.50000	-59.307636	0.748879	-9.07E-17	-1.29E-19	3.03E-17	0.029203

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
0.75000	-59.307636	1.206757	-1.46E-16	-1.29E-19	5.99E-17	-0.215251
1.00000	-59.307636	1.664636	-2.02E-16	-1.29E-19	1.03E-16	-0.574176

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	2.932075	-2.004257	2.43E-16	-1.91E-19	3.91E-17	1.100867
0.25000	2.932075	-1.292002	1.56E-16	-1.91E-19	-1.08E-17	1.512900
0.50000	2.932075	-0.579746	7.02E-17	-1.91E-19	-3.91E-17	1.746868
0.75000	2.932075	0.132509	-1.61E-17	-1.91E-19	-4.59E-17	1.802773
1.00000	2.932075	0.844765	-1.02E-16	-1.91E-19	-3.11E-17	1.680614

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	2.932075	-2.004257	2.43E-16	-1.91E-19	3.91E-17	1.100867
0.25000	2.932075	-1.292002	1.56E-16	-1.91E-19	-1.08E-17	1.512900
0.50000	2.932075	-0.579746	7.02E-17	-1.91E-19	-3.91E-17	1.746868
0.75000	2.932075	0.132509	-1.61E-17	-1.91E-19	-4.59E-17	1.802773
1.00000	2.932075	0.844765	-1.02E-16	-1.91E-19	-3.11E-17	1.680614

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-34.235207	-0.855630	1.03E-16	-2.31E-17	-5.82E-16	5.823673
0.25000	-34.235207	-0.321439	3.80E-17	-2.31E-17	-5.99E-16	5.970806
0.50000	-34.235207	0.212753	-2.67E-17	-2.31E-17	-6.01E-16	5.984392
0.75000	-34.235207	0.746945	-9.14E-17	-2.31E-17	-5.86E-16	5.864430
1.00000	-34.235207	1.281136	-1.56E-16	-2.31E-17	-5.55E-16	5.610920

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-34.235207	-0.855630	1.03E-16	-2.31E-17	-5.82E-16	5.823673
0.25000	-34.235207	-0.321439	3.80E-17	-2.31E-17	-5.99E-16	5.970806
0.50000	-34.235207	0.212753	-2.67E-17	-2.31E-17	-6.01E-16	5.984392
0.75000	-34.235207	0.746945	-9.14E-17	-2.31E-17	-5.86E-16	5.864430
1.00000	-34.235207	1.281136	-1.56E-16	-2.31E-17	-5.55E-16	5.610920

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-30.525537	-0.795864	9.73E-17	2.28E-17	6.76E-16	-4.816247
0.25000	-30.525537	-0.261673	3.26E-17	2.28E-17	6.60E-16	-4.684055
0.50000	-30.525537	0.272519	-3.21E-17	2.28E-17	6.60E-16	-4.685411
0.75000	-30.525537	0.806711	-9.68E-17	2.28E-17	6.76E-16	-4.820315
1.00000	-30.525537	1.340902	-1.61E-16	2.28E-17	7.08E-16	-5.088766

COMB COMB5 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-30.525537	-0.795864	9.73E-17	2.28E-17	6.76E-16	-4.816247

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
0.25000	-30.525537	-0.261673	3.26E-17	2.28E-17	6.60E-16	-4.684055
0.50000	-30.525537	0.272519	-3.21E-17	2.28E-17	6.60E-16	-4.685411
0.75000	-30.525537	0.806711	-9.68E-17	2.28E-17	6.76E-16	-4.820315
1.00000	-30.525537	1.340902	-1.61E-16	2.28E-17	7.08E-16	-5.088766

COMB COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-18.916484	-0.919857	1.11E-16	-1.26E-19	2.12E-17	0.533500
0.25000	-18.916484	-0.457353	5.54E-17	-1.26E-19	3.25E-19	0.705651
0.50000	-18.916484	0.005150	-6.28E-19	-1.26E-19	-6.52E-18	0.762176
0.75000	-18.916484	0.467654	-5.66E-17	-1.26E-19	6.39E-19	0.703076
1.00000	-18.916484	0.930158	-1.13E-16	-1.26E-19	2.18E-17	0.528349

COMB COMB6 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-18.916484	-0.919857	1.11E-16	-1.26E-19	2.12E-17	0.533500
0.25000	-18.916484	-0.457353	5.54E-17	-1.26E-19	3.25E-19	0.705651
0.50000	-18.916484	0.005150	-6.28E-19	-1.26E-19	-6.52E-18	0.762176
0.75000	-18.916484	0.467654	-5.66E-17	-1.26E-19	6.39E-19	0.703076
1.00000	-18.916484	0.930158	-1.13E-16	-1.26E-19	2.18E-17	0.528349

COMB COMB7 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-15.932251	-0.671395	8.07E-17	-1.54E-17	-3.87E-16	3.928507
0.25000	-15.932251	-0.324517	3.87E-17	-1.54E-17	-4.02E-16	4.052996
0.50000	-15.932251	0.022360	-3.31E-18	-1.54E-17	-4.06E-16	4.090766
0.75000	-15.932251	0.369238	-4.53E-17	-1.54E-17	-4.00E-16	4.041816
1.00000	-15.932251	0.716116	-8.73E-17	-1.54E-17	-3.84E-16	3.906147

COMB COMB7 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-15.932251	-0.671395	8.07E-17	-1.54E-17	-3.87E-16	3.928507
0.25000	-15.932251	-0.324517	3.87E-17	-1.54E-17	-4.02E-16	4.052996
0.50000	-15.932251	0.022360	-3.31E-18	-1.54E-17	-4.06E-16	4.090766
0.75000	-15.932251	0.369238	-4.53E-17	-1.54E-17	-4.00E-16	4.041816
1.00000	-15.932251	0.716116	-8.73E-17	-1.54E-17	-3.84E-16	3.906147

COMB COMB8 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-13.459138	-0.631551	7.71E-17	1.52E-17	4.51E-16	-3.164773
0.25000	-13.459138	-0.284673	3.51E-17	1.52E-17	4.37E-16	-3.050245
0.50000	-13.459138	0.062204	-6.93E-18	1.52E-17	4.34E-16	-3.022436
0.75000	-13.459138	0.409082	-4.89E-17	1.52E-17	4.41E-16	-3.081347
1.00000	-13.459138	0.755960	-9.10E-17	1.52E-17	4.58E-16	-3.226977

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB8 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-13.459138	-0.631551	7.71E-17	1.52E-17	4.51E-16	-3.164773
0.25000	-13.459138	-0.284673	3.51E-17	1.52E-17	4.37E-16	-3.050245
0.50000	-13.459138	0.062204	-6.93E-18	1.52E-17	4.34E-16	-3.022436
0.75000	-13.459138	0.409082	-4.89E-17	1.52E-17	4.41E-16	-3.081347
1.00000	-13.459138	0.755960	-9.10E-17	1.52E-17	4.58E-16	-3.226977

ELEM 37 ========== LENGTH = 1.000000

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-42.157166	1.914015	-2.32E-16	-1.95E-19	5.98E-17	0.461457
0.25000	-42.157166	2.626270	-3.18E-16	-1.95E-19	1.29E-16	-0.106079
0.50000	-42.157166	3.338526	-4.04E-16	-1.95E-19	2.19E-16	-0.851678
0.75000	-42.157166	4.050781	-4.91E-16	-1.95E-19	3.31E-16	-1.775342
1.00000	-42.157166	4.763037	-5.77E-16	-1.95E-19	4.64E-16	-2.877069

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-42.157166	1.914015	-2.32E-16	-1.95E-19	5.98E-17	0.461457
0.25000	-42.157166	2.626270	-3.18E-16	-1.95E-19	1.29E-16	-0.106079
0.50000	-42.157166	3.338526	-4.04E-16	-1.95E-19	2.19E-16	-0.851678
0.75000	-42.157166	4.050781	-4.91E-16	-1.95E-19	3.31E-16	-1.775342
1.00000	-42.157166	4.763037	-5.77E-16	-1.95E-19	4.64E-16	-2.877069

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-59.307636	1.657029	-2.01E-16	-1.29E-19	1.03E-16	-0.574176
0.25000	-59.307636	2.114908	-2.56E-16	-1.29E-19	1.61E-16	-1.045668
0.50000	-59.307636	2.572786	-3.12E-16	-1.29E-19	2.31E-16	-1.631630
0.75000	-59.307636	3.030665	-3.67E-16	-1.29E-19	3.16E-16	-2.332061
1.00000	-59.307636	3.488543	-4.22E-16	-1.29E-19	4.15E-16	-3.146962

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-59.307636	1.657029	-2.01E-16	-1.29E-19	1.03E-16	-0.574176
0.25000	-59.307636	2.114908	-2.56E-16	-1.29E-19	1.61E-16	-1.045668
0.50000	-59.307636	2.572786	-3.12E-16	-1.29E-19	2.31E-16	-1.631630
0.75000	-59.307636	3.030665	-3.67E-16	-1.29E-19	3.16E-16	-2.332061
1.00000	-59.307636	3.488543	-4.22E-16	-1.29E-19	4.15E-16	-3.146962

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	2.932075	1.316787	-1.59E-16	-1.91E-19	-3.11E-17	1.680614
0.25000	2.932075	2.029043	-2.46E-16	-1.91E-19	1.96E-17	1.262385
0.50000	2.932075	2.741298	-3.32E-16	-1.91E-19	9.18E-17	0.666092

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
0.75000	2.932075	3.453554	-4.18E-16	-1.91E-19	1.86E-16	-0.108264
1.00000	2.932075	4.165809	-5.05E-16	-1.91E-19	3.01E-16	-1.060685

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	2.932075	1.316787	-1.59E-16	-1.91E-19	-3.11E-17	1.680614
0.25000	2.932075	2.029043	-2.46E-16	-1.91E-19	1.96E-17	1.262385
0.50000	2.932075	2.741298	-3.32E-16	-1.91E-19	9.18E-17	0.666092
0.75000	2.932075	3.453554	-4.18E-16	-1.91E-19	1.86E-16	-0.108264
1.00000	2.932075	4.165809	-5.05E-16	-1.91E-19	3.01E-16	-1.060685

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-34.235207	1.274806	-1.55E-16	-2.31E-17	-5.55E-16	5.610920
0.25000	-34.235207	1.808998	-2.20E-16	-2.31E-17	-5.08E-16	5.225444
0.50000	-34.235207	2.343190	-2.85E-16	-2.31E-17	-4.45E-16	4.706421
0.75000	-34.235207	2.877381	-3.49E-16	-2.31E-17	-3.66E-16	4.053850
1.00000	-34.235207	3.411573	-4.14E-16	-2.31E-17	-2.70E-16	3.267730

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-34.235207	1.274806	-1.55E-16	-2.31E-17	-5.55E-16	5.610920
0.25000	-34.235207	1.808998	-2.20E-16	-2.31E-17	-5.08E-16	5.225444
0.50000	-34.235207	2.343190	-2.85E-16	-2.31E-17	-4.45E-16	4.706421
0.75000	-34.235207	2.877381	-3.49E-16	-2.31E-17	-3.66E-16	4.053850
1.00000	-34.235207	3.411573	-4.14E-16	-2.31E-17	-2.70E-16	3.267730

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-30.525537	1.679509	-2.02E-16	2.28E-17	7.08E-16	-5.088766
0.25000	-30.525537	2.213701	-2.67E-16	2.28E-17	7.67E-16	-5.575418
0.50000	-30.525537	2.747892	-3.32E-16	2.28E-17	8.42E-16	-6.195617
0.75000	-30.525537	3.282084	-3.97E-16	2.28E-17	9.33E-16	-6.949364
1.00000	-30.525537	3.816276	-4.61E-16	2.28E-17	1.04E-15	-7.836659

COMB COMB5 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-30.525537	1.679509	-2.02E-16	2.28E-17	7.08E-16	-5.088766
0.25000	-30.525537	2.213701	-2.67E-16	2.28E-17	7.67E-16	-5.575418
0.50000	-30.525537	2.747892	-3.32E-16	2.28E-17	8.42E-16	-6.195617
0.75000	-30.525537	3.282084	-3.97E-16	2.28E-17	9.33E-16	-6.949364
1.00000	-30.525537	3.816276	-4.61E-16	2.28E-17	1.04E-15	-7.836659

COMB COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-18.916484	1.130833	-1.37E-16	-1.26E-19	2.18E-17	0.528349

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
0.25000	-18.916484	1.593336	-1.93E-16	-1.26E-19	6.30E-17	0.187828
0.50000	-18.916484	2.055840	-2.49E-16	-1.26E-19	1.18E-16	-0.268319
0.75000	-18.916484	2.518343	-3.05E-16	-1.26E-19	1.88E-16	-0.840092
1.00000	-18.916484	2.980847	-3.61E-16	-1.26E-19	2.71E-16	-1.527491

COMB COMB6 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-18.916484	1.130833	-1.37E-16	-1.26E-19	2.18E-17	0.528349
0.25000	-18.916484	1.593336	-1.93E-16	-1.26E-19	6.30E-17	0.187828
0.50000	-18.916484	2.055840	-2.49E-16	-1.26E-19	1.18E-16	-0.268319
0.75000	-18.916484	2.518343	-3.05E-16	-1.26E-19	1.88E-16	-0.840092
1.00000	-18.916484	2.980847	-3.61E-16	-1.26E-19	2.71E-16	-1.527491

COMB COMB7 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-15.932251	0.740988	-9.03E-17	-1.54E-17	-3.84E-16	3.906147
0.25000	-15.932251	1.087866	-1.32E-16	-1.54E-17	-3.56E-16	3.677540
0.50000	-15.932251	1.434743	-1.74E-16	-1.54E-17	-3.17E-16	3.362214
0.75000	-15.932251	1.781621	-2.16E-16	-1.54E-17	-2.69E-16	2.960168
1.00000	-15.932251	2.128499	-2.58E-16	-1.54E-17	-2.09E-16	2.471403

COMB COMB7 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-15.932251	0.740988	-9.03E-17	-1.54E-17	-3.84E-16	3.906147
0.25000	-15.932251	1.087866	-1.32E-16	-1.54E-17	-3.56E-16	3.677540
0.50000	-15.932251	1.434743	-1.74E-16	-1.54E-17	-3.17E-16	3.362214
0.75000	-15.932251	1.781621	-2.16E-16	-1.54E-17	-2.69E-16	2.960168
1.00000	-15.932251	2.128499	-2.58E-16	-1.54E-17	-2.09E-16	2.471403

COMB COMB8 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-13.459138	1.010790	-1.22E-16	1.52E-17	4.58E-16	-3.226977
0.25000	-13.459138	1.357667	-1.64E-16	1.52E-17	4.94E-16	-3.523035
0.50000	-13.459138	1.704545	-2.06E-16	1.52E-17	5.40E-16	-3.905811
0.75000	-13.459138	2.051423	-2.48E-16	1.52E-17	5.97E-16	-4.375307
1.00000	-13.459138	2.398301	-2.90E-16	1.52E-17	6.64E-16	-4.931523

COMB COMB8 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-13.459138	1.010790	-1.22E-16	1.52E-17	4.58E-16	-3.226977
0.25000	-13.459138	1.357667	-1.64E-16	1.52E-17	4.94E-16	-3.523035
0.50000	-13.459138	1.704545	-2.06E-16	1.52E-17	5.40E-16	-3.905811
0.75000	-13.459138	2.051423	-2.48E-16	1.52E-17	5.97E-16	-4.375307
1.00000	-13.459138	2.398301	-2.90E-16	1.52E-17	6.64E-16	-4.931523

F R A M E E L E M E N T I N T E R N A L F O R C E S

ELEM 38 ========== LENGTH = 1.000000

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-42.157166	8.506554	-1.03E-15	-1.95E-19	4.64E-16	-2.877069
0.25000	-42.157166	9.218810	-1.12E-15	-1.95E-19	7.32E-16	-5.092740
0.50000	-42.157166	9.931065	-1.20E-15	-1.95E-19	1.02E-15	-7.486474
0.75000	-42.157166	10.643321	-1.29E-15	-1.95E-19	1.33E-15	-10.058272
1.00000	-42.157166	11.355576	-1.38E-15	-1.95E-19	1.67E-15	-12.808134

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-42.157166	8.506554	-1.03E-15	-1.95E-19	4.64E-16	-2.877069
0.25000	-42.157166	9.218810	-1.12E-15	-1.95E-19	7.32E-16	-5.092740
0.50000	-42.157166	9.931065	-1.20E-15	-1.95E-19	1.02E-15	-7.486474
0.75000	-42.157166	10.643321	-1.29E-15	-1.95E-19	1.33E-15	-10.058272
1.00000	-42.157166	11.355576	-1.38E-15	-1.95E-19	1.67E-15	-12.808134

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-59.307636	3.856603	-4.67E-16	-1.29E-19	4.15E-16	-3.146962
0.25000	-59.307636	4.314481	-5.23E-16	-1.29E-19	5.39E-16	-4.168348
0.50000	-59.307636	4.772360	-5.78E-16	-1.29E-19	6.76E-16	-5.304203
0.75000	-59.307636	5.230239	-6.33E-16	-1.29E-19	8.28E-16	-6.554528
1.00000	-59.307636	5.688117	-6.89E-16	-1.29E-19	9.93E-16	-7.919322

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-59.307636	3.856603	-4.67E-16	-1.29E-19	4.15E-16	-3.146962
0.25000	-59.307636	4.314481	-5.23E-16	-1.29E-19	5.39E-16	-4.168348
0.50000	-59.307636	4.772360	-5.78E-16	-1.29E-19	6.76E-16	-5.304203
0.75000	-59.307636	5.230239	-6.33E-16	-1.29E-19	8.28E-16	-6.554528
1.00000	-59.307636	5.688117	-6.89E-16	-1.29E-19	9.93E-16	-7.919322

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	2.932075	10.763208	-1.30E-15	-1.91E-19	3.01E-16	-1.060685
0.25000	2.932075	11.475464	-1.39E-15	-1.91E-19	6.38E-16	-3.840519
0.50000	2.932075	12.187720	-1.48E-15	-1.91E-19	9.96E-16	-6.798417
0.75000	2.932075	12.899975	-1.56E-15	-1.91E-19	1.38E-15	-9.934378
1.00000	2.932075	13.612231	-1.65E-15	-1.91E-19	1.78E-15	-13.248404

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	2.932075	10.763208	-1.30E-15	-1.91E-19	3.01E-16	-1.060685
0.25000	2.932075	11.475464	-1.39E-15	-1.91E-19	6.38E-16	-3.840519
0.50000	2.932075	12.187720	-1.48E-15	-1.91E-19	9.96E-16	-6.798417

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
0.75000	2.932075	12.899975	-1.56E-15	-1.91E-19	1.38E-15	-9.934378
1.00000	2.932075	13.612231	-1.65E-15	-1.91E-19	1.78E-15	-13.248404

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-34.235207	5.704830	-6.92E-16	-2.31E-17	-2.70E-16	3.267730
0.25000	-34.235207	6.239021	-7.56E-16	-2.31E-17	-8.92E-17	1.774749
0.50000	-34.235207	6.773213	-8.21E-16	-2.31E-17	1.08E-16	0.148220
0.75000	-34.235207	7.307404	-8.86E-16	-2.31E-17	3.21E-16	-1.611857
1.00000	-34.235207	7.841596	-9.51E-16	-2.31E-17	5.51E-16	-3.505482

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-34.235207	5.704830	-6.92E-16	-2.31E-17	-2.70E-16	3.267730
0.25000	-34.235207	6.239021	-7.56E-16	-2.31E-17	-8.92E-17	1.774749
0.50000	-34.235207	6.773213	-8.21E-16	-2.31E-17	1.08E-16	0.148220
0.75000	-34.235207	7.307404	-8.86E-16	-2.31E-17	3.21E-16	-1.611857
1.00000	-34.235207	7.841596	-9.51E-16	-2.31E-17	5.51E-16	-3.505482

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-30.525537	6.740274	-8.15E-16	2.28E-17	1.04E-15	-7.836659
0.25000	-30.525537	7.274465	-8.80E-16	2.28E-17	1.25E-15	-9.588501
0.50000	-30.525537	7.808657	-9.45E-16	2.28E-17	1.48E-15	-11.473891
0.75000	-30.525537	8.342849	-1.01E-15	2.28E-17	1.72E-15	-13.492829
1.00000	-30.525537	8.877040	-1.07E-15	2.28E-17	1.98E-15	-15.645316

COMB COMB5 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-30.525537	6.740274	-8.15E-16	2.28E-17	1.04E-15	-7.836659
0.25000	-30.525537	7.274465	-8.80E-16	2.28E-17	1.25E-15	-9.588501
0.50000	-30.525537	7.808657	-9.45E-16	2.28E-17	1.48E-15	-11.473891
0.75000	-30.525537	8.342849	-1.01E-15	2.28E-17	1.72E-15	-13.492829
1.00000	-30.525537	8.877040	-1.07E-15	2.28E-17	1.98E-15	-15.645316

COMB COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-18.916484	5.947063	-7.20E-16	-1.26E-19	2.71E-16	-1.527491
0.25000	-18.916484	6.409566	-7.76E-16	-1.26E-19	4.58E-16	-3.072069
0.50000	-18.916484	6.872070	-8.32E-16	-1.26E-19	6.59E-16	-4.732274
0.75000	-18.916484	7.334573	-8.88E-16	-1.26E-19	8.74E-16	-6.508104
1.00000	-18.916484	7.797077	-9.44E-16	-1.26E-19	1.10E-15	-8.399561

COMB COMB6 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-18.916484	5.947063	-7.20E-16	-1.26E-19	2.71E-16	-1.527491

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
0.25000	-18.916484	6.409566	-7.76E-16	-1.26E-19	4.58E-16	-3.072069
0.50000	-18.916484	6.872070	-8.32E-16	-1.26E-19	6.59E-16	-4.732274
0.75000	-18.916484	7.334573	-8.88E-16	-1.26E-19	8.74E-16	-6.508104
1.00000	-18.916484	7.797077	-9.44E-16	-1.26E-19	1.10E-15	-8.399561

COMB COMB7 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-15.932251	4.010240	-4.86E-16	-1.54E-17	-2.09E-16	2.471403
0.25000	-15.932251	4.357117	-5.28E-16	-1.54E-17	-8.24E-17	1.425484
0.50000	-15.932251	4.703995	-5.70E-16	-1.54E-17	5.50E-17	0.292845
0.75000	-15.932251	5.050873	-6.12E-16	-1.54E-17	2.03E-16	-0.926514
1.00000	-15.932251	5.397750	-6.54E-16	-1.54E-17	3.61E-16	-2.232592

COMB COMB7 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-15.932251	4.010240	-4.86E-16	-1.54E-17	-2.09E-16	2.471403
0.25000	-15.932251	4.357117	-5.28E-16	-1.54E-17	-8.24E-17	1.425484
0.50000	-15.932251	4.703995	-5.70E-16	-1.54E-17	5.50E-17	0.292845
0.75000	-15.932251	5.050873	-6.12E-16	-1.54E-17	2.03E-16	-0.926514
1.00000	-15.932251	5.397750	-6.54E-16	-1.54E-17	3.61E-16	-2.232592

COMB COMB8 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-13.459138	4.700536	-5.69E-16	1.52E-17	6.64E-16	-4.931523
0.25000	-13.459138	5.047413	-6.11E-16	1.52E-17	8.12E-16	-6.150016
0.50000	-13.459138	5.394291	-6.53E-16	1.52E-17	9.70E-16	-7.455229
0.75000	-13.459138	5.741169	-6.95E-16	1.52E-17	1.14E-15	-8.847162
1.00000	-13.459138	6.088046	-7.37E-16	1.52E-17	1.32E-15	-10.325814

COMB COMB8 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-13.459138	4.700536	-5.69E-16	1.52E-17	6.64E-16	-4.931523
0.25000	-13.459138	5.047413	-6.11E-16	1.52E-17	8.12E-16	-6.150016
0.50000	-13.459138	5.394291	-6.53E-16	1.52E-17	9.70E-16	-7.455229
0.75000	-13.459138	5.741169	-6.95E-16	1.52E-17	1.14E-15	-8.847162
1.00000	-13.459138	6.088046	-7.37E-16	1.52E-17	1.32E-15	-10.325814

ELEM 39 ========== LENGTH = 1.000000

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-42.157166	14.036565	-1.70E-15	-1.95E-19	1.67E-15	-12.808134
0.25000	-42.157166	14.748820	-1.79E-15	-1.95E-19	2.10E-15	-16.406307
0.50000	-42.157166	15.461076	-1.87E-15	-1.95E-19	2.56E-15	-20.182544
0.75000	-42.157166	16.173331	-1.96E-15	-1.95E-19	3.04E-15	-24.136845
1.00000	-42.157166	16.885587	-2.04E-15	-1.95E-19	3.54E-15	-28.269210

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-42.157166	14.036565	-1.70E-15	-1.95E-19	1.67E-15	-12.808134
0.25000	-42.157166	14.748820	-1.79E-15	-1.95E-19	2.10E-15	-16.406307
0.50000	-42.157166	15.461076	-1.87E-15	-1.95E-19	2.56E-15	-20.182544
0.75000	-42.157166	16.173331	-1.96E-15	-1.95E-19	3.04E-15	-24.136845
1.00000	-42.157166	16.885587	-2.04E-15	-1.95E-19	3.54E-15	-28.269210

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-59.307636	1.465109	-1.77E-16	-1.29E-19	9.93E-16	-7.919322
0.25000	-59.307636	1.922988	-2.33E-16	-1.29E-19	1.04E-15	-8.342834
0.50000	-59.307636	2.380867	-2.88E-16	-1.29E-19	1.11E-15	-8.880816
0.75000	-59.307636	2.838745	-3.44E-16	-1.29E-19	1.19E-15	-9.533267
1.00000	-59.307636	3.296624	-3.99E-16	-1.29E-19	1.28E-15	-10.300189

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-59.307636	1.465109	-1.77E-16	-1.29E-19	9.93E-16	-7.919322
0.25000	-59.307636	1.922988	-2.33E-16	-1.29E-19	1.04E-15	-8.342834
0.50000	-59.307636	2.380867	-2.88E-16	-1.29E-19	1.11E-15	-8.880816
0.75000	-59.307636	2.838745	-3.44E-16	-1.29E-19	1.19E-15	-9.533267
1.00000	-59.307636	3.296624	-3.99E-16	-1.29E-19	1.28E-15	-10.300189

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	2.932075	24.618320	-2.98E-15	-1.91E-19	1.78E-15	-13.248404
0.25000	2.932075	25.330575	-3.07E-15	-1.91E-19	2.53E-15	-19.492016
0.50000	2.932075	26.042831	-3.15E-15	-1.91E-19	3.31E-15	-25.913692
0.75000	2.932075	26.755086	-3.24E-15	-1.91E-19	4.11E-15	-32.513431
1.00000	2.932075	27.467342	-3.33E-15	-1.91E-19	4.93E-15	-39.291235

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	2.932075	24.618320	-2.98E-15	-1.91E-19	1.78E-15	-13.248404
0.25000	2.932075	25.330575	-3.07E-15	-1.91E-19	2.53E-15	-19.492016
0.50000	2.932075	26.042831	-3.15E-15	-1.91E-19	3.31E-15	-25.913692
0.75000	2.932075	26.755086	-3.24E-15	-1.91E-19	4.11E-15	-32.513431
1.00000	2.932075	27.467342	-3.33E-15	-1.91E-19	4.93E-15	-39.291235

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-34.235207	9.135523	-1.11E-15	-2.31E-17	5.51E-16	-3.505482
0.25000	-34.235207	9.669715	-1.17E-15	-2.31E-17	8.36E-16	-5.856137
0.50000	-34.235207	10.203907	-1.24E-15	-2.31E-17	1.14E-15	-8.340340
0.75000	-34.235207	10.738098	-1.30E-15	-2.31E-17	1.45E-15	-10.958091
1.00000	-34.235207	11.272290	-1.37E-15	-2.31E-17	1.79E-15	-13.709389

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB4 ———————— MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-34.235207	9.135523	-1.11E-15	-2.31E-17	5.51E-16	-3.505482
0.25000	-34.235207	9.669715	-1.17E-15	-2.31E-17	8.36E-16	-5.856137
0.50000	-34.235207	10.203907	-1.24E-15	-2.31E-17	1.14E-15	-8.340340
0.75000	-34.235207	10.738098	-1.30E-15	-2.31E-17	1.45E-15	-10.958091
1.00000	-34.235207	11.272290	-1.37E-15	-2.31E-17	1.79E-15	-13.709389

COMB COMB5 ———————— MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-30.525537	10.443524	-1.26E-15	2.28E-17	1.98E-15	-15.645316
0.25000	-30.525537	10.977715	-1.33E-15	2.28E-17	2.31E-15	-18.322970
0.50000	-30.525537	11.511907	-1.39E-15	2.28E-17	2.65E-15	-21.134173
0.75000	-30.525537	12.046099	-1.46E-15	2.28E-17	3.01E-15	-24.078924
1.00000	-30.525537	12.580290	-1.52E-15	2.28E-17	3.38E-15	-27.157223

COMB COMB5 ———————— MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-30.525537	10.443524	-1.26E-15	2.28E-17	1.98E-15	-15.645316
0.25000	-30.525537	10.977715	-1.33E-15	2.28E-17	2.31E-15	-18.322970
0.50000	-30.525537	11.511907	-1.39E-15	2.28E-17	2.65E-15	-21.134173
0.75000	-30.525537	12.046099	-1.46E-15	2.28E-17	3.01E-15	-24.078924
1.00000	-30.525537	12.580290	-1.52E-15	2.28E-17	3.38E-15	-27.157223

COMB COMB6 ———————— MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-18.916484	11.099686	-1.34E-15	-1.26E-19	1.10E-15	-8.399561
0.25000	-18.916484	11.562189	-1.40E-15	-1.26E-19	1.45E-15	-11.232295
0.50000	-18.916484	12.024693	-1.46E-15	-1.26E-19	1.80E-15	-14.180655
0.75000	-18.916484	12.487197	-1.51E-15	-1.26E-19	2.17E-15	-17.244641
1.00000	-18.916484	12.949700	-1.57E-15	-1.26E-19	2.56E-15	-20.424254

COMB COMB6 ———————— MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-18.916484	11.099686	-1.34E-15	-1.26E-19	1.10E-15	-8.399561
0.25000	-18.916484	11.562189	-1.40E-15	-1.26E-19	1.45E-15	-11.232295
0.50000	-18.916484	12.024693	-1.46E-15	-1.26E-19	1.80E-15	-14.180655
0.75000	-18.916484	12.487197	-1.51E-15	-1.26E-19	2.17E-15	-17.244641
1.00000	-18.916484	12.949700	-1.57E-15	-1.26E-19	2.56E-15	-20.424254

COMB COMB7 ———————— MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-15.932251	7.396831	-8.96E-16	-1.54E-17	3.61E-16	-2.232592
0.25000	-15.932251	7.743709	-9.38E-16	-1.54E-17	5.90E-16	-4.125159
0.50000	-15.932251	8.090586	-9.80E-16	-1.54E-17	8.30E-16	-6.104446
0.75000	-15.932251	8.437464	-1.02E-15	-1.54E-17	1.08E-15	-8.170452
1.00000	-15.932251	8.784342	-1.06E-15	-1.54E-17	1.34E-15	-10.323178

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB7 ———————— MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-15.932251	7.396831	-8.96E-16	-1.54E-17	3.61E-16	-2.232592
0.25000	-15.932251	7.743709	-9.38E-16	-1.54E-17	5.90E-16	-4.125159
0.50000	-15.932251	8.090586	-9.80E-16	-1.54E-17	8.30E-16	-6.104446
0.75000	-15.932251	8.437464	-1.02E-15	-1.54E-17	1.08E-15	-8.170452
1.00000	-15.932251	8.784342	-1.06E-15	-1.54E-17	1.34E-15	-10.323178

COMB COMB8 ———————— MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-13.459138	8.268831	-1.00E-15	1.52E-17	1.32E-15	-10.325814
0.25000	-13.459138	8.615709	-1.04E-15	1.52E-17	1.57E-15	-12.436381
0.50000	-13.459138	8.962587	-1.08E-15	1.52E-17	1.84E-15	-14.633668
0.75000	-13.459138	9.309464	-1.13E-15	1.52E-17	2.11E-15	-16.917674
1.00000	-13.459138	9.656342	-1.17E-15	1.52E-17	2.40E-15	-19.288400

COMB COMB8 ———————— MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-13.459138	8.268831	-1.00E-15	1.52E-17	1.32E-15	-10.325814
0.25000	-13.459138	8.615709	-1.04E-15	1.52E-17	1.57E-15	-12.436381
0.50000	-13.459138	8.962587	-1.08E-15	1.52E-17	1.84E-15	-14.633668
0.75000	-13.459138	9.309464	-1.13E-15	1.52E-17	2.11E-15	-16.917674
1.00000	-13.459138	9.656342	-1.17E-15	1.52E-17	2.40E-15	-19.288400

ELEM 40 ========== LENGTH = 1.000000

COMB COMB1 ———————— MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-42.157166	-2.200015	2.66E-16	-1.95E-19	3.54E-15	-28.269210
0.25000	-42.157166	-1.275008	1.54E-16	-1.95E-19	3.49E-15	-27.834832
0.50000	-42.157166	-0.350001	4.24E-17	-1.95E-19	3.46E-15	-27.631706
0.75000	-42.157166	0.575006	-6.96E-17	-1.95E-19	3.47E-15	-27.659832
1.00000	-42.157166	1.500013	-1.82E-16	-1.95E-19	3.50E-15	-27.919209

COMB COMB1 ———————— MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-42.157166	-2.200015	2.66E-16	-1.95E-19	3.54E-15	-28.269210
0.25000	-42.157166	-1.275008	1.54E-16	-1.95E-19	3.49E-15	-27.834832
0.50000	-42.157166	-0.350001	4.24E-17	-1.95E-19	3.46E-15	-27.631706
0.75000	-42.157166	0.575006	-6.96E-17	-1.95E-19	3.47E-15	-27.659832
1.00000	-42.157166	1.500013	-1.82E-16	-1.95E-19	3.50E-15	-27.919209

COMB COMB2 ———————— MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-59.307636	-18.078598	2.19E-15	-1.29E-19	1.28E-15	-10.300189
0.25000	-59.307636	-17.483951	2.12E-15	-1.29E-19	7.43E-16	-5.854870
0.50000	-59.307636	-16.889303	2.05E-15	-1.29E-19	2.23E-16	-1.558213

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
0.75000	-59.307636	-16.294656	1.97E-15	-1.29E-19	-2.80E-16	2.589782
1.00000	-59.307636	-15.700008	1.90E-15	-1.29E-19	-7.64E-16	6.589115

COMB COMB2 ———————— MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-59.307636	-18.078598	2.19E-15	-1.29E-19	1.28E-15	-10.300189
0.25000	-59.307636	-17.483951	2.12E-15	-1.29E-19	7.43E-16	-5.854870
0.50000	-59.307636	-16.889303	2.05E-15	-1.29E-19	2.23E-16	-1.558213
0.75000	-59.307636	-16.294656	1.97E-15	-1.29E-19	-2.80E-16	2.589782
1.00000	-59.307636	-15.700008	1.90E-15	-1.29E-19	-7.64E-16	6.589115

COMB COMB3 ———————— MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	2.932075	21.130009	-2.56E-15	-1.91E-19	4.93E-15	-39.291235
0.25000	2.932075	22.055016	-2.67E-15	-1.91E-19	5.58E-15	-44.689363
0.50000	2.932075	22.980023	-2.78E-15	-1.91E-19	6.27E-15	-50.318743
0.75000	2.932075	23.905030	-2.90E-15	-1.91E-19	6.98E-15	-56.179375
1.00000	2.932075	24.830037	-3.01E-15	-1.91E-19	7.71E-15	-62.271258

COMB COMB3 ———————— MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	2.932075	21.130009	-2.56E-15	-1.91E-19	4.93E-15	-39.291235
0.25000	2.932075	22.055016	-2.67E-15	-1.91E-19	5.58E-15	-44.689363
0.50000	2.932075	22.980023	-2.78E-15	-1.91E-19	6.27E-15	-50.318743
0.75000	2.932075	23.905030	-2.90E-15	-1.91E-19	6.98E-15	-56.179375
1.00000	2.932075	24.830037	-3.01E-15	-1.91E-19	7.71E-15	-62.271258

COMB COMB4 ———————— MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-34.235207	-2.729544	3.30E-16	-2.31E-17	1.79E-15	-13.709389
0.25000	-34.235207	-2.035789	2.46E-16	-2.31E-17	1.72E-15	-13.113722
0.50000	-34.235207	-1.342034	1.62E-16	-2.31E-17	1.66E-15	-12.691495
0.75000	-34.235207	-0.648278	7.76E-17	-2.31E-17	1.63E-15	-12.442706
1.00000	-34.235207	0.045477	-6.42E-18	-2.31E-17	1.63E-15	-12.367356

COMB COMB4 ———————— MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-34.235207	-2.729544	3.30E-16	-2.31E-17	1.79E-15	-13.709389
0.25000	-34.235207	-2.035789	2.46E-16	-2.31E-17	1.72E-15	-13.113722
0.50000	-34.235207	-1.342034	1.62E-16	-2.31E-17	1.66E-15	-12.691495
0.75000	-34.235207	-0.648278	7.76E-17	-2.31E-17	1.63E-15	-12.442706
1.00000	-34.235207	0.045477	-6.42E-18	-2.31E-17	1.63E-15	-12.367356

COMB COMB5 ———————— MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-30.525537	-3.824234	4.64E-16	2.28E-17	3.38E-15	-27.157223

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
0.25000	-30.525537	-3.130478	3.80E-16	2.28E-17	3.27E-15	-26.287884
0.50000	-30.525537	-2.436723	2.96E-16	2.28E-17	3.19E-15	-25.591983
0.75000	-30.525537	-1.742967	2.12E-16	2.28E-17	3.12E-15	-25.069522
1.00000	-30.525537	-1.049212	1.28E-16	2.28E-17	3.08E-15	-24.720500

COMB COMB5 ———————— MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-30.525537	-3.824234	4.64E-16	2.28E-17	3.38E-15	-27.157223
0.25000	-30.525537	-3.130478	3.80E-16	2.28E-17	3.27E-15	-26.287884
0.50000	-30.525537	-2.436723	2.96E-16	2.28E-17	3.19E-15	-25.591983
0.75000	-30.525537	-1.742967	2.12E-16	2.28E-17	3.12E-15	-25.069522
1.00000	-30.525537	-1.049212	1.28E-16	2.28E-17	3.08E-15	-24.720500

COMB COMB6 ———————— MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-18.916484	2.947902	-3.57E-16	-1.26E-19	2.56E-15	-20.424254
0.25000	-18.916484	3.548556	-4.30E-16	-1.26E-19	2.66E-15	-21.236311
0.50000	-18.916484	4.149210	-5.03E-16	-1.26E-19	2.77E-15	-22.198532
0.75000	-18.916484	4.749864	-5.75E-16	-1.26E-19	2.91E-15	-23.310916
1.00000	-18.916484	5.350518	-6.48E-16	-1.26E-19	3.06E-15	-24.573464

COMB COMB6 ———————— MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-18.916484	2.947902	-3.57E-16	-1.26E-19	2.56E-15	-20.424254
0.25000	-18.916484	3.548556	-4.30E-16	-1.26E-19	2.66E-15	-21.236311
0.50000	-18.916484	4.149210	-5.03E-16	-1.26E-19	2.77E-15	-22.198532
0.75000	-18.916484	4.749864	-5.75E-16	-1.26E-19	2.91E-15	-23.310916
1.00000	-18.916484	5.350518	-6.48E-16	-1.26E-19	3.06E-15	-24.573464

COMB COMB7 ———————— MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-15.932251	1.491238	-1.81E-16	-1.54E-17	1.34E-15	-10.323178
0.25000	-15.932251	1.941729	-2.36E-16	-1.54E-17	1.39E-15	-10.752299
0.50000	-15.932251	2.392219	-2.90E-16	-1.54E-17	1.46E-15	-11.294042
0.75000	-15.932251	2.842710	-3.45E-16	-1.54E-17	1.54E-15	-11.948408
1.00000	-15.932251	3.293200	-3.99E-16	-1.54E-17	1.63E-15	-12.715397

COMB COMB7 ———————— MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-15.932251	1.491238	-1.81E-16	-1.54E-17	1.34E-15	-10.323178
0.25000	-15.932251	1.941729	-2.36E-16	-1.54E-17	1.39E-15	-10.752299
0.50000	-15.932251	2.392219	-2.90E-16	-1.54E-17	1.46E-15	-11.294042
0.75000	-15.932251	2.842710	-3.45E-16	-1.54E-17	1.54E-15	-11.948408
1.00000	-15.932251	3.293200	-3.99E-16	-1.54E-17	1.63E-15	-12.715397

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB8 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-13.459138	0.761445	-9.16E-17	1.52E-17	2.40E-15	-19.288400
0.25000	-13.459138	1.211936	-1.46E-16	1.52E-17	2.43E-15	-19.535073
0.50000	-13.459138	1.662426	-2.01E-16	1.52E-17	2.47E-15	-19.894368
0.75000	-13.459138	2.112917	-2.55E-16	1.52E-17	2.53E-15	-20.366286
1.00000	-13.459138	2.563407	-3.10E-16	1.52E-17	2.60E-15	-20.950827

COMB COMB8 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-13.459138	0.761445	-9.16E-17	1.52E-17	2.40E-15	-19.288400
0.25000	-13.459138	1.211936	-1.46E-16	1.52E-17	2.43E-15	-19.535073
0.50000	-13.459138	1.662426	-2.01E-16	1.52E-17	2.47E-15	-19.894368
0.75000	-13.459138	2.112917	-2.55E-16	1.52E-17	2.53E-15	-20.366286
1.00000	-13.459138	2.563407	-3.10E-16	1.52E-17	2.60E-15	-20.950827

ELEM 41 ========== LENGTH = 1.075000

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-42.157166	-74.790324	-2.66E-14	-1.95E-19	6.64E-15	-27.919209
0.25000	-42.157166	-73.795941	-2.67E-14	-1.95E-19	1.38E-14	-7.952930
0.50000	-42.157166	-72.801558	-2.68E-14	-1.95E-19	2.10E-14	11.746109
0.75000	-42.157166	-71.807175	-2.69E-14	-1.95E-19	2.82E-14	31.177908
1.00000	-42.157166	-70.812793	-2.70E-14	-1.95E-19	3.54E-14	50.342466

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-42.157166	-74.790324	-2.66E-14	-1.95E-19	6.64E-15	-27.919209
0.25000	-42.157166	-73.795941	-2.67E-14	-1.95E-19	1.38E-14	-7.952930
0.50000	-42.157166	-72.801558	-2.68E-14	-1.95E-19	2.10E-14	11.746109
0.75000	-42.157166	-71.807175	-2.69E-14	-1.95E-19	2.82E-14	31.177908
1.00000	-42.157166	-70.812793	-2.70E-14	-1.95E-19	3.54E-14	50.342466

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-59.307636	-69.032377	1.35E-14	-1.29E-19	-1.22E-15	6.589115
0.25000	-59.307636	-68.393131	1.34E-14	-1.29E-19	-4.84E-15	25.055667
0.50000	-59.307636	-67.753885	1.34E-14	-1.29E-19	-8.44E-15	43.350423
0.75000	-59.307636	-67.114639	1.33E-14	-1.29E-19	-1.20E-14	61.473380
1.00000	-59.307636	-66.475393	1.32E-14	-1.29E-19	-1.56E-14	79.424541

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-59.307636	-69.032377	1.35E-14	-1.29E-19	-1.22E-15	6.589115
0.25000	-59.307636	-68.393131	1.34E-14	-1.29E-19	-4.84E-15	25.055667
0.50000	-59.307636	-67.753885	1.34E-14	-1.29E-19	-8.44E-15	43.350423

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
0.75000	-59.307636	-67.114639	1.33E-14	-1.29E-19	-1.20E-14	61.473380
1.00000	-59.307636	-66.475393	1.32E-14	-1.29E-19	-1.56E-14	79.424541

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	2.932075	-45.456287	-6.94E-14	-1.91E-19	1.43E-14	-62.271258
0.25000	2.932075	-44.461905	-6.95E-14	-1.91E-19	3.30E-14	-50.188501
0.50000	2.932075	-43.467522	-6.96E-14	-1.91E-19	5.17E-14	-38.372984
0.75000	2.932075	-42.473139	-6.97E-14	-1.91E-19	7.04E-14	-26.824708
1.00000	2.932075	-41.478757	-6.99E-14	-1.91E-19	8.92E-14	-15.543672

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	2.932075	-45.456287	-6.94E-14	-1.91E-19	1.43E-14	-62.271258
0.25000	2.932075	-44.461905	-6.95E-14	-1.91E-19	3.30E-14	-50.188501
0.50000	2.932075	-43.467522	-6.96E-14	-1.91E-19	5.17E-14	-38.372984
0.75000	2.932075	-42.473139	-6.97E-14	-1.91E-19	7.04E-14	-26.824708
1.00000	2.932075	-41.478757	-6.99E-14	-1.91E-19	8.92E-14	-15.543672

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-34.235207	-55.738803	-2.17E-14	-2.31E-17	4.14E-15	-12.367356
0.25000	-34.235207	-54.993016	-2.18E-14	-2.31E-17	9.99E-15	2.512233
0.50000	-34.235207	-54.247229	-2.19E-14	-2.31E-17	1.59E-14	17.191390
0.75000	-34.235207	-53.501441	-2.20E-14	-2.31E-17	2.18E-14	31.670118
1.00000	-34.235207	-52.755654	-2.21E-14	-2.31E-17	2.77E-14	45.948415

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-34.235207	-55.738803	-2.17E-14	-2.31E-17	4.14E-15	-12.367356
0.25000	-34.235207	-54.993016	-2.18E-14	-2.31E-17	9.99E-15	2.512233
0.50000	-34.235207	-54.247229	-2.19E-14	-2.31E-17	1.59E-14	17.191390
0.75000	-34.235207	-53.501441	-2.20E-14	-2.31E-17	2.18E-14	31.670118
1.00000	-34.235207	-52.755654	-2.21E-14	-2.31E-17	2.77E-14	45.948415

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-30.525537	-60.537794	-1.21E-14	2.28E-17	4.80E-15	-24.720500
0.25000	-30.525537	-59.792007	-1.22E-14	2.28E-17	8.07E-15	-8.551183
0.50000	-30.525537	-59.046220	-1.23E-14	2.28E-17	1.14E-14	7.417704
0.75000	-30.525537	-58.300433	-1.24E-14	2.28E-17	1.47E-14	23.186161
1.00000	-30.525537	-57.554646	-1.25E-14	2.28E-17	1.80E-14	38.754187

COMB COMB5 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-30.525537	-60.537794	-1.21E-14	2.28E-17	4.80E-15	-24.720500

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
0.25000	-30.525537	-59.792007	-1.22E-14	2.28E-17	8.07E-15	-8.551183
0.50000	-30.525537	-59.046220	-1.23E-14	2.28E-17	1.14E-14	7.417704
0.75000	-30.525537	-58.300433	-1.24E-14	2.28E-17	1.47E-14	23.186151
1.00000	-30.525537	-57.554646	-1.25E-14	2.28E-17	1.80E-14	38.754187

COMB COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-18.916484	-43.062368	-2.53E-14	-1.26E-19	5.75E-15	-24.573464
0.25000	-18.916484	-42.416665	-2.54E-14	-1.26E-19	1.26E-14	-13.087219
0.50000	-18.916484	-41.770962	-2.54E-14	-1.26E-19	1.94E-14	-1.774507
0.75000	-18.916484	-41.125259	-2.55E-14	-1.26E-19	2.62E-14	9.364673
1.00000	-18.916484	-40.479556	-2.56E-14	-1.26E-19	3.31E-14	20.330320

COMB COMB6 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-18.916484	-43.062368	-2.53E-14	-1.26E-19	5.75E-15	-24.573464
0.25000	-18.916484	-42.416665	-2.54E-14	-1.26E-19	1.26E-14	-13.087219
0.50000	-18.916484	-41.770962	-2.54E-14	-1.26E-19	1.94E-14	-1.774507
0.75000	-18.916484	-41.125259	-2.55E-14	-1.26E-19	2.62E-14	9.364673
1.00000	-18.916484	-40.479556	-2.56E-14	-1.26E-19	3.31E-14	20.330320

COMB COMB7 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-15.932251	-32.060816	-2.02E-14	-1.54E-17	3.75E-15	-12.715397
0.25000	-15.932251	-31.576538	-2.02E-14	-1.54E-17	9.18E-15	-4.164128
0.50000	-15.932251	-31.092261	-2.03E-14	-1.54E-17	1.46E-14	4.256992
0.75000	-15.932251	-30.607984	-2.03E-14	-1.54E-17	2.01E-14	12.547963
1.00000	-15.932251	-30.123707	-2.04E-14	-1.54E-17	2.56E-14	20.708784

COMB COMB7 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-15.932251	-32.060816	-2.02E-14	-1.54E-17	3.75E-15	-12.715397
0.25000	-15.932251	-31.576538	-2.02E-14	-1.54E-17	9.18E-15	-4.164128
0.50000	-15.932251	-31.092261	-2.03E-14	-1.54E-17	1.46E-14	4.256992
0.75000	-15.932251	-30.607984	-2.03E-14	-1.54E-17	2.01E-14	12.547963
1.00000	-15.932251	-30.123707	-2.04E-14	-1.54E-17	2.56E-14	20.708784

COMB COMB8 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-13.459138	-35.260144	-1.38E-14	1.52E-17	4.19E-15	-20.950827
0.25000	-13.459138	-34.775866	-1.38E-14	1.52E-17	7.90E-15	-11.539738
0.50000	-13.459138	-34.291589	-1.39E-14	1.52E-17	1.16E-14	-2.258798
0.75000	-13.459138	-33.807312	-1.39E-14	1.52E-17	1.54E-14	6.891991
1.00000	-13.459138	-33.323034	-1.40E-14	1.52E-17	1.91E-14	15.912632

F R A M E E L E M E N T I N T E R N A L F O R C E S

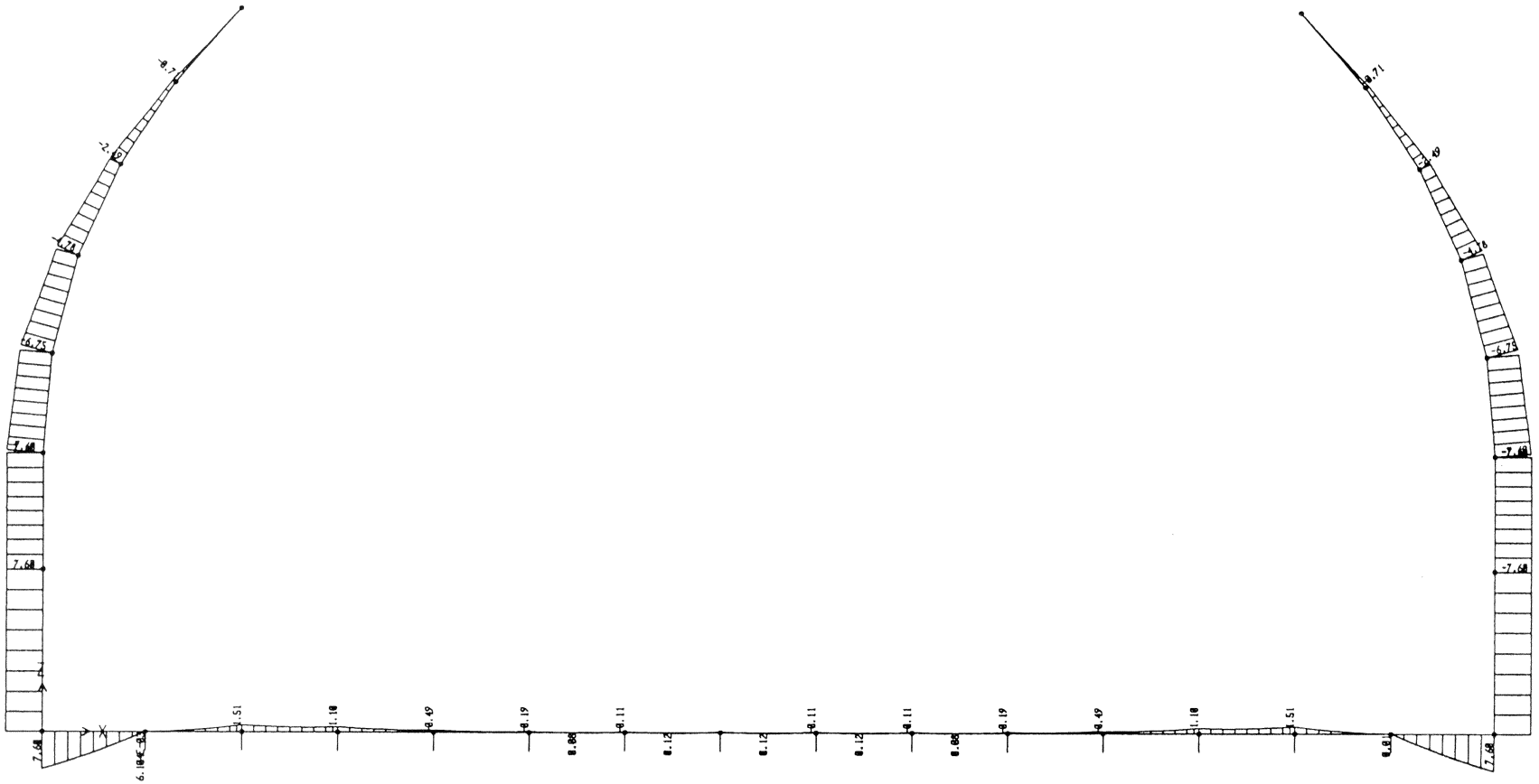
COMB COMB8 ---------- MIN

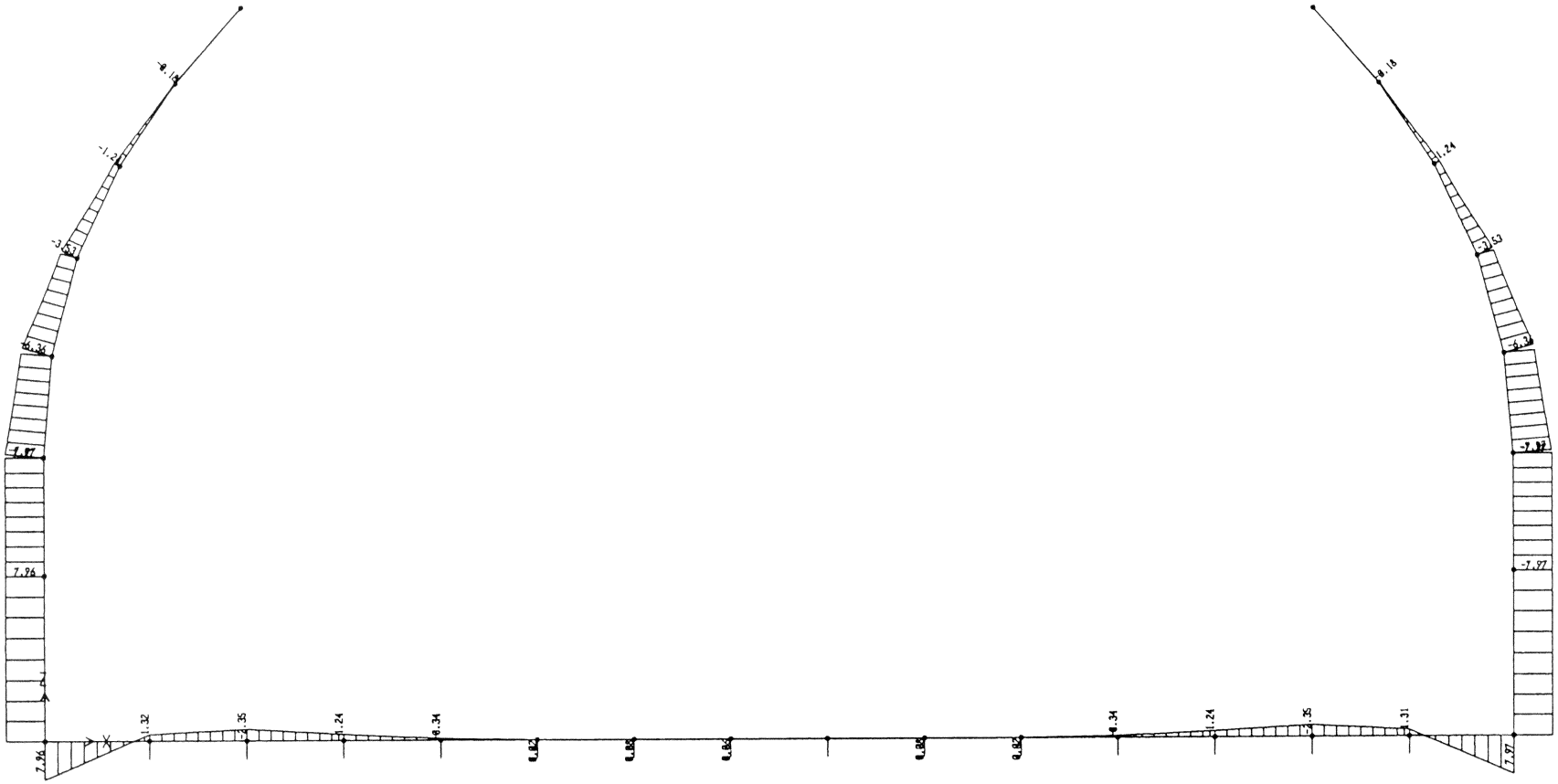
REL DIST	P	V2	V3	T	M2	M3
0.00000	-13.459138	-35.260144	-1.38E-14	1.52E-17	4.19E-15	-20.950827
0.25000	-13.459138	-34.775866	-1.38E-14	1.52E-17	7.90E-15	-11.539738
0.50000	-13.459138	-34.291589	-1.39E-14	1.52E-17	1.16E-14	-2.258798
0.75000	-13.459138	-33.807312	-1.39E-14	1.52E-17	1.54E-14	6.891991
1.00000	-13.459138	-33.323034	-1.40E-14	1.52E-17	1.91E-14	15.912632

6-2. U - TYPE 구조계산 결과

■ 단면력도

다) 부재력도





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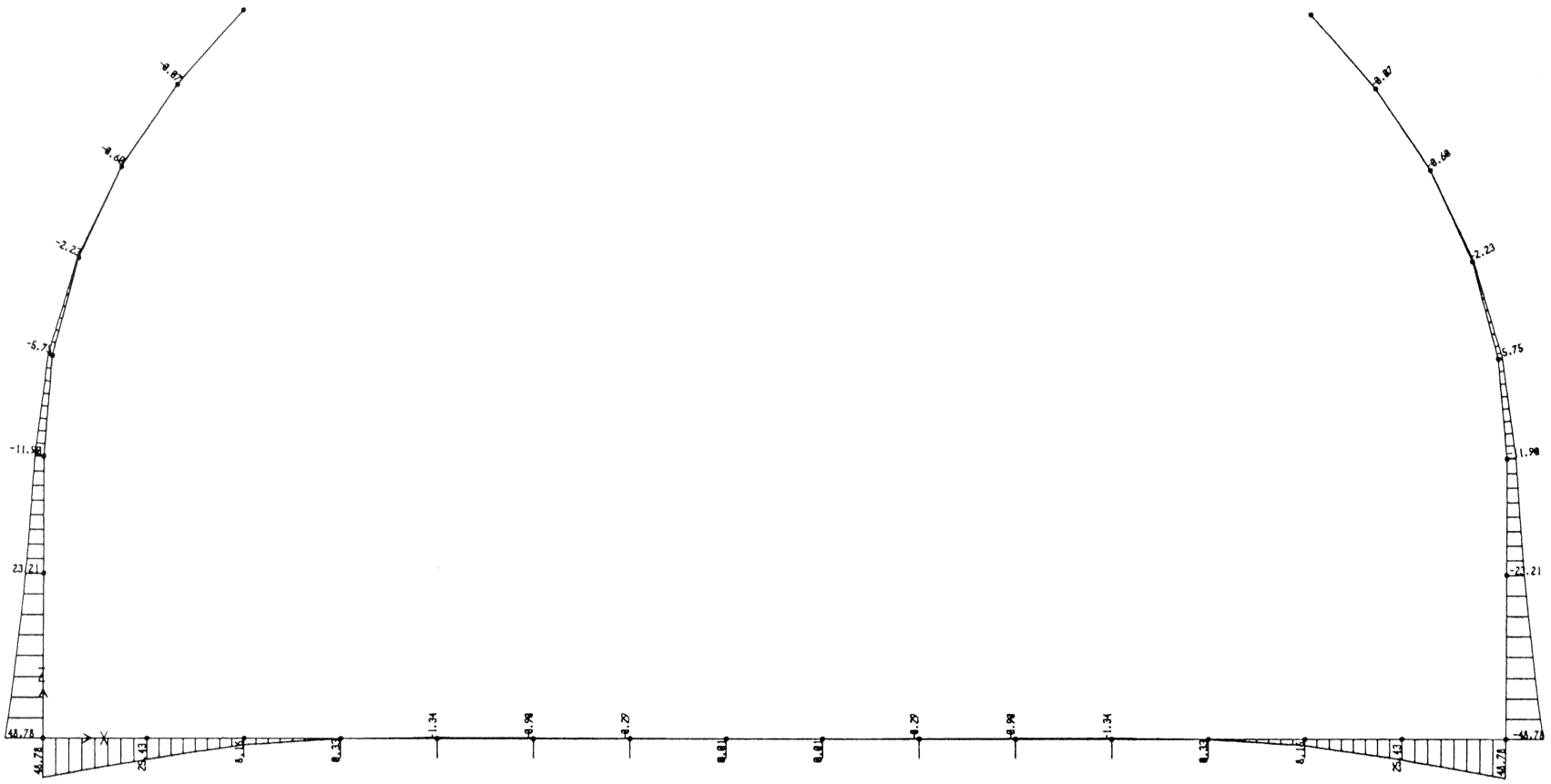

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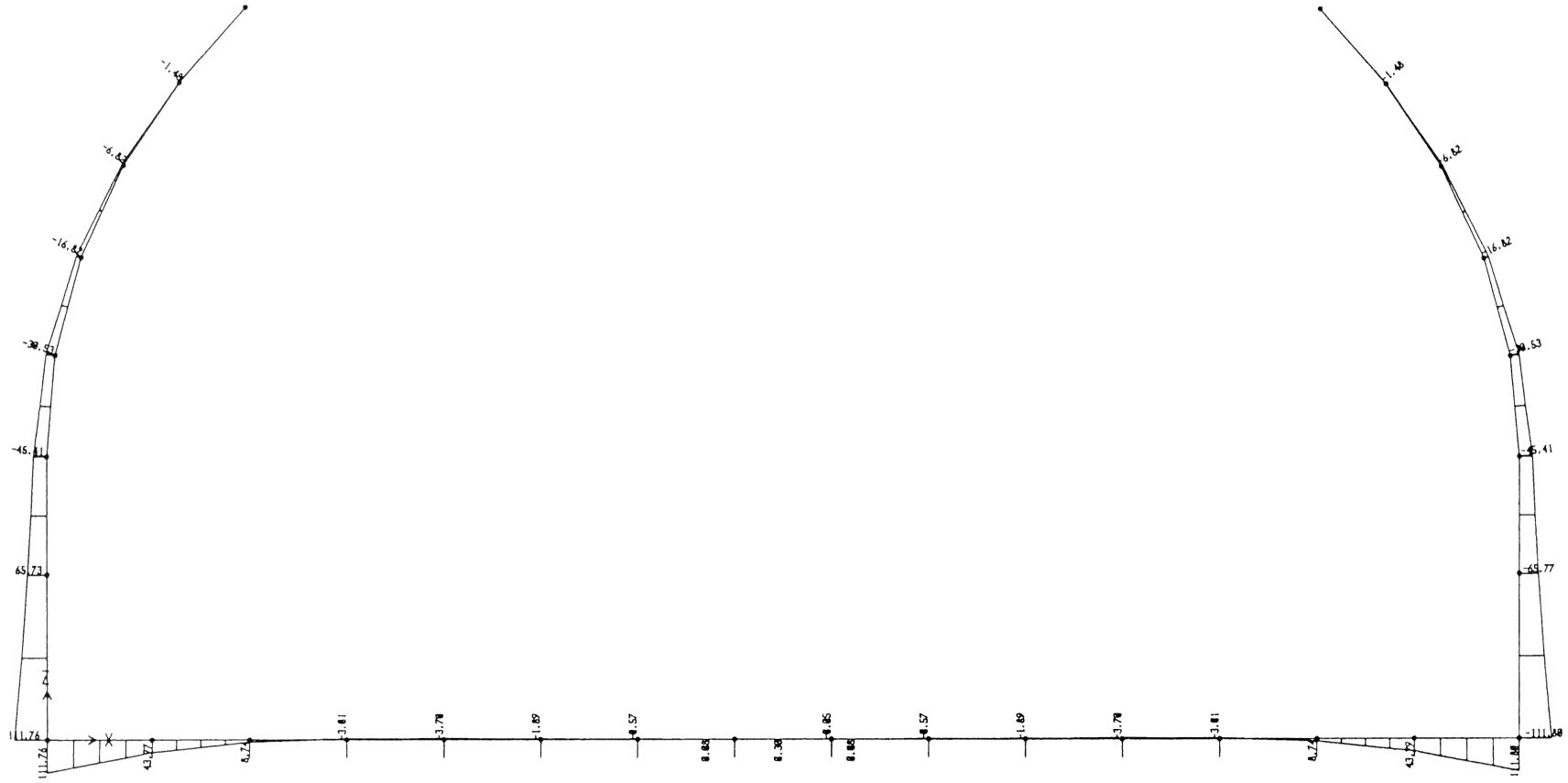

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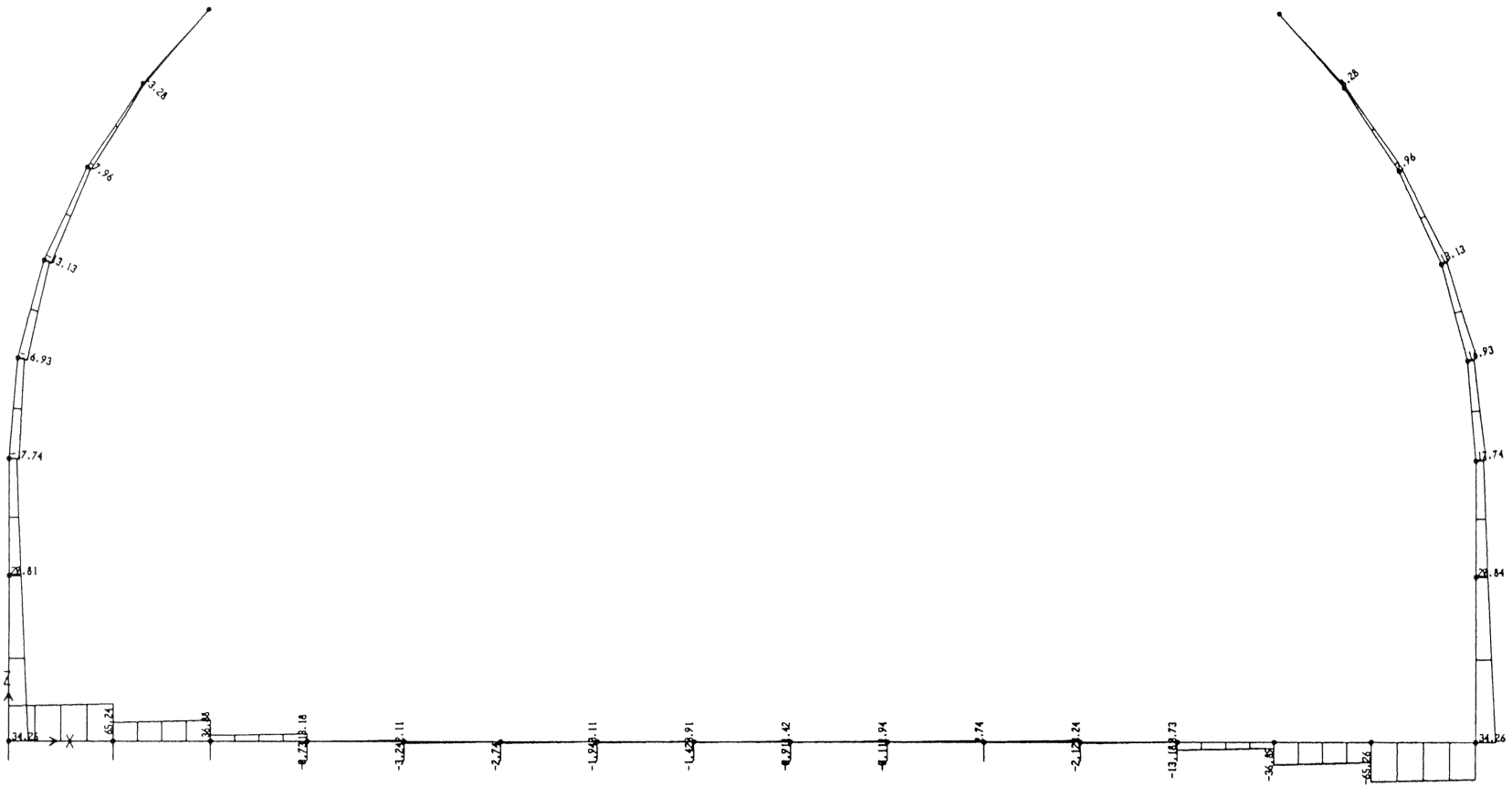

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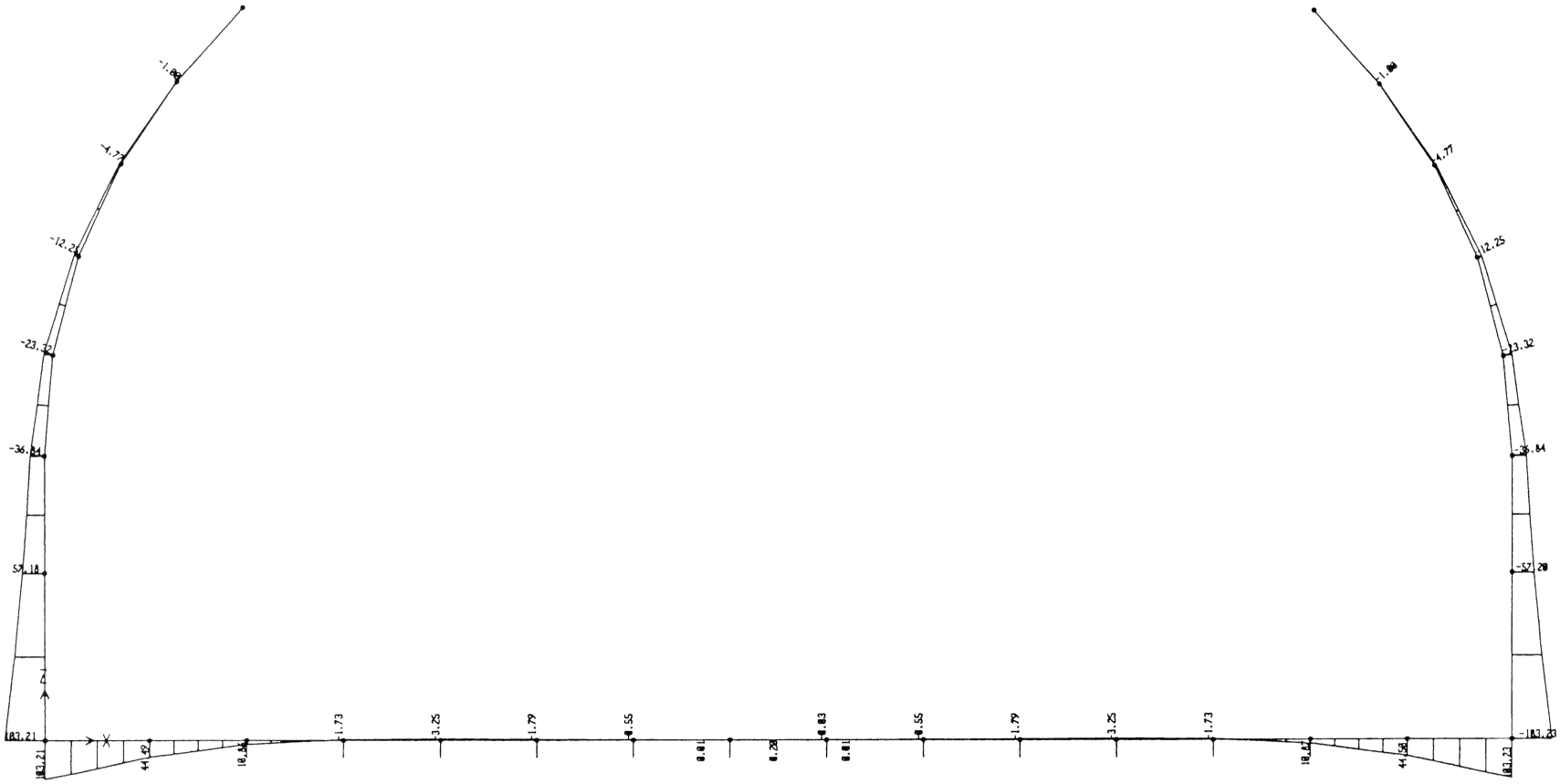

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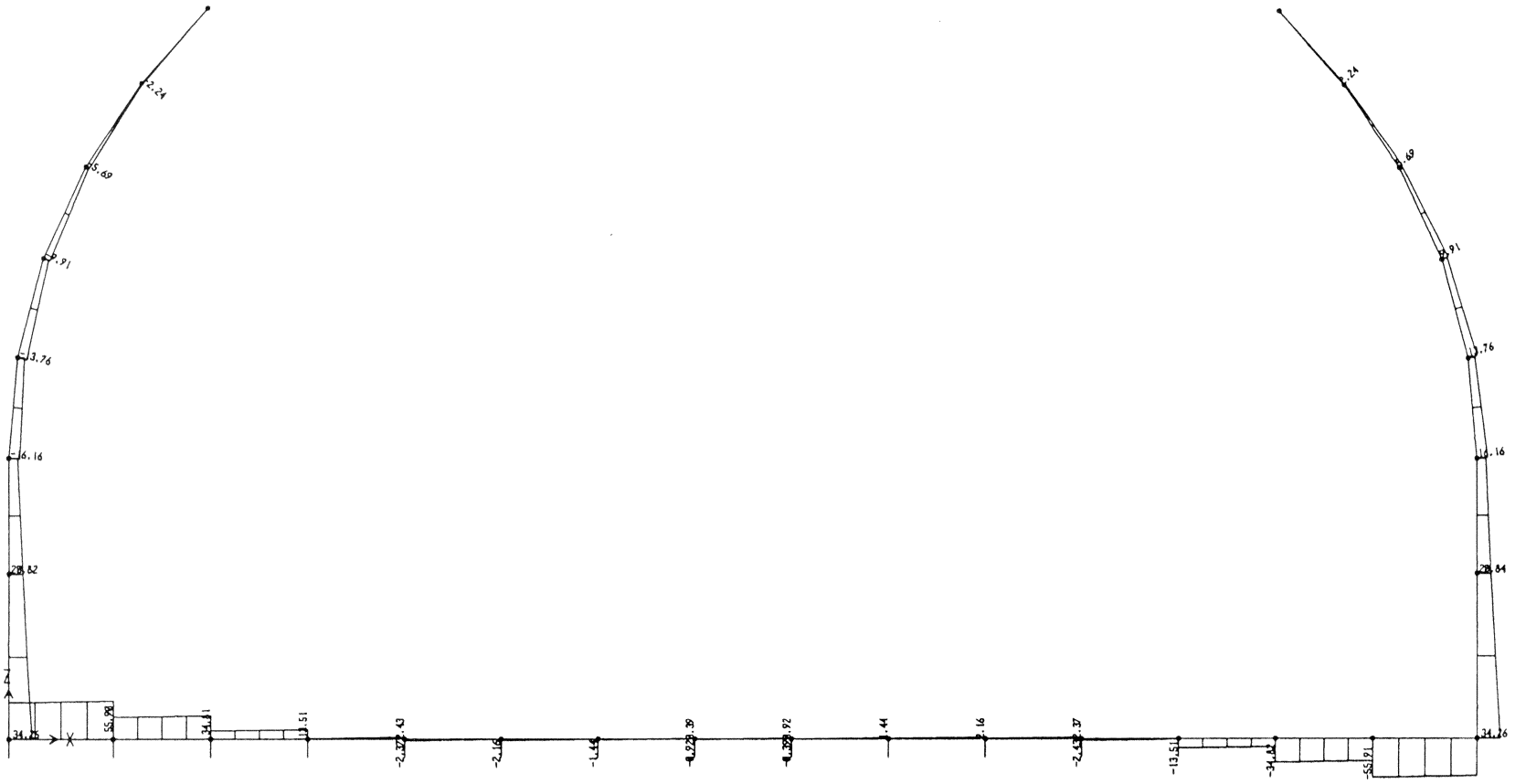

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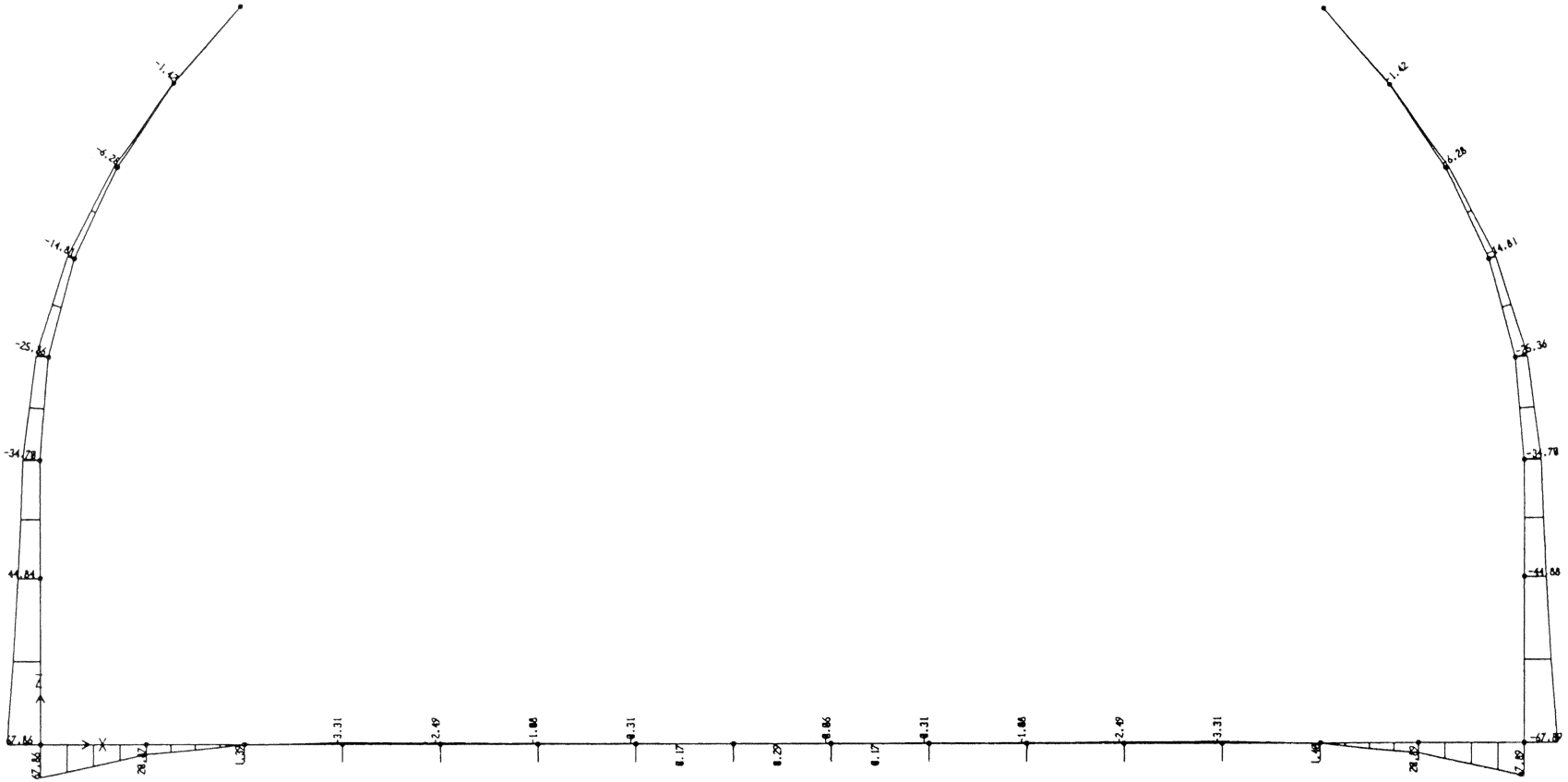

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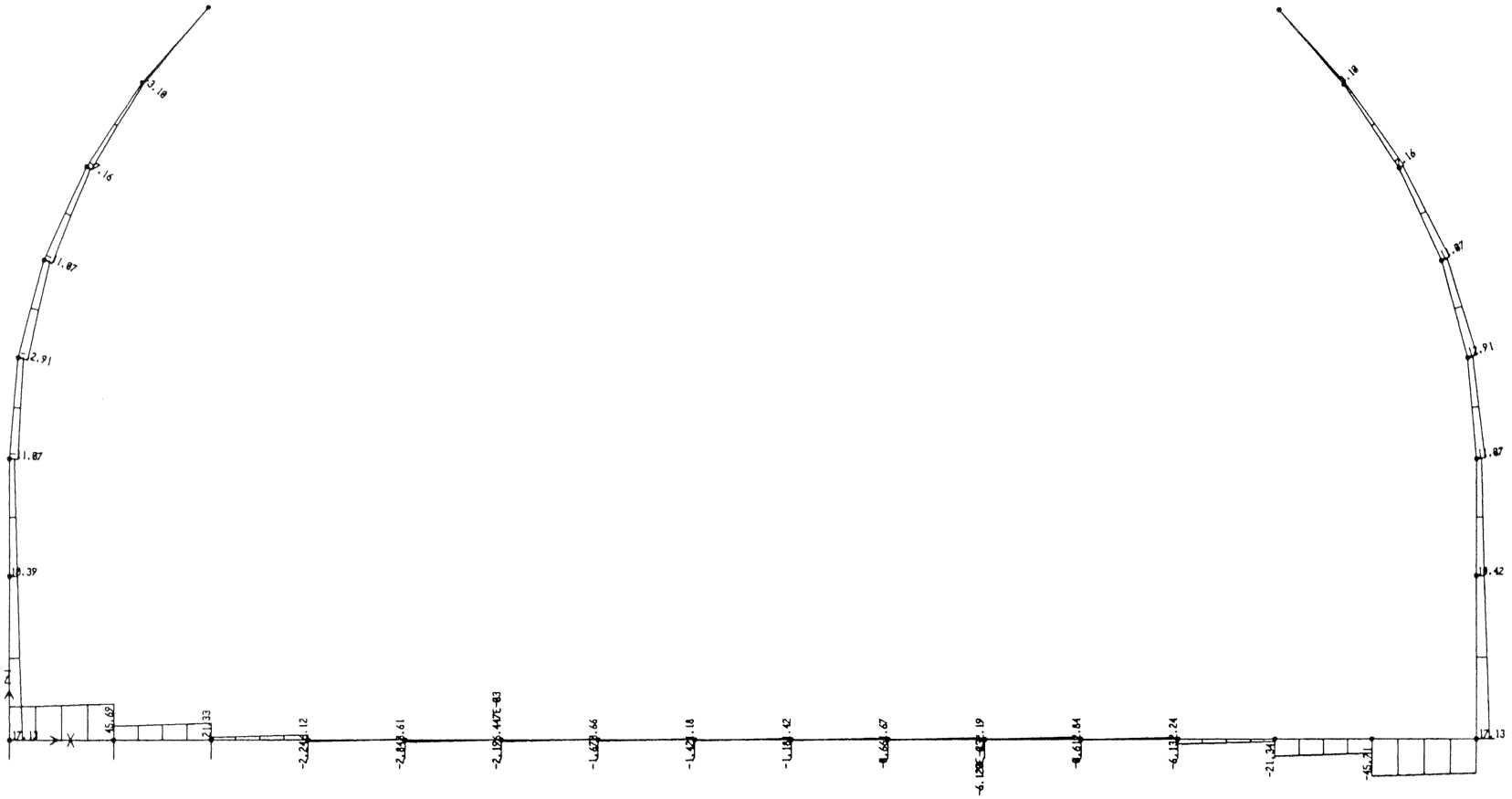
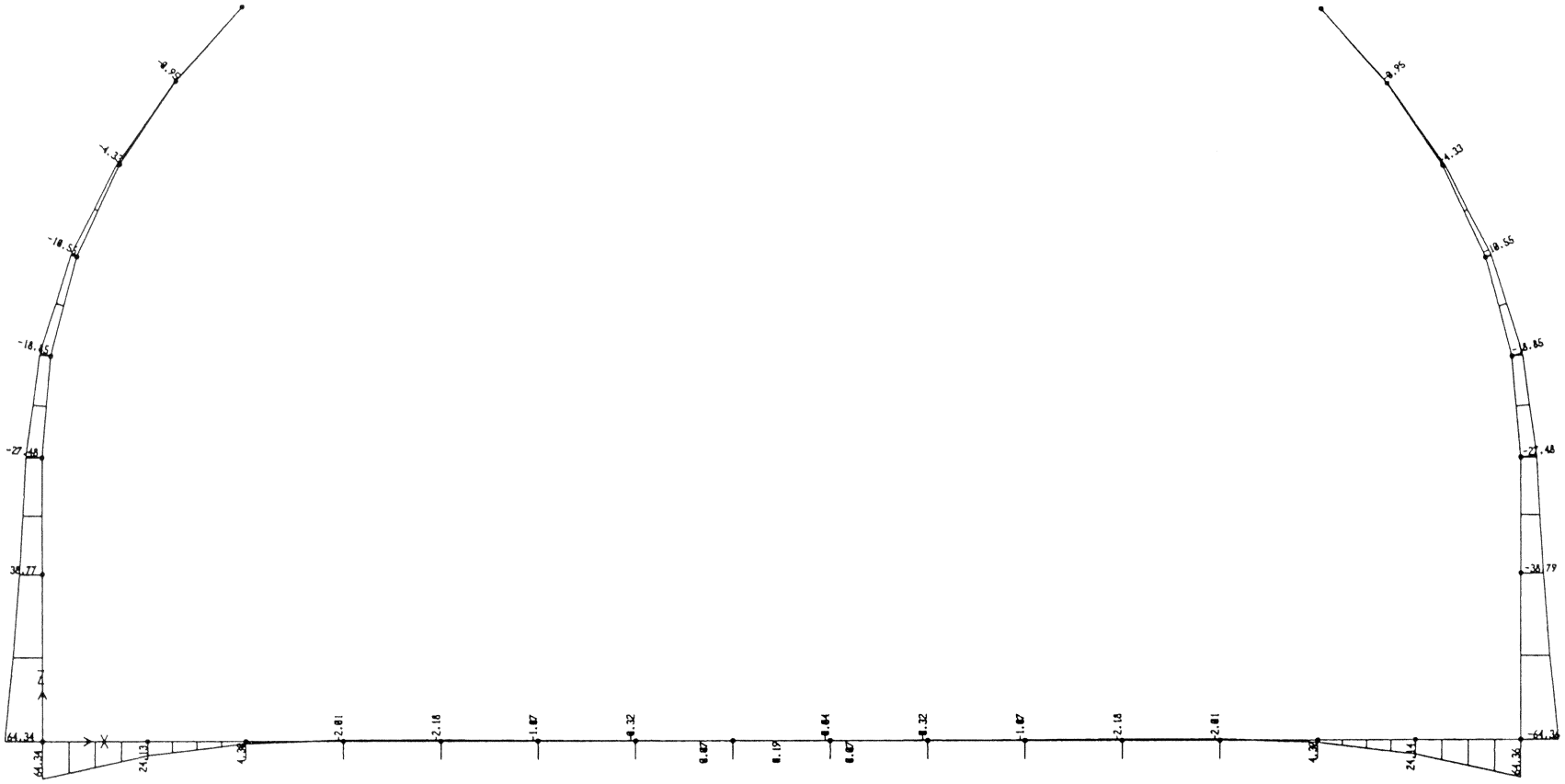
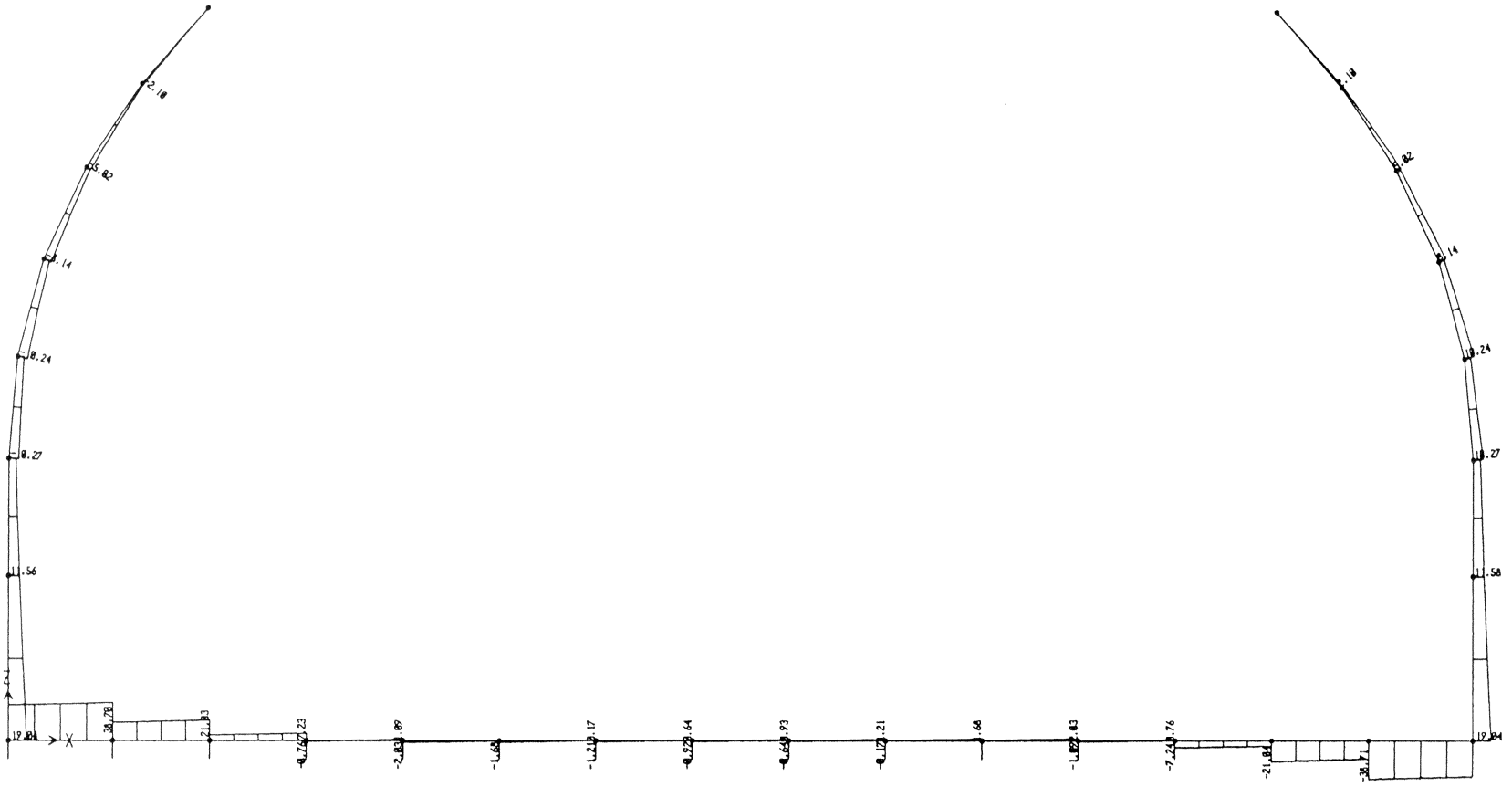




SAP2000 v7.40 - File:tttt - Moment 3-3 Diagram (COMB4) - Ton-m Units



■ 전산 OUT PUT

3) 입력데이타 와 output (부재력도)

가) 입력데이타 (SAP 2000 program)

```
; File C:₩2003pro₩토질부₩tttt.$2k saved 6-27-03 15:38:42 in Ton-m

SYSTEM
  DOF=UX,UY,UZ,RX,RY,RZ  LENGTH=m  FORCE=Ton  LINES=59

JOINT
  1  X=0  Y=0  Z=0
  2  X=0  Y=0  Z=1.687847
  3  X=-7.213203E-04  Y=0  Z=2.887847
  4  X=8.945698E-02  Y=0  Z=3.91859
  5  X=.3572519  Y=0  Z=4.918014
  6  X=.7945265  Y=0  Z=5.855752
  7  X=1.363475  Y=0  Z=6.707245
  8  X=2.038699  Y=0  Z=7.477191
  9  X=13.11058  Y=0  Z=7.477191
  10  X=13.7858  Y=0  Z=6.707245
  11  X=14.35475  Y=0  Z=5.855752
  12  X=14.79203  Y=0  Z=4.918014
  13  X=15.05982  Y=0  Z=3.91859
  14  X=15.15  Y=0  Z=2.887847
  15  X=15.15  Y=0  Z=1.687847
  16  X=15.15  Y=0  Z=0
  17  X=1.075  Y=0  Z=0
  18  X=2.075  Y=0  Z=0
  19  X=3.075  Y=0  Z=0
  20  X=4.075  Y=0  Z=0
  21  X=5.075  Y=0  Z=0
  22  X=6.075  Y=0  Z=0
  23  X=7.075  Y=0  Z=0
  24  X=8.075  Y=0  Z=0
  25  X=9.075  Y=0  Z=0
  26  X=10.075  Y=0  Z=0
  27  X=11.075  Y=0  Z=0
  28  X=12.075  Y=0  Z=0
  29  X=13.075  Y=0  Z=0
  30  X=14.075  Y=0  Z=0

LOCAL
  ADD=16  ANG=0,180,180

PATTERN
  NAME=DEFAULT

SPRING
  ADD=1  U3=151106
  ADD=17  U3=162875
  ADD=30  U3=162875
  ADD=18  U3=156912
  ADD=19  U3=156912
  ADD=20  U3=156912
  ADD=21  U3=156912
  ADD=22  U3=156912
  ADD=23  U3=156912
  ADD=24  U3=156912
  ADD=25  U3=156912
  ADD=26  U3=156912
  ADD=27  U3=156912
  ADD=28  U3=156912
  ADD=29  U3=156912
  ADD=16  U1=1E+10  U2=1E+10  U3=151106  R1=1E+10  R3=1E+10

MATERIAL
```

```
  NAME=STEEL  IDES=S  M=.798142  W=7.833414
    T=0  E=2.038902E+07  U=.3  A=.0000117  FY=25310.51
  NAME=CONC  IDES=C  M=.2448012  W=2.402616
    T=0  E=2531051  U=.2  A=.0000099
  NAME=OTHER  IDES=N  M=.2448012  W=2.402616
    T=0  E=2531051  U=.2  A=.0000099

FRAME SECTION
  NAME=FSEC1 MAT=CONC SH=R T=1,1 A=1 J=.1408333 I=8.333334E-02,8.333334E-02 AS=.8333333,.8333333
  NAME=FSEC2 MAT=CONC SH=R T=.85,1 A=.85 J=9.985561E-02 I=5.117708E-02,7.083333E-02 AS=.7083333,.708333
3
  NAME=FSEC3 MAT=CONC SH=R T=.77,1 A=.77 J=8.051882E-02 I=3.804442E-02,6.416667E-02 AS=.6416667,.641666
7

FRAME
  1  J=1,2  SEC=FSEC1  NSEG=2  ANG=0
  2  J=2,3  SEC=FSEC2  NSEG=2  ANG=0
  3  J=3,4  SEC=FSEC2  NSEG=2  ANG=0
  4  J=4,5  SEC=FSEC2  NSEG=2  ANG=0
  5  J=5,6  SEC=FSEC2  NSEG=2  ANG=0
  6  J=6,7  SEC=FSEC2  NSEG=2  ANG=0
  7  J=7,8  SEC=FSEC2  NSEG=2  ANG=0
  8  J=9,10  SEC=FSEC2  NSEG=2  ANG=0
  9  J=10,11  SEC=FSEC2  NSEG=2  ANG=0
  10  J=11,12  SEC=FSEC2  NSEG=2  ANG=0
  11  J=12,13  SEC=FSEC2  NSEG=2  ANG=0
  12  J=13,14  SEC=FSEC2  NSEG=2  ANG=0
  13  J=14,15  SEC=FSEC2  NSEG=2  ANG=0
  14  J=15,16  SEC=FSEC1  NSEG=2  ANG=0
  15  J=1,17  SEC=FSEC1  NSEG=4  ANG=0
  16  J=17,18  SEC=FSEC1  NSEG=4  ANG=0
  17  J=18,19  SEC=FSEC3  NSEG=4  ANG=0
  18  J=19,20  SEC=FSEC3  NSEG=4  ANG=0
  19  J=20,21  SEC=FSEC3  NSEG=4  ANG=0
  20  J=21,22  SEC=FSEC3  NSEG=4  ANG=0
  21  J=22,23  SEC=FSEC3  NSEG=4  ANG=0
  22  J=23,24  SEC=FSEC3  NSEG=4  ANG=0
  23  J=24,25  SEC=FSEC3  NSEG=4  ANG=0
  24  J=25,26  SEC=FSEC3  NSEG=4  ANG=0
  25  J=26,27  SEC=FSEC3  NSEG=4  ANG=0
  26  J=27,28  SEC=FSEC3  NSEG=4  ANG=0
  27  J=28,29  SEC=FSEC3  NSEG=4  ANG=0
  28  J=29,30  SEC=FSEC1  NSEG=4  ANG=0
  29  J=30,16  SEC=FSEC1  NSEG=4  ANG=0

LOAD
  NAME=LOAD1  SW=1  CSYS=0
  NAME=LOAD2  CSYS=0
    TYPE=DISTRIBUTED SPAN
      ADD=3  RD=0,1  UZ=-9.178,-7.116
      ADD=4  RD=0,1  UZ=-7.116,-5.118
      ADD=5  RD=0,1  UZ=-5.118,-3.242
      ADD=6  RD=0,1  UZ=-3.242,-1.54
      ADD=7  RD=0,1  UZ=-1.54,0
      ADD=8  RD=0,1  UZ=0,-1.54
      ADD=9  RD=0,1  UZ=-1.54,-3.242
      ADD=10  RD=0,1  UZ=-3.242,-5.118
      ADD=11  RD=0,1  UZ=-5.118,-7.116
      ADD=12  RD=0,1  UZ=-7.116,-9.178
  NAME=LOAD3  CSYS=0
    TYPE=DISTRIBUTED SPAN
      ADD=1  RD=0,1  UX=4.98,3.855
      ADD=2  RD=0,.9999997  UX=3.855,3.056
      ADD=3  RD=0,1  UX=3.056,2.37
```

```
      ADD=4   RD=0,1   UX=2.37,1.704
      ADD=5   RD=0,1   UX=1.704,1.08
      ADD=6   RD=0,1   UX=1.08,.513
      ADD=7   RD=0,1   UX=.513,0
      ADD=8   RD=0,1   UX=0,-.513
      ADD=9   RD=0,1   UX=-.513,-1.08
      ADD=10   RD=0,1   UX=-1.08,-1.704
      ADD=11   RD=0,1   UX=-1.704,-2.37
      ADD=12   RD=0,1   UX=-2.37,-3.056
      ADD=13   RD=0,1   UX=-3.056,-3.855
      ADD=14   RD=0,1   UX=-3.855,-4.98

COMBO
  NAME=COMB1
    LOAD=LOAD1   SF=1.54
    LOAD=LOAD2   SF=1.54
    LOAD=LOAD3   SF=1.8
  NAME=COMB2
    LOAD=LOAD1   SF=.99
    LOAD=LOAD2   SF=.99
    LOAD=LOAD3   SF=1.8
  NAME=COMB3
    LOAD=LOAD1   SF=1.54
    LOAD=LOAD2   SF=1.54
    LOAD=LOAD3   SF=.9
  NAME=COMB4
    LOAD=LOAD1   SF=1
    LOAD=LOAD2   SF=1
    LOAD=LOAD3   SF=1

OUTPUT
  ELEM=JOINT   TYPE=DISP   COMB=COMB1
  ELEM=JOINT   TYPE=DISP   COMB=COMB2
  ELEM=JOINT   TYPE=DISP   COMB=COMB3
  ELEM=JOINT   TYPE=DISP   COMB=COMB4
  ELEM=JOINT   TYPE=REAC   COMB=COMB1
  ELEM=JOINT   TYPE=REAC   COMB=COMB2
  ELEM=JOINT   TYPE=REAC   COMB=COMB3
  ELEM=JOINT   TYPE=REAC   COMB=COMB4
  ELEM=FRAME   TYPE=FORCE   COMB=COMB1
  ELEM=FRAME   TYPE=FORCE   COMB=COMB2
  ELEM=FRAME   TYPE=FORCE   COMB=COMB3
  ELEM=FRAME   TYPE=FORCE   COMB=COMB4

END

; The following data is used for graphics, design and pushover analysis.
; If changes are made to the analysis data above, then the following data
; should be checked for consistency.
SAP2000 V7.40 SUPPLEMENTAL DATA
  GROUP "DXFIN"   FRAME 1
  GROUP "DXFIN"   FRAME 2
  GROUP "DXFIN"   FRAME 3
  GROUP "DXFIN"   FRAME 4
  GROUP "DXFIN"   FRAME 5
  GROUP "DXFIN"   FRAME 6
  GROUP "DXFIN"   FRAME 7
  GROUP "DXFIN"   FRAME 8
  GROUP "DXFIN"   FRAME 9
  GROUP "DXFIN"   FRAME 10
  GROUP "DXFIN"   FRAME 11
  GROUP "DXFIN"   FRAME 12
  GROUP "DXFIN"   FRAME 13
  GROUP "DXFIN"   FRAME 14
```

```
  GROUP "DXFIN"  FRAME 15
  GROUP "DXFIN"  FRAME 16
  GROUP "DXFIN"  FRAME 17
  GROUP "DXFIN"  FRAME 18
  GROUP "DXFIN"  FRAME 19
  GROUP "DXFIN"  FRAME 20
  GROUP "DXFIN"  FRAME 21
  GROUP "DXFIN"  FRAME 22
  GROUP "DXFIN"  FRAME 23
  GROUP "DXFIN"  FRAME 24
  GROUP "DXFIN"  FRAME 25
  GROUP "DXFIN"  FRAME 26
  GROUP "DXFIN"  FRAME 27
  GROUP "DXFIN"  FRAME 28
  GROUP "DXFIN"  FRAME 29
  MATERIAL STEEL FY 25310.51
  MATERIAL CONC FYREBAR 42184.18 FYSHEAR 28122.79 FC 2812.279 FCSHEAR 2812.279
  CONCRETESECTION FSEC1 COLUMN  COVER .1 REBAR RR-3-3
  CONCRETESECTION FSEC2 COLUMN  COVER .085 REBAR RR-3-3
  CONCRETESECTION FSEC3 COLUMN  COVER .077 REBAR RR-3-3
  STATICLOAD LOAD1 TYPE DEAD
  STATICLOAD LOAD2 TYPE DEAD
  STATICLOAD LOAD3 TYPE OTHER
  COMBO COMB1 DESIGN CONCRETE
  COMBO COMB2 DESIGN CONCRETE
  COMBO COMB3 DESIGN CONCRETE
  COMBO COMB4 DESIGN CONCRETE
END SUPPLEMENTAL DATA
```

4) OUTPUT

S A P 2 0 0 0 (R)

Structural Analysis Programs

Nonlinear Version 7.40

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It is the responsibility of the user to verify all
results produced by this program

27 Jun 2003 15:38:43

D I S P L A C E M E N T D E G R E E S O F F R E E D O M

(A) = Active DOF, equilibrium equation
(-) = Restrained DOF, reaction computed
(+) = Constrained DOF
(>) = External substructure DOF
( ) = Null DOF

JOINTS		U1	U2	U3	R1	R2	R3
1	TO 30	A	A	A	A	A	A

A S S E M B L E D J O I N T M A S S E S

IN LOCAL COORDINATES

JOINT	U1	U2	U3	R1	R2	R3
1	0.338174	0.338174	0.338174	.000000	.000000	.000000
2	0.331442	0.331442	0.331442	.000000	.000000	.000000
3	0.232497	0.232497	0.232497	.000000	.000000	.000000
4	0.215297	0.215297	0.215297	.000000	.000000	.000000
5	0.215297	0.215297	0.215297	.000000	.000000	.000000
6	0.214195	0.214195	0.214195	.000000	.000000	.000000
7	0.213092	0.213092	0.213092	.000000	.000000	.000000
8	0.106546	0.106546	0.106546	.000000	.000000	.000000
9	0.106546	0.106546	0.106546	.000000	.000000	.000000
10	0.213092	0.213092	0.213092	.000000	.000000	.000000
11	0.214195	0.214195	0.214195	.000000	.000000	.000000
12	0.215297	0.215297	0.215297	.000000	.000000	.000000
13	0.215297	0.215297	0.215297	.000000	.000000	.000000
14	0.232497	0.232497	0.232497	.000000	.000000	.000000
15	0.331442	0.331442	0.331442	.000000	.000000	.000000
16	0.338174	0.338174	0.338174	.000000	.000000	.000000
17	0.253981	0.253981	0.253981	.000000	.000000	.000000
18	0.216649	0.216649	0.216649	.000000	.000000	.000000
19	0.188497	0.188497	0.188497	.000000	.000000	.000000
20	0.188497	0.188497	0.188497	.000000	.000000	.000000
21	0.188497	0.188497	0.188497	.000000	.000000	.000000
22	0.188497	0.188497	0.188497	.000000	.000000	.000000
23	0.188497	0.188497	0.188497	.000000	.000000	.000000
24	0.188497	0.188497	0.188497	.000000	.000000	.000000
25	0.188497	0.188497	0.188497	.000000	.000000	.000000
26	0.188497	0.188497	0.188497	.000000	.000000	.000000
27	0.188497	0.188497	0.188497	.000000	.000000	.000000
28	0.188497	0.188497	0.188497	.000000	.000000	.000000
29	0.216649	0.216649	0.216649	.000000	.000000	.000000
30	0.253981	0.253981	0.253981	.000000	.000000	.000000

T O T A L A S S E M B L E D J O I N T M A S S E S

IN GLOBAL COORDINATES

	UX	UY	UZ	RX	RY	RZ
TOTAL	6.559311	6.559311	6.559311	.000000	.000000	.000000

T O T A L A C C E L E R A T E D M A S S A N D L O C A T I O N

TOTAL MASS ACTIVATED BY ACCELERATION LOADS, IN GLOBAL COORDINATES

	UX	UY	UZ
MASS	6.559311	6.559311	6.559311
X-LOC	7.574868	7.574868	7.574868
Y-LOC	.000000	.000000	.000000
Z-LOC	2.016532	2.016532	2.016532

J O I N T D I S P L A C E M E N T S

TRANSLATIONS AND ROTATIONS, IN LOCAL COORDINATES

COMB COMB1 ---------- MAX

JOINT	U1	U2	U3	R1	R2	R3
1	0.000250	-2.35E-18	4.41E-06	-3.84E-32	0.000487	1.53E-19
2	0.001762	-2.35E-18	-3.39E-05	-3.98E-32	0.001182	1.53E-19
3	0.003532	-2.35E-18	-6.21E-05	-4.06E-32	0.001690	1.53E-19
4	0.005456	-2.33E-18	-0.000250	-1.00E-20	0.001989	1.54E-19
5	0.007560	-2.27E-18	-0.000826	-1.60E-20	0.002173	1.56E-19
6	0.009656	-2.19E-18	-0.001811	-1.87E-20	0.002263	1.57E-19
7	0.011603	-2.08E-18	-0.003115	-1.95E-20	0.002293	1.57E-19
8	0.013371	-1.96E-18	-0.004667	-1.96E-20	0.002296	1.58E-19
9	-0.013126	-2.44E-19	-0.004669	-1.96E-20	-0.002297	1.52E-19
10	-0.011357	-1.57E-19	-0.003117	-1.95E-20	-0.002293	1.52E-19
11	-0.009410	-8.60E-20	-0.001812	-1.87E-20	-0.002264	1.53E-19
12	-0.007313	-3.54E-20	-0.000828	-1.60E-20	-0.002174	1.54E-19
13	-0.005209	-7.14E-21	-0.000251	-1.00E-20	-0.001990	1.56E-19
14	-0.003284	1.45E-21	-6.31E-05	-3.87E-33	-0.001691	1.57E-19
15	-0.001514	1.45E-21	-3.38E-05	-2.28E-33	-0.001183	1.57E-19
16	2.64E-16	-1.42E-25	4.52E-06	5.05E-35	0.000487	1.57E-19
17	0.000235	-2.18E-18	-0.000197	-3.66E-32	8.90E-05	1.53E-19
18	0.000221	-2.03E-18	-0.000169	-3.50E-32	-3.69E-05	1.53E-19
19	0.000204	-1.88E-18	-8.87E-05	-3.21E-32	-6.91E-05	1.52E-19
20	0.000186	-1.72E-18	-3.41E-05	-2.92E-32	-3.67E-05	1.53E-19
21	0.000169	-1.57E-18	-1.50E-05	-2.64E-32	-1.01E-05	1.54E-19
22	0.000151	-1.42E-18	-1.31E-05	-2.35E-32	1.74E-07	1.55E-19
23	0.000134	-1.26E-18	-1.49E-05	-2.06E-32	9.55E-07	1.55E-19
24	0.000116	-1.11E-18	-1.49E-05	-1.77E-32	-9.56E-07	1.55E-19
25	9.84E-05	-9.51E-19	-1.31E-05	-1.49E-32	-1.73E-07	1.55E-19
26	8.08E-05	-7.95E-19	-1.50E-05	-1.20E-32	1.01E-05	1.55E-19
27	6.33E-05	-6.39E-19	-3.41E-05	-9.11E-33	3.67E-05	1.57E-19
28	4.57E-05	-4.82E-19	-8.87E-05	-6.24E-33	6.91E-05	1.58E-19
29	2.81E-05	-3.24E-19	-0.000169	-3.36E-33	3.69E-05	1.57E-19
30	1.46E-05	-1.67E-19	-0.000197	-1.72E-33	-8.91E-05	1.57E-19

COMB COMB1 ---------- MIN

JOINT	U1	U2	U3	R1	R2	R3
1	0.000250	-2.35E-18	4.41E-06	-3.84E-32	0.000487	1.53E-19
2	0.001762	-2.35E-18	-3.39E-05	-3.98E-32	0.001182	1.53E-19
3	0.003532	-2.35E-18	-6.21E-05	-4.06E-32	0.001690	1.53E-19
4	0.005456	-2.33E-18	-0.000250	-1.00E-20	0.001989	1.54E-19
5	0.007560	-2.27E-18	-0.000826	-1.60E-20	0.002173	1.56E-19
6	0.009656	-2.19E-18	-0.001811	-1.87E-20	0.002263	1.57E-19
7	0.011603	-2.08E-18	-0.003115	-1.95E-20	0.002293	1.57E-19
8	0.013371	-1.96E-18	-0.004667	-1.96E-20	0.002296	1.58E-19
9	-0.013126	-2.44E-19	-0.004669	-1.96E-20	-0.002297	1.52E-19
10	-0.011357	-1.57E-19	-0.003117	-1.95E-20	-0.002293	1.52E-19
11	-0.009410	-8.60E-20	-0.001812	-1.87E-20	-0.002264	1.53E-19
12	-0.007313	-3.54E-20	-0.000828	-1.60E-20	-0.002174	1.54E-19
13	-0.005209	-7.14E-21	-0.000251	-1.00E-20	-0.001990	1.56E-19
14	-0.003284	1.45E-21	-6.31E-05	-3.87E-33	-0.001691	1.57E-19

J O I N T D I S P L A C E M E N T S

TRANSLATIONS AND ROTATIONS, IN LOCAL COORDINATES

JOINT	U1	U2	U3	R1	R2	R3
15	-0.001514	1.45E-21	-3.38E-05	-2.28E-33	-0.001183	1.57E-19
16	2.64E-16	-1.42E-25	4.52E-06	5.05E-35	0.000487	1.57E-19
17	0.000235	-2.18E-18	-0.000197	-3.66E-32	8.90E-05	1.53E-19
18	0.000221	-2.03E-18	-0.000169	-3.50E-32	-3.69E-05	1.53E-19
19	0.000204	-1.88E-18	-8.87E-05	-3.21E-32	-6.91E-05	1.52E-19
20	0.000186	-1.72E-18	-3.41E-05	-2.92E-32	-3.67E-05	1.53E-19
21	0.000169	-1.57E-18	-1.50E-05	-2.64E-32	-1.01E-05	1.54E-19
22	0.000151	-1.42E-18	-1.31E-05	-2.35E-32	1.74E-07	1.55E-19
23	0.000134	-1.26E-18	-1.49E-05	-2.06E-32	9.55E-07	1.55E-19
24	0.000116	-1.11E-18	-1.49E-05	-1.77E-32	-9.56E-07	1.55E-19
25	9.84E-05	-9.51E-19	-1.31E-05	-1.49E-32	-1.73E-07	1.55E-19
26	8.08E-05	-7.95E-19	-1.50E-05	-1.20E-32	1.01E-05	1.55E-19
27	6.33E-05	-6.39E-19	-3.41E-05	-9.11E-33	3.67E-05	1.57E-19
28	4.57E-05	-4.82E-19	-8.87E-05	-6.24E-33	6.91E-05	1.58E-19
29	2.81E-05	-3.24E-19	-0.000169	-3.36E-33	3.69E-05	1.57E-19
30	1.46E-05	-1.67E-19	-0.000197	-1.72E-33	-8.91E-05	1.57E-19

COMB COMB2 ---------- MAX

JOINT	U1	U2	U3	R1	R2	R3
1	0.000250	-2.39E-18	9.52E-05	-3.87E-32	0.000499	1.59E-19
2	0.001724	-2.39E-18	7.06E-05	-4.02E-32	0.001125	1.59E-19
3	0.003377	-2.39E-18	5.28E-05	-4.10E-32	0.001554	1.59E-19
4	0.005127	-2.37E-18	-0.000113	-7.91E-21	0.001790	1.60E-19
5	0.007004	-2.32E-18	-0.000624	-1.24E-20	0.001928	1.61E-19
6	0.008855	-2.24E-18	-0.001491	-1.44E-20	0.001992	1.62E-19
7	0.010565	-2.13E-18	-0.002636	-1.49E-20	0.002013	1.62E-19
8	0.012117	-2.01E-18	-0.003997	-1.50E-20	0.002015	1.63E-19
9	-0.011870	-2.40E-19	-0.003999	-1.50E-20	-0.002016	1.57E-19
10	-0.010318	-1.45E-19	-0.002637	-1.49E-20	-0.002013	1.57E-19
11	-0.008607	-6.80E-20	-0.001492	-1.44E-20	-0.001993	1.58E-19
12	-0.006757	-1.16E-20	-0.000625	-1.24E-20	-0.001928	1.58E-19
13	-0.004878	2.06E-20	-0.000114	-7.91E-21	-0.001790	1.60E-19
14	-0.003129	3.07E-20	5.19E-05	-3.55E-33	-0.001554	1.60E-19
15	-0.001475	3.07E-20	7.07E-05	-2.08E-33	-0.001125	1.60E-19
16	2.64E-16	3.58E-25	9.53E-05	5.16E-35	0.000499	1.60E-19
17	0.000235	-2.22E-18	-0.000144	-3.70E-32	0.000121	1.59E-19
18	0.000221	-2.06E-18	-0.000147	-3.53E-32	-1.12E-05	1.59E-19
19	0.000204	-1.90E-18	-8.22E-05	-3.24E-32	-6.02E-05	1.57E-19
20	0.000186	-1.75E-18	-3.06E-05	-2.95E-32	-3.60E-05	1.58E-19
21	0.000169	-1.59E-18	-1.03E-05	-2.66E-32	-1.14E-05	1.59E-19
22	0.000151	-1.43E-18	-7.14E-06	-2.37E-32	-7.81E-07	1.60E-19
23	0.000134	-1.27E-18	-8.31E-06	-2.08E-32	6.53E-07	1.60E-19
24	0.000116	-1.11E-18	-8.31E-06	-1.79E-32	-6.53E-07	1.60E-19
25	9.84E-05	-9.48E-19	-7.14E-06	-1.50E-32	7.81E-07	1.60E-19
26	8.08E-05	-7.87E-19	-1.03E-05	-1.21E-32	1.14E-05	1.60E-19
27	6.33E-05	-6.27E-19	-3.06E-05	-9.19E-33	3.60E-05	1.62E-19
28	4.57E-05	-4.64E-19	-8.23E-05	-6.29E-33	6.02E-05	1.63E-19
29	2.81E-05	-3.02E-19	-0.000147	-3.39E-33	1.12E-05	1.60E-19
30	1.46E-05	-1.42E-19	-0.000144	-1.73E-33	-0.000121	1.60E-19

J O I N T D I S P L A C E M E N T S

TRANSLATIONS AND ROTATIONS, IN LOCAL COORDINATES

COMB COMB2 ---------- MIN

JOINT	U1	U2	U3	R1	R2	R3
1	0.000250	-2.39E-18	9.52E-05	-3.87E-32	0.000499	1.59E-19
2	0.001724	-2.39E-18	7.06E-05	-4.02E-32	0.001125	1.59E-19
3	0.003377	-2.39E-18	5.28E-05	-4.10E-32	0.001554	1.59E-19
4	0.005127	-2.37E-18	-0.000113	-7.91E-21	0.001790	1.60E-19
5	0.007004	-2.32E-18	-0.000624	-1.24E-20	0.001928	1.61E-19
6	0.008855	-2.24E-18	-0.001491	-1.44E-20	0.001992	1.62E-19
7	0.010565	-2.13E-18	-0.002636	-1.49E-20	0.002013	1.62E-19
8	0.012117	-2.01E-18	-0.003997	-1.50E-20	0.002015	1.63E-19
9	-0.011870	-2.40E-19	-0.003999	-1.50E-20	-0.002016	1.57E-19
10	-0.010318	-1.45E-19	-0.002637	-1.49E-20	-0.002013	1.57E-19
11	-0.008607	-6.80E-20	-0.001492	-1.44E-20	-0.001993	1.58E-19
12	-0.006757	-1.16E-20	-0.000625	-1.24E-20	-0.001928	1.58E-19
13	-0.004878	2.06E-20	-0.000114	-7.91E-21	-0.001790	1.60E-19
14	-0.003129	3.07E-20	5.19E-05	-3.55E-33	-0.001554	1.60E-19
15	-0.001475	3.07E-20	7.07E-05	-2.08E-33	-0.001125	1.60E-19
16	2.64E-16	3.58E-25	9.53E-05	5.16E-35	0.000499	1.60E-19
17	0.000235	-2.22E-18	-0.000144	-3.70E-32	0.000121	1.59E-19
18	0.000221	-2.06E-18	-0.000147	-3.53E-32	-1.12E-05	1.59E-19
19	0.000204	-1.90E-18	-8.22E-05	-3.24E-32	-6.02E-05	1.57E-19
20	0.000186	-1.75E-18	-3.06E-05	-2.95E-32	-3.60E-05	1.58E-19
21	0.000169	-1.59E-18	-1.03E-05	-2.66E-32	-1.14E-05	1.59E-19
22	0.000151	-1.43E-18	-7.14E-06	-2.37E-32	-7.81E-07	1.60E-19
23	0.000134	-1.27E-18	-8.31E-06	-2.08E-32	6.53E-07	1.60E-19
24	0.000116	-1.11E-18	-8.31E-06	-1.79E-32	-6.53E-07	1.60E-19
25	9.84E-05	-9.48E-19	-7.14E-06	-1.50E-32	7.81E-07	1.60E-19
26	8.08E-05	-7.87E-19	-1.03E-05	-1.21E-32	1.14E-05	1.60E-19
27	6.33E-05	-6.27E-19	-3.06E-05	-9.19E-33	3.60E-05	1.62E-19
28	4.57E-05	-4.64E-19	-8.23E-05	-6.29E-33	6.02E-05	1.63E-19
29	2.81E-05	-3.02E-19	-0.000147	-3.39E-33	1.12E-05	1.60E-19
30	1.46E-05	-1.42E-19	-0.000144	-1.73E-33	-0.000121	1.60E-19

COMB COMB3 ---------- MAX

JOINT	U1	U2	U3	R1	R2	R3
1	0.000125	-1.11E-18	-0.000125	-1.87E-32	0.000228	6.79E-20
2	0.000935	-1.11E-18	-0.000163	-1.94E-32	0.000671	6.79E-20
3	0.001983	-1.11E-18	-0.000192	-1.98E-32	0.001036	6.79E-20
4	0.003190	-1.10E-18	-0.000318	-7.94E-21	0.001273	6.86E-20
5	0.004558	-1.07E-18	-0.000697	-1.30E-20	0.001430	7.00E-20
6	0.005950	-1.03E-18	-0.001353	-1.55E-20	0.001511	7.11E-20
7	0.007254	-9.72E-19	-0.002229	-1.63E-20	0.001538	7.16E-20
8	0.008441	-9.11E-19	-0.003271	-1.63E-20	0.001542	7.17E-20
9	-0.008321	-1.29E-19	-0.003273	-1.63E-20	-0.001542	6.95E-20
10	-0.007134	-9.44E-20	-0.002230	-1.63E-20	-0.001539	6.96E-20
11	-0.005828	-6.83E-20	-0.001354	-1.55E-20	-0.001511	7.01E-20
12	-0.004436	-5.10E-20	-0.000698	-1.30E-20	-0.001431	7.12E-20
13	-0.003067	-4.24E-20	-0.000318	-7.94E-21	-0.001274	7.26E-20
14	-0.001859	-4.02E-20	-0.000192	-2.39E-33	-0.001037	7.33E-20

J O I N T D I S P L A C E M E N T S

TRANSLATIONS AND ROTATIONS, IN LOCAL COORDINATES

JOINT	U1	U2	U3	R1	R2	R3
15	-0.000811	-4.02E-20	-0.000163	-1.41E-33	-0.000672	7.33E-20
16	1.32E-16	-7.71E-25	-0.000125	2.36E-35	0.000228	7.33E-20
17	0.000118	-1.04E-18	-0.000172	-1.79E-32	-2.41E-07	6.79E-20
18	0.000111	-9.69E-19	-0.000115	-1.71E-32	-5.45E-05	6.79E-20
19	0.000102	-9.01E-19	-5.33E-05	-1.57E-32	-4.70E-05	6.83E-20
20	9.32E-05	-8.32E-19	-2.20E-05	-1.43E-32	-1.94E-05	6.97E-20
21	8.44E-05	-7.62E-19	-1.40E-05	-1.29E-32	-3.30E-06	7.05E-20
22	7.56E-05	-6.91E-19	-1.48E-05	-1.15E-32	1.42E-06	7.07E-20
23	6.68E-05	-6.21E-19	-1.66E-05	-1.01E-32	9.00E-07	7.07E-20
24	5.80E-05	-5.50E-19	-1.66E-05	-8.66E-33	-9.01E-07	7.06E-20
25	4.92E-05	-4.80E-19	-1.48E-05	-7.25E-33	-1.42E-06	7.05E-20
26	4.04E-05	-4.09E-19	-1.40E-05	-5.85E-33	3.31E-06	7.08E-20
27	3.16E-05	-3.38E-19	-2.20E-05	-4.45E-33	1.94E-05	7.16E-20
28	2.28E-05	-2.66E-19	-5.33E-05	-3.04E-33	4.70E-05	7.29E-20
29	1.40E-05	-1.92E-19	-0.000115	-1.64E-33	5.45E-05	7.33E-20
30	7.28E-06	-1.19E-19	-0.000172	-8.39E-34	1.64E-07	7.33E-20

COMB COMB3 ---------- MIN

JOINT	U1	U2	U3	R1	R2	R3
1	0.000125	-1.11E-18	-0.000125	-1.87E-32	0.000228	6.79E-20
2	0.000935	-1.11E-18	-0.000163	-1.94E-32	0.000671	6.79E-20
3	0.001983	-1.11E-18	-0.000192	-1.98E-32	0.001036	6.79E-20
4	0.003190	-1.10E-18	-0.000318	-7.94E-21	0.001273	6.86E-20
5	0.004558	-1.07E-18	-0.000697	-1.30E-20	0.001430	7.00E-20
6	0.005950	-1.03E-18	-0.001353	-1.55E-20	0.001511	7.11E-20
7	0.007254	-9.72E-19	-0.002229	-1.63E-20	0.001538	7.16E-20
8	0.008441	-9.11E-19	-0.003271	-1.63E-20	0.001542	7.17E-20
9	-0.008321	-1.29E-19	-0.003273	-1.63E-20	-0.001542	6.95E-20
10	-0.007134	-9.44E-20	-0.002230	-1.63E-20	-0.001539	6.96E-20
11	-0.005828	-6.83E-20	-0.001354	-1.55E-20	-0.001511	7.01E-20
12	-0.004436	-5.10E-20	-0.000698	-1.30E-20	-0.001431	7.12E-20
13	-0.003067	-4.24E-20	-0.000318	-7.94E-21	-0.001274	7.26E-20
14	-0.001859	-4.02E-20	-0.000192	-2.39E-33	-0.001037	7.33E-20

J O I N T D I S P L A C E M E N T S

TRANSLATIONS AND ROTATIONS, IN LOCAL COORDINATES

COMB COMB4 ---------- MAX

JOINT	U1	U2	U3	R1	R2	R3
1	0.000139	-1.29E-18	-2.14E-05	-2.13E-32	0.000268	8.34E-20
2	0.000989	-1.29E-18	-4.63E-05	-2.20E-32	0.000672	8.34E-20
3	0.002003	-1.29E-18	-6.47E-05	-2.25E-32	0.000975	8.34E-20
4	0.003118	-1.28E-18	-0.000175	-6.11E-21	0.001157	8.40E-20
5	0.004346	-1.25E-18	-0.000512	-9.83E-21	0.001272	8.50E-20
6	0.005575	-1.20E-18	-0.001090	-1.16E-20	0.001328	8.58E-20
7	0.006719	-1.14E-18	-0.001856	-1.21E-20	0.001347	8.61E-20
8	0.007758	-1.08E-18	-0.002768	-1.21E-20	0.001349	8.62E-20
9	-0.007622	-1.37E-19	-0.002770	-1.21E-20	-0.001350	8.34E-20
10	-0.006583	-9.00E-20	-0.001858	-1.21E-20	-0.001348	8.35E-20
11	-0.005438	-5.25E-20	-0.001091	-1.16E-20	-0.001329	8.38E-20
12	-0.004209	-2.59E-20	-0.000513	-9.83E-21	-0.001272	8.46E-20
13	-0.002981	-1.13E-20	-0.000176	-6.11E-21	-0.001158	8.56E-20
14	-0.001865	-6.86E-21	-6.52E-05	-2.24E-33	-0.000975	8.61E-20

COMB COMB4 ---------- MIN

JOINT	U1	U2	U3	R1	R2	R3
1	0.000139	-1.29E-18	-2.14E-05	-2.13E-32	0.000268	8.34E-20
2	0.000989	-1.29E-18	-4.63E-05	-2.20E-32	0.000672	8.34E-20
3	0.002003	-1.29E-18	-6.47E-05	-2.25E-32	0.000975	8.34E-20
4	0.003118	-1.28E-18	-0.000175	-6.11E-21	0.001157	8.40E-20
5	0.004346	-1.25E-18	-0.000512	-9.83E-21	0.001272	8.50E-20
6	0.005575	-1.20E-18	-0.001090	-1.16E-20	0.001328	8.58E-20
7	0.006719	-1.14E-18	-0.001856	-1.21E-20	0.001347	8.61E-20
8	0.007758	-1.08E-18	-0.002768	-1.21E-20	0.001349	8.62E-20
9	-0.007622	-1.37E-19	-0.002770	-1.21E-20	-0.001350	8.34E-20
10	-0.006583	-9.00E-20	-0.001858	-1.21E-20	-0.001348	8.35E-20
11	-0.005438	-5.25E-20	-0.001091	-1.16E-20	-0.001329	8.38E-20
12	-0.004209	-2.59E-20	-0.000513	-9.83E-21	-0.001272	8.46E-20
13	-0.002981	-1.13E-20	-0.000176	-6.11E-21	-0.001158	8.56E-20
14	-0.001865	-6.86E-21	-6.52E-05	-2.24E-33	-0.000975	8.61E-20

J O I N T D I S P L A C E M E N T S

TRANSLATIONS AND ROTATIONS, IN LOCAL COORDINATES

JOINT	U1	U2	U3	R1	R2	R3
15	-0.000851	-6.86E-21	-4.62E-05	-1.32E-33	-0.000672	8.61E-20
16	1.47E-16	-2.10E-25	-2.13E-05	2.77E-35	0.000268	8.61E-20
17	0.000131	-1.20E-18	-0.000123	-2.03E-32	4.11E-05	8.34E-20
18	0.000123	-1.12E-18	-0.000100	-1.94E-32	-2.73E-05	8.34E-20
19	0.000113	-1.04E-18	-5.09E-05	-1.78E-32	-4.07E-05	8.28E-20
20	0.000104	-9.52E-19	-1.99E-05	-1.62E-32	-2.06E-05	8.38E-20
21	9.37E-05	-8.68E-19	-9.54E-06	-1.46E-32	-5.30E-06	8.45E-20
22	8.40E-05	-7.83E-19	-8.82E-06	-1.30E-32	3.47E-07	8.48E-20
23	7.42E-05	-6.98E-19	-9.97E-06	-1.14E-32	6.10E-07	8.48E-20
24	6.44E-05	-6.14E-19	-9.97E-06	-9.82E-33	-6.10E-07	8.48E-20
25	5.47E-05	-5.29E-19	-8.82E-06	-8.22E-33	-3.47E-07	8.48E-20
26	4.49E-05	-4.44E-19	-9.54E-06	-6.63E-33	5.30E-06	8.51E-20
27	3.51E-05	-3.59E-19	-1.99E-05	-5.04E-33	2.06E-05	8.58E-20
28	2.54E-05	-2.72E-19	-5.10E-05	-3.45E-33	4.07E-05	8.68E-20
29	1.56E-05	-1.86E-19	-0.000100	-1.86E-33	2.73E-05	8.61E-20
30	8.09E-06	-9.95E-20	-0.000123	-9.50E-34	-4.11E-05	8.61E-20

S P R I N G F O R C E S

FORCES AND MOMENTS ACTING ON JOINTS, IN LOCAL COORDINATES

COMB COMB1 ---------- MAX

JOINT	F1	F2	F3	M1	M2	M3
1	.000000	.000000	-0.666553	.000000	.000000	.000000
16	-2.64E-06	1.42E-15	-0.683416	-5.05E-25	6.99E-41	-1.57E-09
17	.000000	.000000	32.063506	.000000	.000000	.000000
18	.000000	.000000	26.550301	.000000	.000000	.000000
19	.000000	.000000	13.910539	.000000	.000000	.000000
20	.000000	.000000	5.355249	.000000	.000000	.000000
21	.000000	.000000	2.348869	.000000	.000000	.000000
22	.000000	.000000	2.051484	.000000	.000000	.000000
23	.000000	.000000	2.330616	.000000	.000000	.000000
24	.000000	.000000	2.330509	.000000	.000000	.000000
25	.000000	.000000	2.051260	.000000	.000000	.000000
26	.000000	.000000	2.348986	.000000	.000000	.000000
27	.000000	.000000	5.356878	.000000	.000000	.000000
28	.000000	.000000	13.915321	.000000	.000000	.000000
29	.000000	.000000	26.557629	.000000	.000000	.000000
30	.000000	.000000	32.066958	.000000	.000000	.000000

COMB COMB1 ---------- MIN

JOINT	F1	F2	F3	M1	M2	M3
1	.000000	.000000	-0.666553	.000000	.000000	.000000
16	-2.64E-06	1.42E-15	-0.683416	-5.05E-25	6.99E-41	-1.57E-09
17	.000000	.000000	32.063506	.000000	.000000	.000000
18	.000000	.000000	26.550301	.000000	.000000	.000000
19	.000000	.000000	13.910539	.000000	.000000	.000000
20	.000000	.000000	5.355249	.000000	.000000	.000000
21	.000000	.000000	2.348869	.000000	.000000	.000000
22	.000000	.000000	2.051484	.000000	.000000	.000000
23	.000000	.000000	2.330616	.000000	.000000	.000000
24	.000000	.000000	2.330509	.000000	.000000	.000000
25	.000000	.000000	2.051260	.000000	.000000	.000000
26	.000000	.000000	2.348986	.000000	.000000	.000000
27	.000000	.000000	5.356878	.000000	.000000	.000000
28	.000000	.000000	13.915321	.000000	.000000	.000000
29	.000000	.000000	26.557629	.000000	.000000	.000000
30	.000000	.000000	32.066958	.000000	.000000	.000000

COMB COMB2 ---------- MAX

JOINT	F1	F2	F3	M1	M2	M3
1	.000000	.000000	-14.390937	.000000	.000000	.000000
16	-2.64E-06	-3.58E-15	-14.401780	-5.16E-25	6.95E-41	-1.60E-09
17	.000000	.000000	23.470056	.000000	.000000	.000000
18	.000000	.000000	23.135980	.000000	.000000	.000000
19	.000000	.000000	12.905074	.000000	.000000	.000000
20	.000000	.000000	4.801051	.000000	.000000	.000000
21	.000000	.000000	1.619079	.000000	.000000	.000000
22	.000000	.000000	1.119683	.000000	.000000	.000000

S P R I N G F O R C E S

FORCES AND MOMENTS ACTING ON JOINTS, IN LOCAL COORDINATES

JOINT	F1	F2	F3	M1	M2	M3
23	.000000	.000000	1.303821	.000000	.000000	.000000
24	.000000	.000000	1.303752	.000000	.000000	.000000
25	.000000	.000000	1.119738	.000000	.000000	.000000
26	.000000	.000000	1.619154	.000000	.000000	.000000
27	.000000	.000000	4.802099	.000000	.000000	.000000
28	.000000	.000000	12.908149	.000000	.000000	.000000
29	.000000	.000000	23.140692	.000000	.000000	.000000
30	.000000	.000000	23.472276	.000000	.000000	.000000

COMB COMB2 ---------- MIN

JOINT	F1	F2	F3	M1	M2	M3
1	.000000	.000000	-14.390937	.000000	.000000	.000000
16	-2.64E-06	-3.58E-15	-14.401780	-5.16E-25	6.95E-41	-1.60E-09
17	.000000	.000000	23.470056	.000000	.000000	.000000
18	.000000	.000000	23.135980	.000000	.000000	.000000
19	.000000	.000000	12.905074	.000000	.000000	.000000
20	.000000	.000000	4.801051	.000000	.000000	.000000
21	.000000	.000000	1.619079	.000000	.000000	.000000
22	.000000	.000000	1.119683	.000000	.000000	.000000
23	.000000	.000000	1.303821	.000000	.000000	.000000
24	.000000	.000000	1.303752	.000000	.000000	.000000
25	.000000	.000000	1.119738	.000000	.000000	.000000
26	.000000	.000000	1.619154	.000000	.000000	.000000
27	.000000	.000000	4.802099	.000000	.000000	.000000
28	.000000	.000000	12.908149	.000000	.000000	.000000
29	.000000	.000000	23.140692	.000000	.000000	.000000
30	.000000	.000000	23.472276	.000000	.000000	.000000

COMB COMB3 ---------- MAX

JOINT	F1	F2	F3	M1	M2	M3
1	.000000	.000000	18.880861	.000000	.000000	.000000
16	-1.32E-06	7.71E-15	18.864001	-2.36E-25	3.56E-41	-7.33E-10
17	.000000	.000000	28.062582	.000000	.000000	.000000
18	.000000	.000000	18.055199	.000000	.000000	.000000
19	.000000	.000000	8.362921	.000000	.000000	.000000
20	.000000	.000000	3.453501	.000000	.000000	.000000
21	.000000	.000000	2.196141	.000000	.000000	.000000
22	.000000	.000000	2.329984	.000000	.000000	.000000
23	.000000	.000000	2.602821	.000000	.000000	.000000
24	.000000	.000000	2.602714	.000000	.000000	.000000
25	.000000	.000000	2.329760	.000000	.000000	.000000
26	.000000	.000000	2.196258	.000000	.000000	.000000
27	.000000	.000000	3.455130	.000000	.000000	.000000
28	.000000	.000000	8.367701	.000000	.000000	.000000
29	.000000	.000000	18.062527	.000000	.000000	.000000
30	.000000	.000000	28.066034	.000000	.000000	.000000

S P R I N G F O R C E S

FORCES AND MOMENTS ACTING ON JOINTS, IN LOCAL COORDINATES

COMB COMB3 ---------- MIN

JOINT	F1	F2	F3	M1	M2	M3
1	.000000	.000000	18.880861	.000000	.000000	.000000
16	-1.32E-06	7.71E-15	18.864001	-2.36E-25	3.56E-41	-7.33E-10
17	.000000	.000000	28.062582	.000000	.000000	.000000
18	.000000	.000000	18.055199	.000000	.000000	.000000
19	.000000	.000000	8.362921	.000000	.000000	.000000
20	.000000	.000000	3.453501	.000000	.000000	.000000
21	.000000	.000000	2.196141	.000000	.000000	.000000
22	.000000	.000000	2.329984	.000000	.000000	.000000
23	.000000	.000000	2.602821	.000000	.000000	.000000
24	.000000	.000000	2.602714	.000000	.000000	.000000
25	.000000	.000000	2.329760	.000000	.000000	.000000
26	.000000	.000000	2.196258	.000000	.000000	.000000
27	.000000	.000000	3.455130	.000000	.000000	.000000
28	.000000	.000000	8.367701	.000000	.000000	.000000
29	.000000	.000000	18.062527	.000000	.000000	.000000
30	.000000	.000000	28.066034	.000000	.000000	.000000

COMB COMB4 ---------- MAX

JOINT	F1	F2	F3	M1	M2	M3
1	.000000	.000000	3.234077	.000000	.000000	.000000
16	-1.47E-06	2.10E-15	3.223127	-2.77E-25	3.90E-41	-8.61E-10
17	.000000	.000000	20.069924	.000000	.000000	.000000
18	.000000	.000000	15.646857	.000000	.000000	.000000
19	.000000	.000000	7.992139	.000000	.000000	.000000
20	.000000	.000000	3.120685	.000000	.000000	.000000
21	.000000	.000000	1.496589	.000000	.000000	.000000
22	.000000	.000000	1.384376	.000000	.000000	.000000
23	.000000	.000000	1.564450	.000000	.000000	.000000
24	.000000	.000000	1.564380	.000000	.000000	.000000
25	.000000	.000000	1.384231	.000000	.000000	.000000
26	.000000	.000000	1.496666	.000000	.000000	.000000
27	.000000	.000000	3.121743	.000000	.000000	.000000
28	.000000	.000000	7.995244	.000000	.000000	.000000
29	.000000	.000000	15.651616	.000000	.000000	.000000
30	.000000	.000000	20.072166	.000000	.000000	.000000

COMB COMB4 ---------- MIN

JOINT	F1	F2	F3	M1	M2	M3
1	.000000	.000000	3.234077	.000000	.000000	.000000
16	-1.47E-06	2.10E-15	3.223127	-2.77E-25	3.90E-41	-8.61E-10
17	.000000	.000000	20.069924	.000000	.000000	.000000
18	.000000	.000000	15.646857	.000000	.000000	.000000
19	.000000	.000000	7.992139	.000000	.000000	.000000
20	.000000	.000000	3.120685	.000000	.000000	.000000
21	.000000	.000000	1.496589	.000000	.000000	.000000
22	.000000	.000000	1.384376	.000000	.000000	.000000

S P R I N G F O R C E S

FORCES AND MOMENTS ACTING ON JOINTS, IN LOCAL COORDINATES

JOINT	F1	F2	F3	M1	M2	M3
23	.000000	.000000	1.564450	.000000	.000000	.000000
24	.000000	.000000	1.564380	.000000	.000000	.000000
25	.000000	.000000	1.384231	.000000	.000000	.000000
26	.000000	.000000	1.496666	.000000	.000000	.000000
27	.000000	.000000	3.121743	.000000	.000000	.000000
28	.000000	.000000	7.995244	.000000	.000000	.000000
29	.000000	.000000	15.651616	.000000	.000000	.000000
30	.000000	.000000	20.072166	.000000	.000000	.000000

G L O B A L F O R C E B A L A N C E

TOTAL FORCE AND MOMENT AT THE ORIGIN, IN GLOBAL COORDINATES

LOAD LOAD1 ----------

	FX	FY	FZ	MX	MY	MZ
APPLIED	6.07E-17	4.03E-32	-64.376748	3.45E-31	487.645376	7.45E-31
SPRINGS	-7.78E-14	-1.07E-15	64.376748	2.91E-29	-487.645376	5.90E-12
TOTAL	-7.77E-14	-1.07E-15	-4.26E-14	2.94E-29	-1.19E-12	5.90E-12

LOAD LOAD2 ----------

	FX	FY	FZ	MX	MY	MZ
APPLIED	-5.06E-16	8.49E-32	-44.641521	-4.42E-31	338.143433	1.16E-30
SPRINGS	-4.97E-14	3.03E-26	44.641521	1.86E-29	-338.143433	6.00E-11
TOTAL	-5.02E-14	3.03E-26	-9.95E-14	1.82E-29	-2.84E-13	6.00E-11

LOAD LOAD3 ----------

	FX	FY	FZ	MX	MY	MZ
APPLIED	-1.47E-06	-3.74E-32	-4.29E-16	-2.48E-33	-8.23E-06	9.51E-31
SPRINGS	1.47E-06	-2.11E-26	2.26E-13	2.71E-28	8.23E-06	-9.27E-10
TOTAL	-7.14E-13	-2.11E-26	2.25E-13	2.71E-28	-1.54E-11	-9.27E-10

COMB COMB1 ---------- MAX

	FX	FY	FZ	MX	MY	MZ
APPLIED	-2.64E-06	1.26E-31	-167.888135	-1.54E-31	1271.715	4.65E-30
SPRINGS	2.64E-06	-1.64E-15	167.888135	5.61E-28	-1271.715	-1.57E-09
TOTAL	-1.48E-12	-1.64E-15	1.86E-13	5.61E-28	-3.00E-11	-1.57E-09

COMB COMB1 ---------- MIN

	FX	FY	FZ	MX	MY	MZ
APPLIED	-2.64E-06	1.26E-31	-167.888135	-1.54E-31	1271.715	4.65E-30
SPRINGS	2.64E-06	-1.64E-15	167.888135	5.61E-28	-1271.715	-1.57E-09
TOTAL	-1.48E-12	-1.64E-15	1.86E-13	5.61E-28	-3.00E-11	-1.57E-09

COMB COMB2 ---------- MAX

	FX	FY	FZ	MX	MY	MZ
APPLIED	-2.64E-06	5.67E-32	-107.928087	-1.01E-31	817.530906	3.60E-30
SPRINGS	2.64E-06	-1.06E-15	107.928087	5.35E-28	-817.530906	-1.60E-09
TOTAL	-1.41E-12	-1.06E-15	2.65E-13	5.35E-28	-2.92E-11	-1.60E-09

G L O B A L F O R C E B A L A N C E

TOTAL FORCE AND MOMENT AT THE ORIGIN, IN GLOBAL COORDINATES

COMB COMB2 ---------- MIN

	FX	FY	FZ	MX	MY	MZ
APPLIED	-2.64E-06	5.67E-32	-107.928087	-1.01E-31	817.530906	3.60E-30
SPRINGS	2.64E-06	-1.06E-15	107.928087	5.35E-28	-817.530906	-1.60E-09
TOTAL	-1.41E-12	-1.06E-15	2.65E-13	5.35E-28	-2.92E-11	-1.60E-09

COMB COMB3 ---------- MAX

	FX	FY	FZ	MX	MY	MZ
APPLIED	-1.32E-06	1.59E-31	-167.888135	-1.52E-31	1271.715	3.79E-30
SPRINGS	1.32E-06	-1.64E-15	167.888135	3.17E-28	-1271.715	-7.33E-10
TOTAL	-8.39E-13	-1.64E-15	-1.62E-14	3.17E-28	-1.61E-11	-7.33E-10

COMB COMB3 ---------- MIN

	FX	FY	FZ	MX	MY	MZ
APPLIED	-1.32E-06	1.59E-31	-167.888135	-1.52E-31	1271.715	3.79E-30
SPRINGS	1.32E-06	-1.64E-15	167.888135	3.17E-28	-1271.715	-7.33E-10
TOTAL	-8.39E-13	-1.64E-15	-1.62E-14	3.17E-28	-1.61E-11	-7.33E-10

COMB COMB4 ---------- MAX

	FX	FY	FZ	MX	MY	MZ
APPLIED	-1.47E-06	8.78E-32	-109.018269	-9.97E-32	825.788801	2.86E-30
SPRINGS	1.47E-06	-1.07E-15	109.018269	3.19E-28	-825.788801	-8.61E-10
TOTAL	-8.42E-13	-1.07E-15	8.31E-14	3.19E-28	-1.69E-11	-8.61E-10

COMB COMB4 ---------- MIN

	FX	FY	FZ	MX	MY	MZ
APPLIED	-1.47E-06	8.78E-32	-109.018269	-9.97E-32	825.788801	2.86E-30
SPRINGS	1.47E-06	-1.07E-15	109.018269	3.19E-28	-825.788801	-8.61E-10
TOTAL	-8.42E-13	-1.07E-15	8.31E-14	3.19E-28	-1.69E-11	-8.61E-10

F R A M E E L E M E N T I N T E R N A L F O R C E S

ELEM 1 ========== LENGTH = 1.687847

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-60.596886	34.264847	9.18E-29	4.86E-30	1.76E-28	111.761782
0.50000	-57.474345	27.127153	9.18E-29	4.86E-30	9.82E-29	85.916799
1.00000	-54.351803	20.843931	9.18E-29	4.86E-30	2.07E-29	65.734929

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-60.596886	34.264847	9.18E-29	4.86E-30	1.76E-28	111.761782
0.50000	-57.474345	27.127153	9.18E-29	4.86E-30	9.82E-29	85.916799
1.00000	-54.351803	20.843931	9.18E-29	4.86E-30	2.07E-29	65.734929

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-38.955141	34.264847	9.15E-29	3.12E-30	1.78E-28	103.207383
0.50000	-36.947793	27.127153	9.15E-29	3.12E-30	1.01E-28	77.362400
1.00000	-34.940445	20.843931	9.15E-29	3.12E-30	2.34E-29	57.180530

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-38.955141	34.264847	9.15E-29	3.12E-30	1.78E-28	103.207383
0.50000	-36.947793	27.127153	9.15E-29	3.12E-30	1.01E-28	77.362400
1.00000	-34.940445	20.843931	9.15E-29	3.12E-30	2.34E-29	57.180530

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-60.596886	17.132423	4.64E-29	4.86E-30	8.48E-29	67.857051
0.50000	-57.474345	13.563576	4.64E-29	4.86E-30	4.56E-29	54.934559
1.00000	-54.351803	10.421966	4.64E-29	4.86E-30	6.50E-30	44.843624

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-60.596886	17.132423	4.64E-29	4.86E-30	8.48E-29	67.857051
0.50000	-57.474345	13.563576	4.64E-29	4.86E-30	4.56E-29	54.934559
1.00000	-54.351803	10.421966	4.64E-29	4.86E-30	6.50E-30	44.843624

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-39.348627	19.036026	5.11E-29	3.16E-30	9.70E-29	64.336489
0.50000	-37.321003	15.070640	5.11E-29	3.16E-30	5.39E-29	49.978165
1.00000	-35.293379	11.579962	5.11E-29	3.16E-30	1.08E-29	38.766015

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-39.348627	19.036026	5.11E-29	3.16E-30	9.70E-29	64.336489
0.50000	-37.321003	15.070640	5.11E-29	3.16E-30	5.39E-29	49.978165
1.00000	-35.293379	11.579962	5.11E-29	3.16E-30	1.08E-29	38.766015

ELEM 2 ========== LENGTH = 1.200000

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-54.364323	20.811256	1.83E-28	2.10E-30	1.79E-28	65.734929
0.50000	-52.474935	16.864721	1.83E-28	2.10E-30	6.93E-29	54.453707
1.00000	-50.585807	13.349647	1.83E-28	2.10E-30	-4.03E-29	45.410969

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-54.364323	20.811256	1.83E-28	2.10E-30	1.79E-28	65.734929
0.50000	-52.474935	16.864721	1.83E-28	2.10E-30	6.93E-29	54.453707
1.00000	-50.585807	13.349647	1.83E-28	2.10E-30	-4.03E-29	45.410969

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-34.952968	20.822925	1.82E-28	3.33E-31	1.80E-28	57.180530
0.50000	-33.737514	16.875984	1.82E-28	3.33E-31	7.05E-29	45.892428
1.00000	-32.522320	13.360505	1.82E-28	3.33E-31	-3.89E-29	36.843053

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-34.952968	20.822925	1.82E-28	3.33E-31	1.80E-28	57.180530
0.50000	-33.737514	16.875984	1.82E-28	3.33E-31	7.05E-29	45.892428
1.00000	-32.522320	13.360505	1.82E-28	3.33E-31	-3.89E-29	36.843053

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-54.358058	10.389293	9.18E-29	3.52E-30	8.80E-29	44.843624
0.50000	-52.469857	8.416592	9.18E-29	3.52E-30	3.30E-29	39.212644
1.00000	-50.581786	6.659622	9.18E-29	3.52E-30	-2.21E-29	34.700566

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-54.358058	10.389293	9.18E-29	3.52E-30	8.80E-29	44.843624
0.50000	-52.469857	8.416592	9.18E-29	3.52E-30	3.30E-29	39.212644
1.00000	-50.581786	6.659622	9.18E-29	3.52E-30	-2.21E-29	34.700566

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-35.300333	11.558745	1.02E-28	1.63E-30	9.91E-29	38.766015
0.50000	-34.073681	9.366331	1.02E-28	1.63E-30	3.82E-29	32.500476
1.00000	-32.847172	7.413619	1.02E-28	1.63E-30	-2.27E-29	27.478475

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-35.300333	11.558745	1.02E-28	1.63E-30	9.91E-29	38.766015
0.50000	-34.073681	9.366331	1.02E-28	1.63E-30	3.82E-29	32.500476
1.00000	-32.847172	7.413619	1.02E-28	1.63E-30	-2.27E-29	27.478475

ELEM 3 ========== LENGTH = 1.034680

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-49.219162	-17.737279	2.15E-15	-5.97E-30	5.50E-15	-45.410969
0.50000	-40.957229	-14.318112	1.73E-15	-5.97E-30	4.50E-15	-37.136003
1.00000	-33.485733	-11.288724	1.37E-15	-5.97E-30	3.70E-15	-30.529085

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-49.219162	-17.737279	2.15E-15	-5.97E-30	5.50E-15	-45.410969
0.50000	-40.957229	-14.318112	1.73E-15	-5.97E-30	4.50E-15	-37.136003
1.00000	-33.485733	-11.288724	1.37E-15	-5.97E-30	3.70E-15	-30.529085

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-31.224408	-16.162943	1.96E-15	-7.89E-30	4.46E-15	-36.843053
0.50000	-25.996775	-13.009242	1.58E-15	-7.89E-30	3.55E-15	-29.312784
1.00000	-21.267339	-10.219754	1.24E-15	-7.89E-30	2.82E-15	-23.319840

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-31.224408	-16.162943	1.96E-15	-7.89E-30	4.46E-15	-36.843053
0.50000	-25.996775	-13.009242	1.58E-15	-7.89E-30	3.55E-15	-29.312784
1.00000	-21.267339	-10.219754	1.24E-15	-7.89E-30	2.82E-15	-23.319840

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-49.802236	-11.072711	1.34E-15	-2.89E-31	4.20E-15	-34.700566
0.50000	-41.423249	-8.991473	1.09E-15	-2.89E-31	3.58E-15	-29.520507
1.00000	-33.848619	-7.140921	8.65E-16	-2.89E-31	3.07E-15	-25.357485

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-49.802236	-11.072711	1.34E-15	-2.89E-31	4.20E-15	-34.700566
0.50000	-41.423249	-8.991473	1.09E-15	-2.89E-31	3.58E-15	-29.520507
1.00000	-33.848619	-7.140921	8.65E-16	-2.89E-31	3.07E-15	-25.357485

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-32.069874	-10.267506	1.24E-15	-2.81E-30	3.33E-15	-27.478475
0.50000	-26.683024	-8.298250	1.00E-15	-2.81E-30	2.75E-15	-22.685695
1.00000	-21.812057	-6.552253	7.94E-16	-2.81E-30	2.28E-15	-18.853940

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-32.069874	-10.267506	1.24E-15	-2.81E-30	3.33E-15	-27.478475
0.50000	-26.683024	-8.298250	1.00E-15	-2.81E-30	2.75E-15	-22.685695
1.00000	-21.812057	-6.552253	7.94E-16	-2.81E-30	2.28E-15	-18.853940

ELEM 4 ========== LENGTH = 1.034680

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-31.016742	-16.931963	2.05E-15	-1.46E-29	3.70E-15	-30.529085
0.50000	-24.884443	-13.164508	1.59E-15	-1.46E-29	2.76E-15	-22.765825
1.00000	-19.440672	-9.902577	1.20E-15	-1.46E-29	2.04E-15	-16.820857

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-31.016742	-16.931963	2.05E-15	-1.46E-29	3.70E-15	-30.529085
0.50000	-24.884443	-13.164508	1.59E-15	-1.46E-29	2.76E-15	-22.765825
1.00000	-19.440672	-9.902577	1.20E-15	-1.46E-29	2.04E-15	-16.820857

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-19.169597	-13.757529	1.67E-15	-1.65E-29	2.82E-15	-23.319840
0.50000	-15.417075	-10.627734	1.29E-15	-1.65E-29	2.06E-15	-17.030727
1.00000	-12.078516	-7.929892	9.60E-16	-1.65E-29	1.48E-15	-12.249049

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-19.169597	-13.757529	1.67E-15	-1.65E-29	2.82E-15	-23.319840
0.50000	-15.417075	-10.627734	1.29E-15	-1.65E-29	2.06E-15	-17.030727
1.00000	-12.078516	-7.929892	9.60E-16	-1.65E-29	1.48E-15	-12.249049

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-32.094373	-12.910188	1.56E-15	-4.62E-30	3.07E-15	-25.357485
0.50000	-25.896535	-10.133738	1.23E-15	-4.62E-30	2.35E-15	-19.412051
1.00000	-20.027355	-7.713047	9.34E-16	-4.62E-30	1.79E-15	-14.810961

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-32.094373	-12.910188	1.56E-15	-4.62E-30	3.07E-15	-25.357485
0.50000	-25.896535	-10.133738	1.23E-15	-4.62E-30	2.35E-15	-19.412051
1.00000	-20.027355	-7.713047	9.34E-16	-4.62E-30	1.79E-15	-14.810961

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-20.342895	-10.240336	1.24E-15	-7.59E-30	2.28E-15	-18.853940
0.50000	-16.311070	-7.979639	9.66E-16	-7.59E-30	1.71E-15	-14.153868
1.00000	-12.733869	-6.019510	7.29E-16	-7.59E-30	1.28E-15	-10.545508

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-20.342895	-10.240336	1.24E-15	-7.59E-30	2.28E-15	-18.853940
0.50000	-16.311070	-7.979639	9.66E-16	-7.59E-30	1.71E-15	-14.153868
1.00000	-12.733869	-6.019510	7.29E-16	-7.59E-30	1.28E-15	-10.545508

ELEM 5 ========== LENGTH = 1.034679

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-17.425759	-13.127973	1.59E-15	8.57E-30	2.04E-15	-16.820857
0.50000	-13.203517	-9.568572	1.16E-15	8.57E-30	1.33E-15	-10.974913
1.00000	-9.535778	-6.588314	7.98E-16	8.57E-30	8.26E-16	-6.820581

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-17.425759	-13.127973	1.59E-15	8.57E-30	2.04E-15	-16.820857
0.50000	-13.203517	-9.568572	1.16E-15	8.57E-30	1.33E-15	-10.974913
1.00000	-9.535778	-6.588314	7.98E-16	8.57E-30	8.26E-16	-6.820581

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-10.518003	-9.906833	1.20E-15	7.53E-30	1.48E-15	-12.249049
0.50000	-8.021280	-7.152055	8.66E-16	7.53E-30	9.51E-16	-7.856533
1.00000	-5.837171	-4.863624	5.89E-16	7.53E-30	5.78E-16	-4.768544

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-10.518003	-9.906833	1.20E-15	7.53E-30	1.48E-15	-12.249049
0.50000	-8.021280	-7.152055	8.66E-16	7.53E-30	9.51E-16	-7.856533
1.00000	-5.837171	-4.863624	5.89E-16	7.53E-30	5.78E-16	-4.768544

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-18.383737	-11.073584	1.34E-15	5.73E-30	1.79E-15	-14.810961
0.50000	-13.856889	-8.167411	9.89E-16	5.73E-30	1.19E-15	-9.853187
1.00000	-9.945939	-5.708722	6.91E-16	5.73E-30	7.61E-16	-6.283141

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-18.383737	-11.073584	1.34E-15	5.73E-30	1.79E-15	-14.810961
0.50000	-13.856889	-8.167411	9.89E-16	5.73E-30	1.19E-15	-9.853187
1.00000	-9.945939	-5.708722	6.91E-16	5.73E-30	7.61E-16	-6.283141

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-11.495135	-8.139275	9.86E-16	5.03E-30	1.28E-15	-10.545598
0.50000	-8.696278	-5.950514	7.21E-16	5.03E-30	8.38E-16	-6.916142
1.00000	-6.269006	-4.113123	4.98E-16	5.03E-30	5.24E-16	-4.328130

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-11.495135	-8.139275	9.86E-16	5.03E-30	1.28E-15	-10.545598
0.50000	-8.696278	-5.950514	7.21E-16	5.03E-30	8.38E-16	-6.916142
1.00000	-6.269006	-4.113123	4.98E-16	5.03E-30	5.24E-16	-4.328130

ELEM 6 ========== LENGTH = 1.024081

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-8.422567	-7.962243	9.64E-16	2.50E-29	8.26E-16	-6.820581
0.50000	-5.717381	-5.114661	6.19E-16	2.50E-29	4.24E-16	-3.497806
1.00000	-3.424986	-2.857152	3.46E-16	2.50E-29	1.79E-16	-1.482038

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-8.422567	-7.962243	9.64E-16	2.50E-29	8.26E-16	-6.820581
0.50000	-5.717381	-5.114661	6.19E-16	2.50E-29	4.24E-16	-3.497806
1.00000	-3.424986	-2.857152	3.46E-16	2.50E-29	1.79E-16	-1.482038

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-5.029370	-5.694985	6.90E-16	2.52E-29	5.78E-16	-4.768544
0.50000	-3.461905	-3.607603	4.37E-16	2.52E-29	2.91E-16	-2.406389
1.00000	-2.107961	-1.977146	2.39E-16	2.52E-29	1.21E-16	-0.996077

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-5.029370	-5.694985	6.90E-16	2.52E-29	5.78E-16	-4.768544
0.50000	-3.461905	-3.607603	4.37E-16	2.52E-29	2.91E-16	-2.406389
1.00000	-2.107961	-1.977146	2.39E-16	2.52E-29	1.21E-16	-0.996077

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-8.961759	-7.155283	8.67E-16	1.22E-29	7.61E-16	-6.283141
0.50000	-6.016356	-4.667212	5.65E-16	1.22E-29	3.97E-16	-3.276885
1.00000	-3.556328	-2.660585	3.22E-16	1.22E-29	1.72E-16	-1.421363

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-8.961759	-7.155283	8.67E-16	1.22E-29	7.61E-16	-6.283141
0.50000	-6.016356	-4.667212	5.65E-16	1.22E-29	3.97E-16	-3.276885
1.00000	-3.556328	-2.660585	3.22E-16	1.22E-29	1.72E-16	-1.421363

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-5.570346	-5.018910	6.08E-16	1.39E-29	5.24E-16	-4.328130
0.50000	-3.768670	-3.237271	3.92E-16	1.39E-29	2.70E-16	-2.229660
1.00000	-2.248655	-1.818420	2.20E-16	1.39E-29	1.15E-16	-0.950980

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-5.570346	-5.018910	6.08E-16	1.39E-29	5.24E-16	-4.328130
0.50000	-3.768670	-3.237271	3.92E-16	1.39E-29	2.70E-16	-2.229660
1.00000	-2.248655	-1.818420	2.20E-16	1.39E-29	1.15E-16	-0.950980

ELEM 7 ========== LENGTH = 1.024082

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-3.022750	-3.279761	3.97E-16	3.80E-31	1.79E-16	-1.482038
0.50000	-1.361062	-1.350839	1.64E-16	3.80E-31	3.89E-17	-0.321176
1.00000	-2.12E-12	3.94E-13	-9.78E-29	3.80E-31	6.96E-29	-1.05E-13

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-3.022750	-3.279761	3.97E-16	3.80E-31	1.79E-16	-1.482038
0.50000	-1.361062	-1.350839	1.64E-16	3.80E-31	3.89E-17	-0.321176
1.00000	-2.12E-12	3.94E-13	-9.78E-29	3.80E-31	6.96E-29	-1.05E-13

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-1.831857	-2.235376	2.71E-16	2.44E-31	1.21E-16	-0.996077
0.50000	-0.847134	-0.900136	1.09E-16	2.44E-31	2.57E-17	-0.211887
1.00000	-2.03E-12	4.54E-13	-9.97E-29	2.44E-31	7.14E-29	-1.31E-13

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-1.831857	-2.235376	2.71E-16	2.44E-31	1.21E-16	-0.996077
0.50000	-0.847134	-0.900136	1.09E-16	2.44E-31	2.57E-17	-0.211887
1.00000	-2.03E-12	4.54E-13	-9.97E-29	2.44E-31	7.14E-29	-1.31E-13

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-3.178625	-3.102019	3.76E-16	3.80E-31	1.72E-16	-1.421363
0.50000	-1.400031	-1.306404	1.58E-16	3.80E-31	3.80E-17	-0.313591
1.00000	-1.17E-12	1.13E-13	-4.63E-29	3.80E-31	3.23E-29	-1.64E-14

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-3.178625	-3.102019	3.76E-16	3.80E-31	1.72E-16	-1.421363
0.50000	-1.400031	-1.306404	1.58E-16	3.80E-31	3.80E-17	-0.313591
1.00000	-1.17E-12	1.13E-13	-4.63E-29	3.80E-31	3.23E-29	-1.64E-14

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-1.992065	-2.096372	2.54E-16	2.47E-31	1.15E-16	-0.950980
0.50000	-0.891117	-0.868833	1.05E-16	2.47E-31	2.51E-17	-0.207133
1.00000	-1.20E-12	2.03E-13	-5.39E-29	2.47E-31	3.82E-29	-5.15E-14

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-1.992065	-2.096372	2.54E-16	2.47E-31	1.15E-16	-0.950980
0.50000	-0.891117	-0.868833	1.05E-16	2.47E-31	2.51E-17	-0.207133
1.00000	-1.20E-12	2.03E-13	-5.39E-29	2.47E-31	3.82E-29	-5.15E-14

F R A M E E L E M E N T I N T E R N A L F O R C E S

ELEM 8 ========== LENGTH = 1.024080

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-1.99E-12	-9.94E-13	1.10E-28	-1.73E-29	-1.94E-29	1.75E-13
0.50000	-1.361063	1.350832	-1.64E-16	-1.73E-29	3.89E-17	-0.321173
1.00000	-3.022752	3.279743	-3.97E-16	-1.73E-29	1.79E-16	-1.482026

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-1.99E-12	-9.94E-13	1.10E-28	-1.73E-29	-1.94E-29	1.75E-13
0.50000	-1.361063	1.350832	-1.64E-16	-1.73E-29	3.89E-17	-0.321173
1.00000	-3.022752	3.279743	-3.97E-16	-1.73E-29	1.79E-16	-1.482026

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-1.86E-12	-9.31E-13	1.03E-28	-1.62E-29	-1.25E-29	1.13E-13
0.50000	-0.847134	0.900131	-1.09E-16	-1.62E-29	2.57E-17	-0.211886
1.00000	-1.831859	2.235365	-2.71E-16	-1.62E-29	1.21E-16	-0.996069

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-1.86E-12	-9.31E-13	1.03E-28	-1.62E-29	-1.25E-29	1.13E-13
0.50000	-0.847134	0.900131	-1.09E-16	-1.62E-29	2.57E-17	-0.211886
1.00000	-1.831859	2.235365	-2.71E-16	-1.62E-29	1.21E-16	-0.996069

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-1.17E-12	-5.84E-13	6.49E-29	-1.02E-29	-1.94E-29	1.75E-13
0.50000	-1.400031	1.306396	-1.58E-16	-1.02E-29	3.80E-17	-0.313589
1.00000	-3.178626	3.102001	-3.76E-16	-1.02E-29	1.72E-16	-1.421352

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-1.17E-12	-5.84E-13	6.49E-29	-1.02E-29	-1.94E-29	1.75E-13
0.50000	-1.400031	1.306396	-1.58E-16	-1.02E-29	3.80E-17	-0.313589
1.00000	-3.178626	3.102001	-3.76E-16	-1.02E-29	1.72E-16	-1.421352

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-1.14E-12	-5.68E-13	6.31E-29	-9.89E-30	-1.26E-29	1.14E-13
0.50000	-0.891117	0.868828	-1.05E-16	-9.89E-30	2.51E-17	-0.207131
1.00000	-1.992066	2.096361	-2.54E-16	-9.89E-30	1.15E-16	-0.950973

FRAME ELEMENT INTERNAL FORCES

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-1.14E-12	-5.68E-13	6.31E-29	-9.89E-30	-1.26E-29	1.14E-13
0.50000	-0.891117	0.868828	-1.05E-16	-9.89E-30	2.51E-17	-0.207131
1.00000	-1.992066	2.096361	-2.54E-16	-9.89E-30	1.15E-16	-0.950973

ELEM 9 ========== LENGTH = 1.024082

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-3.424973	2.857149	-3.46E-16	-1.31E-29	1.79E-16	-1.482026
0.50000	-5.717368	5.114662	-6.19E-16	-1.31E-29	4.24E-16	-3.497795
1.00000	-8.422552	7.962250	-9.64E-16	-1.31E-29	8.26E-16	-6.820575

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-3.424973	2.857149	-3.46E-16	-1.31E-29	1.79E-16	-1.482026
0.50000	-5.717368	5.114662	-6.19E-16	-1.31E-29	4.24E-16	-3.497795
1.00000	-8.422552	7.962250	-9.64E-16	-1.31E-29	8.26E-16	-6.820575

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-2.107953	1.977144	-2.39E-16	-1.25E-29	1.21E-16	-0.996069
0.50000	-3.461897	3.607603	-4.37E-16	-1.25E-29	2.91E-16	-2.406382
1.00000	-5.029360	5.694989	-6.90E-16	-1.25E-29	5.78E-16	-4.768540

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-2.107953	1.977144	-2.39E-16	-1.25E-29	1.21E-16	-0.996069
0.50000	-3.461897	3.607603	-4.37E-16	-1.25E-29	2.91E-16	-2.406382
1.00000	-5.029360	5.694989	-6.90E-16	-1.25E-29	5.78E-16	-4.768540

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-3.556315	2.660583	-3.22E-16	-7.46E-30	1.72E-16	-1.421352
0.50000	-6.016344	4.667214	-5.65E-16	-7.46E-30	3.97E-16	-3.276875
1.00000	-8.961746	7.155291	-8.67E-16	-7.46E-30	7.61E-16	-6.283136

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-3.556315	2.660583	-3.22E-16	-7.46E-30	1.72E-16	-1.421352
0.50000	-6.016344	4.667214	-5.65E-16	-7.46E-30	3.97E-16	-3.276875
1.00000	-8.961746	7.155291	-8.67E-16	-7.46E-30	7.61E-16	-6.283136

FRAME ELEMENT INTERNAL FORCES

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-2.248647	1.818418	-2.20E-16	-7.47E-30	1.15E-16	-0.950973
0.50000	-3.768661	3.237272	-3.92E-16	-7.47E-30	2.70E-16	-2.229853
1.00000	-5.570337	5.018915	-6.08E-16	-7.47E-30	5.24E-16	-4.328126

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-2.248647	1.818418	-2.20E-16	-7.47E-30	1.15E-16	-0.950973
0.50000	-3.768661	3.237272	-3.92E-16	-7.47E-30	2.70E-16	-2.229853
1.00000	-5.570337	5.018915	-6.08E-16	-7.47E-30	5.24E-16	-4.328126

ELEM 10 ========== LENGTH = 1.034682

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-9.535742	6.588356	-7.98E-16	-3.74E-29	8.26E-16	-6.820575
0.50000	-13.203474	9.568639	-1.16E-15	-3.74E-29	1.33E-15	-10.974944
1.00000	-17.425709	13.128068	-1.59E-15	-3.74E-29	2.04E-15	-16.820943

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-9.535742	6.588356	-7.98E-16	-3.74E-29	8.26E-16	-6.820575
0.50000	-13.203474	9.568639	-1.16E-15	-3.74E-29	1.33E-15	-10.974944
1.00000	-17.425709	13.128068	-1.59E-15	-3.74E-29	2.04E-15	-16.820943

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-5.837145	4.863650	-5.89E-16	-3.42E-29	5.78E-16	-4.768540
0.50000	-8.021248	7.152096	-8.66E-16	-3.42E-29	9.51E-16	-7.856553
1.00000	-10.517964	9.906892	-1.20E-15	-3.42E-29	1.48E-15	-12.249104

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-5.837145	4.863650	-5.89E-16	-3.42E-29	5.78E-16	-4.768540
0.50000	-8.021248	7.152096	-8.66E-16	-3.42E-29	9.51E-16	-7.856553
1.00000	-10.517964	9.906892	-1.20E-15	-3.42E-29	1.48E-15	-12.249104

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-9.945906	5.708767	-6.91E-16	-2.32E-29	7.61E-16	-6.283136
0.50000	-13.856854	8.167479	-9.89E-16	-2.32E-29	1.19E-15	-9.853219
1.00000	-18.383698	11.073680	-1.34E-15	-2.32E-29	1.79E-15	-14.811046

FRAME ELEMENT INTERNAL FORCES

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-9.945906	5.708767	-6.91E-16	-2.32E-29	7.61E-16	-6.283136
0.50000	-13.856854	8.167479	-9.89E-16	-2.32E-29	1.19E-15	-9.853219
1.00000	-18.383698	11.073680	-1.34E-15	-2.32E-29	1.79E-15	-14.811046

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-6.268983	4.113151	-4.98E-16	-2.16E-29	5.24E-16	-4.328126
0.50000	-8.696252	5.950558	-7.21E-16	-2.16E-29	8.38E-16	-6.916162
1.00000	-11.495105	8.139336	-9.86E-16	-2.16E-29	1.28E-15	-10.545653

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-6.268983	4.113151	-4.98E-16	-2.16E-29	5.24E-16	-4.328126
0.50000	-8.696252	5.950558	-7.21E-16	-2.16E-29	8.38E-16	-6.916162
1.00000	-11.495105	8.139336	-9.86E-16	-2.16E-29	1.28E-15	-10.545653

ELEM 11 ========== LENGTH = 1.034679

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-19.440732	9.902497	-1.20E-15	-6.11E-29	2.04E-15	-16.820943
0.50000	-24.884511	13.164399	-1.59E-15	-6.11E-29	2.76E-15	-22.765855
1.00000	-31.016820	16.931821	-2.05E-15	-6.11E-29	3.70E-15	-30.529041

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-19.440732	9.902497	-1.20E-15	-6.11E-29	2.04E-15	-16.820943
0.50000	-24.884511	13.164399	-1.59E-15	-6.11E-29	2.76E-15	-22.765855
1.00000	-31.016820	16.931821	-2.05E-15	-6.11E-29	3.70E-15	-30.529041

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-12.078561	7.929845	-9.60E-16	-5.55E-29	1.48E-15	-12.249104
0.50000	-15.417129	10.627668	-1.29E-15	-5.55E-29	2.06E-15	-17.030748
1.00000	-19.169660	13.757442	-1.67E-15	-5.55E-29	2.82E-15	-23.319813

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-12.078561	7.929845	-9.60E-16	-5.55E-29	1.48E-15	-12.249104
0.50000	-15.417129	10.627668	-1.29E-15	-5.55E-29	2.06E-15	-17.030748
1.00000	-19.169660	13.757442	-1.67E-15	-5.55E-29	2.82E-15	-23.319813

FRAME ELEMENT INTERNAL FORCES

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-20.027405	7.712961	-9.34E-16	-3.84E-29	1.79E-15	-14.811046
0.50000	-25.696590	10.133624	-1.23E-15	-3.84E-29	2.35E-15	-19.412078
1.00000	-32.094433	12.910042	-1.56E-15	-3.84E-29	3.07E-15	-25.357438

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-20.027405	7.712961	-9.34E-16	-3.84E-29	1.79E-15	-14.811046
0.50000	-25.696590	10.133624	-1.23E-15	-3.84E-29	2.35E-15	-19.412078
1.00000	-32.094433	12.910042	-1.56E-15	-3.84E-29	3.07E-15	-25.357438

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-12.733906	6.019458	-7.29E-16	-3.54E-29	1.28E-15	-10.545653
0.50000	-16.311111	7.979768	-9.66E-16	-3.54E-29	1.71E-15	-14.153887
1.00000	-20.342942	10.240243	-1.24E-15	-3.54E-29	2.28E-15	-18.853910

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-12.733906	6.019458	-7.29E-16	-3.54E-29	1.28E-15	-10.545653
0.50000	-16.311111	7.979768	-9.66E-16	-3.54E-29	1.71E-15	-14.153887
1.00000	-20.342942	10.240243	-1.24E-15	-3.54E-29	2.28E-15	-18.853910

ELEM 12 ========== LENGTH = 1.034680

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-33.485715	11.288780	-1.37E-15	-8.76E-29	3.70E-15	-30.529041
0.50000	-40.957206	14.318180	-1.73E-15	-8.76E-29	4.50E-15	-37.135992
1.00000	-49.219135	17.737362	-2.15E-15	-8.76E-29	5.50E-15	-45.410998

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-33.485715	11.288780	-1.37E-15	-8.76E-29	3.70E-15	-30.529041
0.50000	-40.957206	14.318180	-1.73E-15	-8.76E-29	4.50E-15	-37.135992
1.00000	-49.219135	17.737362	-2.15E-15	-8.76E-29	5.50E-15	-45.410998

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-21.267322	10.219790	-1.24E-15	-7.87E-29	2.82E-15	-23.319813
0.50000	-25.996755	13.009286	-1.58E-15	-7.87E-29	3.55E-15	-29.312779
1.00000	-31.224383	16.162996	-1.96E-15	-7.87E-29	4.46E-15	-36.843074

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-21.267322	10.219790	-1.24E-15	-7.87E-29	2.82E-15	-23.319813
0.50000	-25.996755	13.009286	-1.58E-15	-7.87E-29	3.55E-15	-29.312779
1.00000	-31.224383	16.162996	-1.96E-15	-7.87E-29	4.46E-15	-36.843074

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-33.848608	7.140977	-8.65E-16	-5.64E-29	3.07E-15	-25.357438
0.50000	-41.423236	8.991542	-1.09E-15	-5.64E-29	3.58E-15	-29.520493
1.00000	-49.802220	11.072793	-1.34E-15	-5.64E-29	4.20E-15	-34.700592

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-33.848608	7.140977	-8.65E-16	-5.64E-29	3.07E-15	-25.357438
0.50000	-41.423236	8.991542	-1.09E-15	-5.64E-29	3.58E-15	-29.520493
1.00000	-49.802220	11.072793	-1.34E-15	-5.64E-29	4.20E-15	-34.700592

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-21.812046	6.552290	-7.94E-16	-5.11E-29	2.28E-15	-18.853910
0.50000	-26.683011	8.298295	-1.00E-15	-5.11E-29	2.75E-15	-22.685687
1.00000	-32.069858	10.267560	-1.24E-15	-5.11E-29	3.33E-15	-27.478494

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-21.812046	6.552290	-7.94E-16	-5.11E-29	2.28E-15	-18.853910
0.50000	-26.683011	8.298295	-1.00E-15	-5.11E-29	2.75E-15	-22.685687
1.00000	-32.069858	10.267560	-1.24E-15	-5.11E-29	3.33E-15	-27.478494

ELEM 13 ========== LENGTH = 1.200000

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-50.577776	13.380054	3.73E-29	-1.12E-28	-2.19E-28	-45.410998
0.50000	-52.464791	16.896264	3.73E-29	-1.12E-28	-2.41E-28	-54.472320
1.00000	-54.351805	20.843934	3.73E-29	-1.12E-28	-2.64E-28	-65.772806

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-50.577776	13.380054	3.73E-29	-1.12E-28	-2.19E-28	-45.410998
0.50000	-52.464791	16.896264	3.73E-29	-1.12E-28	-2.41E-28	-54.472320
1.00000	-54.351805	20.843934	3.73E-29	-1.12E-28	-2.64E-28	-65.772806

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-32.514285	13.380054	3.21E-29	-1.01E-28	-2.02E-28	-36.843074
0.50000	-33.727365	16.896264	3.21E-29	-1.01E-28	-2.21E-28	-45.904397
1.00000	-34.940446	20.843934	3.21E-29	-1.01E-28	-2.40E-28	-57.204883

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-32.514285	13.380054	3.21E-29	-1.01E-28	-2.02E-28	-36.843074
0.50000	-33.727365	16.896264	3.21E-29	-1.01E-28	-2.21E-28	-45.904397
1.00000	-34.940446	20.843934	3.21E-29	-1.01E-28	-2.40E-28	-57.204883

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-50.577776	6.690027	2.59E-29	-7.04E-29	-1.34E-28	-34.700592
0.50000	-52.464791	8.448132	2.59E-29	-7.04E-29	-1.49E-28	-39.231253
1.00000	-54.351805	10.421967	2.59E-29	-7.04E-29	-1.65E-28	-44.881496

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-50.577776	6.690027	2.59E-29	-7.04E-29	-1.34E-28	-34.700592
0.50000	-52.464791	8.448132	2.59E-29	-7.04E-29	-1.49E-28	-39.231253
1.00000	-54.351805	10.421967	2.59E-29	-7.04E-29	-1.65E-28	-44.881496

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-32.842712	7.433363	2.21E-29	-6.47E-29	-1.26E-28	-27.478494
0.50000	-34.068046	9.386813	2.21E-29	-6.47E-29	-1.39E-28	-32.512562
1.00000	-35.293380	11.579963	2.21E-29	-6.47E-29	-1.53E-28	-38.790610

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-32.842712	7.433363	2.21E-29	-6.47E-29	-1.26E-28	-27.478494
0.50000	-34.068046	9.386813	2.21E-29	-6.47E-29	-1.39E-28	-32.512562
1.00000	-35.293380	11.579963	2.21E-29	-6.47E-29	-1.53E-28	-38.790610

ELEM 14 ========== LENGTH = 1.687847

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-54.351805	20.843934	3.37E-29	-1.38E-14	-2.62E-28	-65.772806
0.50000	-57.474346	27.127155	3.37E-29	-1.38E-14	-2.90E-28	-85.954678
1.00000	-60.596887	34.264849	3.37E-29	-1.38E-14	-3.18E-28	-111.799664

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-54.351805	20.843934	3.37E-29	-1.38E-14	-2.62E-28	-65.772806
0.50000	-57.474346	27.127155	3.37E-29	-1.38E-14	-2.90E-28	-85.954678
1.00000	-60.596887	34.264849	3.37E-29	-1.38E-14	-3.18E-28	-111.799664

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-34.940446	20.843934	2.97E-29	-1.41E-14	-2.41E-28	-57.204883
0.50000	-36.947794	27.127155	2.97E-29	-1.41E-14	-2.66E-28	-77.386755
1.00000	-38.955142	34.264849	2.97E-29	-1.41E-14	-2.91E-28	-103.231740

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-34.940446	20.843934	2.97E-29	-1.41E-14	-2.41E-28	-57.204883
0.50000	-36.947794	27.127155	2.97E-29	-1.41E-14	-2.66E-28	-77.386755
1.00000	-38.955142	34.264849	2.97E-29	-1.41E-14	-2.91E-28	-103.231740

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-54.351805	10.421967	2.23E-29	-6.45E-15	-1.59E-28	-44.881496
0.50000	-57.474346	13.563578	2.23E-29	-6.45E-15	-1.78E-28	-54.972432
1.00000	-60.596887	17.132425	2.23E-29	-6.45E-15	-1.97E-28	-67.894925

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-54.351805	10.421967	2.23E-29	-6.45E-15	-1.59E-28	-44.881496
0.50000	-57.474346	13.563578	2.23E-29	-6.45E-15	-1.78E-28	-54.972432
1.00000	-60.596887	17.132425	2.23E-29	-6.45E-15	-1.97E-28	-67.894925

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-35.293380	11.579963	1.97E-29	-7.58E-15	-1.51E-28	-38.790610
0.50000	-37.321004	15.070642	1.97E-29	-7.58E-15	-1.67E-28	-50.002761
1.00000	-39.348628	19.036027	1.97E-29	-7.58E-15	-1.84E-28	-64.361086

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-35.293380	11.579963	1.97E-29	-7.58E-15	-1.51E-28	-38.790610
0.50000	-37.321004	15.070642	1.97E-29	-7.58E-15	-1.67E-28	-50.002761
1.00000	-39.348628	19.036027	1.97E-29	-7.58E-15	-1.84E-28	-64.361086

F R A M E E L E M E N T I N T E R N A L F O R C E S

ELEM 15 ========== LENGTH = 1.075000

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-34.264847	61.263438	-7.42E-15	2.44E-28	-1.35E-14	111.761782
0.25000	-34.264847	62.257821	-7.54E-15	2.44E-28	-1.15E-14	95.163613
0.50000	-34.264847	63.252204	-7.66E-15	2.44E-28	-9.48E-15	78.298203
0.75000	-34.264847	64.246586	-7.78E-15	2.44E-28	-7.41E-15	61.165554
1.00000	-34.264847	65.240969	-7.90E-15	2.44E-28	-5.30E-15	43.765663

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-34.264847	61.263438	-7.42E-15	2.44E-28	-1.35E-14	111.761782
0.25000	-34.264847	62.257821	-7.54E-15	2.44E-28	-1.15E-14	95.163613
0.50000	-34.264847	63.252204	-7.66E-15	2.44E-28	-9.48E-15	78.298203
0.75000	-34.264847	64.246586	-7.78E-15	2.44E-28	-7.41E-15	61.165554
1.00000	-34.264847	65.240969	-7.90E-15	2.44E-28	-5.30E-15	43.765663

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-34.264847	53.346077	-6.46E-15	2.46E-28	-1.25E-14	103.207383
0.25000	-34.264847	53.985323	-6.54E-15	2.46E-28	-1.08E-14	88.784726
0.50000	-34.264847	54.624570	-6.62E-15	2.46E-28	-8.98E-15	74.190271
0.75000	-34.264847	55.263816	-6.69E-15	2.46E-28	-7.20E-15	59.424019
1.00000	-34.264847	55.903062	-6.77E-15	2.46E-28	-5.39E-15	44.485970

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-34.264847	53.346077	-6.46E-15	2.46E-28	-1.25E-14	103.207383
0.25000	-34.264847	53.985323	-6.54E-15	2.46E-28	-1.08E-14	88.784726
0.50000	-34.264847	54.624570	-6.62E-15	2.46E-28	-8.98E-15	74.190271
0.75000	-34.264847	55.263816	-6.69E-15	2.46E-28	-7.20E-15	59.424019
1.00000	-34.264847	55.903062	-6.77E-15	2.46E-28	-5.39E-15	44.485970

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-17.132423	41.716024	-5.05E-15	1.19E-28	-8.22E-15	67.857051
0.25000	-17.132423	42.710407	-5.17E-15	1.19E-28	-6.84E-15	56.512249
0.50000	-17.132423	43.704790	-5.29E-15	1.19E-28	-5.44E-15	44.900207
0.75000	-17.132423	44.699172	-5.41E-15	1.19E-28	-4.00E-15	33.020925
1.00000	-17.132423	45.693555	-5.53E-15	1.19E-28	-2.53E-15	20.874402

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-17.132423	41.716024	-5.05E-15	1.19E-28	-8.22E-15	67.857051
0.25000	-17.132423	42.710407	-5.17E-15	1.19E-28	-6.84E-15	56.512249
0.50000	-17.132423	43.704790	-5.29E-15	1.19E-28	-5.44E-15	44.900207

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
0.75000	-17.132423	44.699172	-5.41E-15	1.19E-28	-4.00E-15	33.020925
1.00000	-17.132423	45.693555	-5.53E-15	1.19E-28	-2.53E-15	20.874402

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-19.036026	36.114550	-4.37E-15	1.35E-28	-7.79E-15	64.336489
0.25000	-19.036026	36.760253	-4.45E-15	1.35E-28	-6.61E-15	54.543937
0.50000	-19.036026	37.405956	-4.53E-15	1.35E-28	-5.40E-15	44.577853
0.75000	-19.036026	38.051660	-4.61E-15	1.35E-28	-4.17E-15	34.438236
1.00000	-19.036026	38.697363	-4.69E-15	1.35E-28	-2.92E-15	24.125086

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-19.036026	36.114550	-4.37E-15	1.35E-28	-7.79E-15	64.336489
0.25000	-19.036026	36.760253	-4.45E-15	1.35E-28	-6.61E-15	54.543937
0.50000	-19.036026	37.405956	-4.53E-15	1.35E-28	-5.40E-15	44.577853
0.75000	-19.036026	38.051660	-4.61E-15	1.35E-28	-4.17E-15	34.438236
1.00000	-19.036026	38.697363	-4.69E-15	1.35E-28	-2.92E-15	24.125086

ELEM 16 ========== LENGTH = 1.000000

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-34.264847	33.177464	-4.02E-15	2.44E-28	-5.30E-15	43.765663
0.25000	-34.264847	34.102471	-4.13E-15	2.44E-28	-4.28E-15	35.355672
0.50000	-34.264847	35.027478	-4.24E-15	2.44E-28	-3.24E-15	26.714428
0.75000	-34.264847	35.952485	-4.35E-15	2.44E-28	-2.16E-15	17.841933
1.00000	-34.264847	36.877492	-4.47E-15	2.44E-28	-1.06E-15	8.738185

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-34.264847	33.177464	-4.02E-15	2.44E-28	-5.30E-15	43.765663
0.25000	-34.264847	34.102471	-4.13E-15	2.44E-28	-4.28E-15	35.355672
0.50000	-34.264847	35.027478	-4.24E-15	2.44E-28	-3.24E-15	26.714428
0.75000	-34.264847	35.952485	-4.35E-15	2.44E-28	-2.16E-15	17.841933
1.00000	-34.264847	36.877492	-4.47E-15	2.44E-28	-1.06E-15	8.738185

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-34.264847	32.433006	-3.93E-15	2.46E-28	-5.39E-15	44.485970
0.25000	-34.264847	33.027653	-4.00E-15	2.46E-28	-4.40E-15	36.303388
0.50000	-34.264847	33.622300	-4.07E-15	2.46E-28	-3.39E-15	27.972144
0.75000	-34.264847	34.216948	-4.14E-15	2.46E-28	-2.36E-15	19.492238
1.00000	-34.264847	34.811595	-4.22E-15	2.46E-28	-1.32E-15	10.863670

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-34.264847	32.433006	-3.93E-15	2.46E-28	-5.39E-15	44.485970
0.25000	-34.264847	33.027653	-4.00E-15	2.46E-28	-4.40E-15	36.303388
0.50000	-34.264847	33.622300	-4.07E-15	2.46E-28	-3.39E-15	27.972144
0.75000	-34.264847	34.216948	-4.14E-15	2.46E-28	-2.36E-15	19.492238
1.00000	-34.264847	34.811595	-4.22E-15	2.46E-28	-1.32E-15	10.863670

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-17.132423	17.630973	-2.14E-15	1.19E-28	-2.53E-15	20.874402
0.25000	-17.132423	18.555980	-2.25E-15	1.19E-28	-1.98E-15	16.351033
0.50000	-17.132423	19.480987	-2.36E-15	1.19E-28	-1.40E-15	11.596412
0.75000	-17.132423	20.405994	-2.47E-15	1.19E-28	-8.01E-16	6.610539
1.00000	-17.132423	21.331002	-2.58E-15	1.19E-28	-1.69E-16	1.393414

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-17.132423	17.630973	-2.14E-15	1.19E-28	-2.53E-15	20.874402
0.25000	-17.132423	18.555980	-2.25E-15	1.19E-28	-1.98E-15	16.351033
0.50000	-17.132423	19.480987	-2.36E-15	1.19E-28	-1.40E-15	11.596412
0.75000	-17.132423	20.405994	-2.47E-15	1.19E-28	-8.01E-16	6.610539
1.00000	-17.132423	21.331002	-2.58E-15	1.19E-28	-1.69E-16	1.393414

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-19.036026	18.627438	-2.26E-15	1.35E-28	-2.92E-15	24.125086
0.25000	-19.036026	19.228092	-2.33E-15	1.35E-28	-2.35E-15	19.393145
0.50000	-19.036026	19.828746	-2.40E-15	1.35E-28	-1.76E-15	14.511040
0.75000	-19.036026	20.429400	-2.47E-15	1.35E-28	-1.15E-15	9.478771
1.00000	-19.036026	21.030054	-2.55E-15	1.35E-28	-5.20E-16	4.296339

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-19.036026	18.627438	-2.26E-15	1.35E-28	-2.92E-15	24.125086
0.25000	-19.036026	19.228092	-2.33E-15	1.35E-28	-2.35E-15	19.393145
0.50000	-19.036026	19.828746	-2.40E-15	1.35E-28	-1.76E-15	14.511040
0.75000	-19.036026	20.429400	-2.47E-15	1.35E-28	-1.15E-15	9.478771
1.00000	-19.036026	21.030054	-2.55E-15	1.35E-28	-5.20E-16	4.296339

ELEM 17 ========== LENGTH = 1.000000

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-34.264847	10.327192	-1.25E-15	2.44E-28	-1.06E-15	8.738185
0.25000	-34.264847	11.039447	-1.34E-15	2.44E-28	-7.35E-16	6.067356
0.50000	-34.264847	11.751703	-1.42E-15	2.44E-28	-3.90E-16	3.218462

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
0.75000	-34.264847	12.463958	-1.51E-15	2.44E-28	-2.32E-17	0.191504
1.00000	-34.264847	13.176214	-1.60E-15	2.44E-28	3.65E-16	-3.013517

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-34.264847	10.327192	-1.25E-15	2.44E-28	-1.06E-15	8.738185
0.25000	-34.264847	11.039447	-1.34E-15	2.44E-28	-7.35E-16	6.067356
0.50000	-34.264847	11.751703	-1.42E-15	2.44E-28	-3.90E-16	3.218462
0.75000	-34.264847	12.463958	-1.51E-15	2.44E-28	-2.32E-17	0.191504
1.00000	-34.264847	13.176214	-1.60E-15	2.44E-28	3.65E-16	-3.013517

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-34.264847	11.675616	-1.41E-15	2.46E-28	-1.32E-15	10.863670
0.25000	-34.264847	12.133494	-1.47E-15	2.46E-28	-9.55E-16	7.887531
0.50000	-34.264847	12.591373	-1.52E-15	2.46E-28	-5.81E-16	4.796923
0.75000	-34.264847	13.049251	-1.58E-15	2.46E-28	-1.93E-16	1.591845
1.00000	-34.264847	13.507130	-1.64E-15	2.46E-28	2.09E-16	-1.727703

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-34.264847	11.675616	-1.41E-15	2.46E-28	-1.32E-15	10.863670
0.25000	-34.264847	12.133494	-1.47E-15	2.46E-28	-9.55E-16	7.887531
0.50000	-34.264847	12.591373	-1.52E-15	2.46E-28	-5.81E-16	4.796923
0.75000	-34.264847	13.049251	-1.58E-15	2.46E-28	-1.93E-16	1.591845
1.00000	-34.264847	13.507130	-1.64E-15	2.46E-28	2.09E-16	-1.727703

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-17.132423	3.275802	-3.97E-16	1.19E-28	-1.69E-16	1.393414
0.25000	-17.132423	3.988058	-4.83E-16	1.19E-28	-5.88E-17	0.485432
0.50000	-17.132423	4.700313	-5.69E-16	1.19E-28	7.27E-17	-0.600614
0.75000	-17.132423	5.412569	-6.55E-16	1.19E-28	2.26E-16	-1.864725
1.00000	-17.132423	6.124824	-7.42E-16	1.19E-28	4.00E-16	-3.306899

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-17.132423	3.275802	-3.97E-16	1.19E-28	-1.69E-16	1.393414
0.25000	-17.132423	3.988058	-4.83E-16	1.19E-28	-5.88E-17	0.485432
0.50000	-17.132423	4.700313	-5.69E-16	1.19E-28	7.27E-17	-0.600614
0.75000	-17.132423	5.412569	-6.55E-16	1.19E-28	2.26E-16	-1.864725
1.00000	-17.132423	6.124824	-7.42E-16	1.19E-28	4.00E-16	-3.306899

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-19.036026	5.383197	-6.52E-16	1.35E-28	-5.20E-16	4.296339

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
0.25000	-19.036026	5.845701	-7.08E-16	1.35E-28	-3.50E-16	2.892727
0.50000	-19.036026	6.308204	-7.64E-16	1.35E-28	-1.66E-16	1.373489
0.75000	-19.036026	6.770708	-8.20E-16	1.35E-28	3.17E-17	-0.261375
1.00000	-19.036026	7.233211	-8.76E-16	1.35E-28	2.44E-16	-2.011865

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-19.036026	5.383197	-6.52E-16	1.35E-28	-5.20E-16	4.296339
0.25000	-19.036026	5.845701	-7.08E-16	1.35E-28	-3.50E-16	2.892727
0.50000	-19.036026	6.308204	-7.64E-16	1.35E-28	-1.66E-16	1.373489
0.75000	-19.036026	6.770708	-8.20E-16	1.35E-28	3.17E-17	-0.261375
1.00000	-19.036026	7.233211	-8.76E-16	1.35E-28	2.44E-16	-2.011865

ELEM 18 ========== LENGTH = 1.000000

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-34.264847	-0.734325	8.89E-17	2.44E-28	3.65E-16	-3.013517
0.25000	-34.264847	-0.022070	2.67E-18	2.44E-28	3.54E-16	-2.918968
0.50000	-34.264847	0.690186	-8.36E-17	2.44E-28	3.64E-16	-3.002482
0.75000	-34.264847	1.402441	-1.70E-16	2.44E-28	3.95E-16	-3.264061
1.00000	-34.264847	2.114697	-2.56E-16	2.44E-28	4.49E-16	-3.703703

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-34.264847	-0.734325	8.89E-17	2.44E-28	3.65E-16	-3.013517
0.25000	-34.264847	-0.022070	2.67E-18	2.44E-28	3.54E-16	-2.918968
0.50000	-34.264847	0.690186	-8.36E-17	2.44E-28	3.64E-16	-3.002482
0.75000	-34.264847	1.402441	-1.70E-16	2.44E-28	3.95E-16	-3.264061
1.00000	-34.264847	2.114697	-2.56E-16	2.44E-28	4.49E-16	-3.703703

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-34.264847	0.602056	-7.29E-17	2.46E-28	2.09E-16	-1.727703
0.25000	-34.264847	1.059934	-1.28E-16	2.46E-28	2.34E-16	-1.935452
0.50000	-34.264847	1.517813	-1.84E-16	2.46E-28	2.73E-16	-2.257670
0.75000	-34.264847	1.975692	-2.39E-16	2.46E-28	3.26E-16	-2.694358
1.00000	-34.264847	2.433570	-2.95E-16	2.46E-28	3.93E-16	-3.245516

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-34.264847	0.602056	-7.29E-17	2.46E-28	2.09E-16	-1.727703
0.25000	-34.264847	1.059934	-1.28E-16	2.46E-28	2.34E-16	-1.935452
0.50000	-34.264847	1.517813	-1.84E-16	2.46E-28	2.73E-16	-2.257670
0.75000	-34.264847	1.975692	-2.39E-16	2.46E-28	3.26E-16	-2.694358
1.00000	-34.264847	2.433570	-2.95E-16	2.46E-28	3.93E-16	-3.245516

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-17.132423	-2.238096	2.71E-16	1.19E-28	4.00E-16	-3.306899
0.25000	-17.132423	-1.525841	1.85E-16	1.19E-28	3.44E-16	-2.836407
0.50000	-17.132423	-0.813585	9.85E-17	1.19E-28	3.08E-16	-2.543978
0.75000	-17.132423	-0.101330	1.23E-17	1.19E-28	2.94E-16	-2.429614
1.00000	-17.132423	0.610926	-7.40E-17	1.19E-28	3.02E-16	-2.493313

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-17.132423	-2.238096	2.71E-16	1.19E-28	4.00E-16	-3.306899
0.25000	-17.132423	-1.525841	1.85E-16	1.19E-28	3.44E-16	-2.836407
0.50000	-17.132423	-0.813585	9.85E-17	1.19E-28	3.08E-16	-2.543978
0.75000	-17.132423	-0.101330	1.23E-17	1.19E-28	2.94E-16	-2.429614
1.00000	-17.132423	0.610926	-7.40E-17	1.19E-28	3.02E-16	-2.493313

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-19.036026	-0.758927	9.19E-17	1.35E-28	2.44E-16	-2.011865
0.25000	-19.036026	-0.296424	3.59E-17	1.35E-28	2.28E-16	-1.879946
0.50000	-19.036026	0.166080	-2.01E-17	1.35E-28	2.26E-16	-1.863653
0.75000	-19.036026	0.628583	-7.61E-17	1.35E-28	2.38E-16	-1.962986
1.00000	-19.036026	1.091087	-1.32E-16	1.35E-28	2.64E-16	-2.177945

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-19.036026	-0.758927	9.19E-17	1.35E-28	2.44E-16	-2.011865
0.25000	-19.036026	-0.296424	3.59E-17	1.35E-28	2.28E-16	-1.879946
0.50000	-19.036026	0.166080	-2.01E-17	1.35E-28	2.26E-16	-1.863653
0.75000	-19.036026	0.628583	-7.61E-17	1.35E-28	2.38E-16	-1.962986
1.00000	-19.036026	1.091087	-1.32E-16	1.35E-28	2.64E-16	-2.177945

ELEM 19 ========== LENGTH = 1.000000

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-34.264847	-3.240552	3.92E-16	2.44E-28	4.49E-16	-3.703703
0.25000	-34.264847	-2.528297	3.06E-16	2.44E-28	3.61E-16	-2.982597
0.50000	-34.264847	-1.816041	2.20E-16	2.44E-28	2.95E-16	-2.439555
0.75000	-34.264847	-1.103786	1.34E-16	2.44E-28	2.51E-16	-2.074576
1.00000	-34.264847	-0.391530	4.74E-17	2.44E-28	2.29E-16	-1.887662

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-34.264847	-3.240552	3.92E-16	2.44E-28	4.49E-16	-3.703703
0.25000	-34.264847	-2.528297	3.06E-16	2.44E-28	3.61E-16	-2.982597
0.50000	-34.264847	-1.816041	2.20E-16	2.44E-28	2.95E-16	-2.439555

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
0.75000	-34.264847	-1.103786	1.34E-16	2.44E-28	2.51E-16	-2.074576
1.00000	-34.264847	-0.391530	4.74E-17	2.44E-28	2.29E-16	-1.887662

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-34.264847	-2.367481	2.87E-16	2.46E-28	3.93E-16	-3.245516
0.25000	-34.264847	-1.909603	2.31E-16	2.46E-28	3.28E-16	-2.710880
0.50000	-34.264847	-1.451724	1.76E-16	2.46E-28	2.77E-16	-2.290714
0.75000	-34.264847	-0.993846	1.20E-16	2.46E-28	2.40E-16	-1.985018
1.00000	-34.264847	-0.535967	6.49E-17	2.46E-28	2.17E-16	-1.793792

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-34.264847	-2.367481	2.87E-16	2.46E-28	3.93E-16	-3.245516
0.25000	-34.264847	-1.909603	2.31E-16	2.46E-28	3.28E-16	-2.710880
0.50000	-34.264847	-1.451724	1.76E-16	2.46E-28	2.77E-16	-2.290714
0.75000	-34.264847	-0.993846	1.20E-16	2.46E-28	2.40E-16	-1.985018
1.00000	-34.264847	-0.535967	6.49E-17	2.46E-28	2.17E-16	-1.793792

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-17.132423	-2.842576	3.44E-16	1.19E-28	3.02E-16	-2.493313
0.25000	-17.132423	-2.130320	2.58E-16	1.19E-28	2.27E-16	-1.871701
0.50000	-17.132423	-1.418064	1.72E-16	1.19E-28	1.73E-16	-1.428153
0.75000	-17.132423	-0.705809	8.55E-17	1.19E-28	1.41E-16	-1.162669
1.00000	-17.132423	0.006447	-7.81E-19	1.19E-28	1.30E-16	-1.075249

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-17.132423	-2.842576	3.44E-16	1.19E-28	3.02E-16	-2.493313
0.25000	-17.132423	-2.130320	2.58E-16	1.19E-28	2.27E-16	-1.871701
0.50000	-17.132423	-1.418064	1.72E-16	1.19E-28	1.73E-16	-1.428153
0.75000	-17.132423	-0.705809	8.55E-17	1.19E-28	1.41E-16	-1.162669
1.00000	-17.132423	0.006447	-7.81E-19	1.19E-28	1.30E-16	-1.075249

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-19.036026	-2.029598	2.46E-16	1.35E-28	2.64E-16	-2.177945
0.25000	-19.036026	-1.567095	1.90E-16	1.35E-28	2.09E-16	-1.728358
0.50000	-19.036026	-1.104591	1.34E-16	1.35E-28	1.69E-16	-1.394397
0.75000	-19.036026	-0.642087	7.78E-17	1.35E-28	1.42E-16	-1.176063
1.00000	-19.036026	-0.179584	2.17E-17	1.35E-28	1.30E-16	-1.073354

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-19.036026	-2.029598	2.46E-16	1.35E-28	2.64E-16	-2.177945

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
0.25000	-19.036026	-1.567095	1.90E-16	1.35E-28	2.09E-16	-1.728358
0.50000	-19.036026	-1.104591	1.34E-16	1.35E-28	1.69E-16	-1.394397
0.75000	-19.036026	-0.642087	7.78E-17	1.35E-28	1.42E-16	-1.176063
1.00000	-19.036026	-0.179584	2.17E-17	1.35E-28	1.30E-16	-1.073354

ELEM 20 ========== LENGTH = 1.000000

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-34.264847	-2.740399	3.32E-16	2.44E-28	2.29E-16	-1.887662
0.25000	-34.264847	-2.028143	2.46E-16	2.44E-28	1.56E-16	-1.291594
0.50000	-34.264847	-1.315888	1.59E-16	2.44E-28	1.06E-16	-0.873590
0.75000	-34.264847	-0.603632	7.31E-17	2.44E-28	7.67E-17	-0.633650
1.00000	-34.264847	0.108623	-1.32E-17	2.44E-28	6.92E-17	-0.571774

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-34.264847	-2.740399	3.32E-16	2.44E-28	2.29E-16	-1.887662
0.25000	-34.264847	-2.028143	2.46E-16	2.44E-28	1.56E-16	-1.291594
0.50000	-34.264847	-1.315888	1.59E-16	2.44E-28	1.06E-16	-0.873590
0.75000	-34.264847	-0.603632	7.31E-17	2.44E-28	7.67E-17	-0.633650
1.00000	-34.264847	0.108623	-1.32E-17	2.44E-28	6.92E-17	-0.571774

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-34.264847	-2.155046	2.61E-16	2.46E-28	2.17E-16	-1.793792
0.25000	-34.264847	-1.697167	2.06E-16	2.46E-28	1.59E-16	-1.312265
0.50000	-34.264847	-1.239289	1.50E-16	2.46E-28	1.14E-16	-0.945208
0.75000	-34.264847	-0.781410	9.46E-17	2.46E-28	8.39E-17	-0.692621
1.00000	-34.264847	-0.323531	3.92E-17	2.46E-28	6.72E-17	-0.554503

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-34.264847	-2.155046	2.61E-16	2.46E-28	2.17E-16	-1.793792
0.25000	-34.264847	-1.697167	2.06E-16	2.46E-28	1.59E-16	-1.312265
0.50000	-34.264847	-1.239289	1.50E-16	2.46E-28	1.14E-16	-0.945208
0.75000	-34.264847	-0.781410	9.46E-17	2.46E-28	8.39E-17	-0.692621
1.00000	-34.264847	-0.323531	3.92E-17	2.46E-28	6.72E-17	-0.554503

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-17.132423	-2.189694	2.65E-16	1.19E-28	1.30E-16	-1.075249
0.25000	-17.132423	-1.477439	1.79E-16	1.19E-28	7.47E-17	-0.616857
0.50000	-17.132423	-0.765183	9.27E-17	1.19E-28	4.08E-17	-0.336529
0.75000	-17.132423	-0.052928	6.41E-18	1.19E-28	2.84E-17	-0.234266
1.00000	-17.132423	0.659328	-7.98E-17	1.19E-28	3.76E-17	-0.310066

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-17.132423	-2.189694	2.65E-16	1.19E-28	1.30E-16	-1.075249
0.25000	-17.132423	-1.477439	1.79E-16	1.19E-28	7.47E-17	-0.616857
0.50000	-17.132423	-0.765183	9.27E-17	1.19E-28	4.08E-17	-0.336529
0.75000	-17.132423	-0.052928	6.41E-18	1.19E-28	2.84E-17	-0.234266
1.00000	-17.132423	0.659328	-7.98E-17	1.19E-28	3.76E-17	-0.310066

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-19.036026	-1.676173	2.03E-16	1.35E-28	1.30E-16	-1.073354
0.25000	-19.036026	-1.213669	1.47E-16	1.35E-28	8.62E-17	-0.712123
0.50000	-19.036026	-0.751166	9.10E-17	1.35E-28	5.65E-17	-0.466519
0.75000	-19.036026	-0.288662	3.50E-17	1.35E-28	4.08E-17	-0.336540
1.00000	-19.036026	0.173841	-2.11E-17	1.35E-28	3.90E-17	-0.322188

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-19.036026	-1.676173	2.03E-16	1.35E-28	1.30E-16	-1.073354
0.25000	-19.036026	-1.213669	1.47E-16	1.35E-28	8.62E-17	-0.712123
0.50000	-19.036026	-0.751166	9.10E-17	1.35E-28	5.65E-17	-0.466519
0.75000	-19.036026	-0.288662	3.50E-17	1.35E-28	4.08E-17	-0.336540
1.00000	-19.036026	0.173841	-2.11E-17	1.35E-28	3.90E-17	-0.322188

ELEM 21 ========== LENGTH = 1.000000

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-34.264847	-1.942861	2.35E-16	2.44E-28	6.92E-17	-0.571774
0.25000	-34.264847	-1.230605	1.49E-16	2.44E-28	2.12E-17	-0.175090
0.50000	-34.264847	-0.518350	6.28E-17	2.44E-28	-5.27E-18	0.043529
0.75000	-34.264847	0.193906	-2.35E-17	2.44E-28	-1.02E-17	0.084085
1.00000	-34.264847	0.906161	-1.10E-16	2.44E-28	6.47E-18	-0.053424

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-34.264847	-1.942861	2.35E-16	2.44E-28	6.92E-17	-0.571774
0.25000	-34.264847	-1.230605	1.49E-16	2.44E-28	2.12E-17	-0.175090
0.50000	-34.264847	-0.518350	6.28E-17	2.44E-28	-5.27E-18	0.043529
0.75000	-34.264847	0.193906	-2.35E-17	2.44E-28	-1.02E-17	0.084085
1.00000	-34.264847	0.906161	-1.10E-16	2.44E-28	6.47E-18	-0.053424

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-34.264847	-1.443414	1.75E-16	2.46E-28	6.72E-17	-0.554503
0.25000	-34.264847	-0.985535	1.19E-16	2.46E-28	3.04E-17	-0.250884
0.50000	-34.264847	-0.527657	6.39E-17	2.46E-28	7.48E-18	-0.061735

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
0.75000	-34.264847	-0.069778	8.45E-18	2.46E-28	-1.57E-18	0.012944
1.00000	-34.264847	0.388100	-4.70E-17	2.46E-28	3.25E-18	-0.026846

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-34.264847	-1.443414	1.75E-16	2.46E-28	6.72E-17	-0.554503
0.25000	-34.264847	-0.985535	1.19E-16	2.46E-28	3.04E-17	-0.250884
0.50000	-34.264847	-0.527657	6.39E-17	2.46E-28	7.48E-18	-0.061735
0.75000	-34.264847	-0.069778	8.45E-18	2.46E-28	-1.57E-18	0.012944
1.00000	-34.264847	0.388100	-4.70E-17	2.46E-28	3.25E-18	-0.026846

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-17.132423	-1.670656	2.02E-16	1.19E-28	3.76E-17	-0.310066
0.25000	-17.132423	-0.958400	1.16E-16	1.19E-28	-2.25E-18	0.018566
0.50000	-17.132423	-0.246145	2.98E-17	1.19E-28	-2.05E-17	0.169135
0.75000	-17.132423	0.466111	-5.64E-17	1.19E-28	-1.72E-17	0.141639
1.00000	-17.132423	1.178366	-1.43E-16	1.19E-28	7.74E-18	-0.063921

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-17.132423	-1.670656	2.02E-16	1.19E-28	3.76E-17	-0.310066
0.25000	-17.132423	-0.958400	1.16E-16	1.19E-28	-2.25E-18	0.018566
0.50000	-17.132423	-0.246145	2.98E-17	1.19E-28	-2.05E-17	0.169135
0.75000	-17.132423	0.466111	-5.64E-17	1.19E-28	-1.72E-17	0.141639
1.00000	-17.132423	1.178366	-1.43E-16	1.19E-28	7.74E-18	-0.063921

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-19.036026	-1.210535	1.47E-16	1.35E-28	3.90E-17	-0.322188
0.25000	-19.036026	-0.748031	9.06E-17	1.35E-28	9.37E-18	-0.077367
0.50000	-19.036026	-0.285528	3.46E-17	1.35E-28	-6.28E-18	0.051828
0.75000	-19.036026	0.176976	-2.14E-17	1.35E-28	-7.92E-18	0.065397
1.00000	-19.036026	0.639479	-7.74E-17	1.35E-28	4.44E-18	-0.036660

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-19.036026	-1.210535	1.47E-16	1.35E-28	3.90E-17	-0.322188
0.25000	-19.036026	-0.748031	9.06E-17	1.35E-28	9.37E-18	-0.077367
0.50000	-19.036026	-0.285528	3.46E-17	1.35E-28	-6.28E-18	0.051828
0.75000	-19.036026	0.176976	-2.14E-17	1.35E-28	-7.92E-18	0.065397
1.00000	-19.036026	0.639479	-7.74E-17	1.35E-28	4.44E-18	-0.036660

F R A M E E L E M E N T I N T E R N A L F O R C E S

ELEM 22 ========== LENGTH = 1.000000

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-34.264847	-1.424455	1.73E-16	2.44E-28	6.47E-18	-0.053424
0.25000	-34.264847	-0.712199	8.63E-17	2.44E-28	-2.59E-17	0.213658
0.50000	-34.264847	5.65E-05	-6.84E-21	2.44E-28	-3.67E-17	0.302675
0.75000	-34.264847	0.712312	-8.63E-17	2.44E-28	-2.59E-17	0.213630
1.00000	-34.264847	1.424568	-1.73E-16	2.44E-28	6.48E-18	-0.053480

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-34.264847	-1.424455	1.73E-16	2.44E-28	6.47E-18	-0.053424
0.25000	-34.264847	-0.712199	8.63E-17	2.44E-28	-2.59E-17	0.213658
0.50000	-34.264847	5.65E-05	-6.84E-21	2.44E-28	-3.67E-17	0.302676
0.75000	-34.264847	0.712312	-8.63E-17	2.44E-28	-2.59E-17	0.213630
1.00000	-34.264847	1.424568	-1.73E-16	2.44E-28	6.48E-18	-0.053480

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-34.264847	-0.915721	1.11E-16	2.46E-28	3.25E-18	-0.026846
0.25000	-34.264847	-0.457842	5.54E-17	2.46E-28	-1.75E-17	0.144849
0.50000	-34.264847	3.63E-05	-4.40E-21	2.46E-28	-2.45E-17	0.202075
0.75000	-34.264847	0.457915	-5.55E-17	2.46E-28	-1.75E-17	0.144831
1.00000	-34.264847	0.915793	-1.11E-16	2.46E-28	3.26E-18	-0.026882

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-34.264847	-0.915721	1.11E-16	2.46E-28	3.25E-18	-0.026846
0.25000	-34.264847	-0.457842	5.54E-17	2.46E-28	-1.75E-17	0.144849
0.50000	-34.264847	3.63E-05	-4.40E-21	2.46E-28	-2.45E-17	0.202075
0.75000	-34.264847	0.457915	-5.55E-17	2.46E-28	-1.75E-17	0.144831
1.00000	-34.264847	0.915793	-1.11E-16	2.46E-28	3.26E-18	-0.026882

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-17.132423	-1.424455	1.73E-16	1.19E-28	7.74E-18	-0.063921
0.25000	-17.132423	-0.712199	8.63E-17	1.19E-28	-2.46E-17	0.203161
0.50000	-17.132423	5.65E-05	-6.84E-21	1.19E-28	-3.54E-17	0.292179
0.75000	-17.132423	0.712312	-8.63E-17	1.19E-28	-2.46E-17	0.203133
1.00000	-17.132423	1.424568	-1.73E-16	1.19E-28	7.75E-18	-0.063977

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-17.132423	-1.424455	1.73E-16	1.19E-28	7.74E-18	-0.063921
0.25000	-17.132423	-0.712199	8.63E-17	1.19E-28	-2.46E-17	0.203161
0.50000	-17.132423	5.65E-05	-6.84E-21	1.19E-28	-3.54E-17	0.292179

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
0.75000	-17.132423	0.712312	-8.63E-17	1.19E-28	-2.46E-17	0.203133
1.00000	-17.132423	1.424568	-1.73E-16	1.19E-28	7.75E-18	-0.063977

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-19.036026	-0.924970	1.12E-16	1.35E-28	4.44E-18	-0.036660
0.25000	-19.036026	-0.462467	5.60E-17	1.35E-28	-1.66E-17	0.136770
0.50000	-19.036026	3.67E-05	-4.44E-21	1.35E-28	-2.36E-17	0.194574
0.75000	-19.036026	0.462540	-5.60E-17	1.35E-28	-1.66E-17	0.136751
1.00000	-19.036026	0.925044	-1.12E-16	1.35E-28	4.44E-18	-0.036697

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-19.036026	-0.924970	1.12E-16	1.35E-28	4.44E-18	-0.036660
0.25000	-19.036026	-0.462467	5.60E-17	1.35E-28	-1.66E-17	0.136770
0.50000	-19.036026	3.67E-05	-4.44E-21	1.35E-28	-2.36E-17	0.194574
0.75000	-19.036026	0.462540	-5.60E-17	1.35E-28	-1.66E-17	0.136751
1.00000	-19.036026	0.925044	-1.12E-16	1.35E-28	4.44E-18	-0.036697

ELEM 23 ========== LENGTH = 1.000000

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-34.264847	-0.905941	1.10E-16	2.44E-28	6.48E-18	-0.053480
0.25000	-34.264847	-0.193686	2.35E-17	2.44E-28	-1.02E-17	0.083973
0.50000	-34.264847	0.518570	-6.28E-17	2.44E-28	-5.25E-18	0.043363
0.75000	-34.264847	1.230825	-1.49E-16	2.44E-28	2.12E-17	-0.175312
1.00000	-34.264847	1.943081	-2.35E-16	2.44E-28	6.93E-17	-0.572050

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-34.264847	-0.905941	1.10E-16	2.44E-28	6.48E-18	-0.053480
0.25000	-34.264847	-0.193686	2.35E-17	2.44E-28	-1.02E-17	0.083973
0.50000	-34.264847	0.518570	-6.28E-17	2.44E-28	-5.25E-18	0.043363
0.75000	-34.264847	1.230825	-1.49E-16	2.44E-28	2.12E-17	-0.175312
1.00000	-34.264847	1.943081	-2.35E-16	2.44E-28	6.93E-17	-0.572050

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-34.264847	-0.387959	4.70E-17	2.46E-28	3.26E-18	-0.026882
0.25000	-34.264847	0.069920	-8.47E-18	2.46E-28	-1.56E-18	0.012872
0.50000	-34.264847	0.527796	-6.39E-17	2.46E-28	7.49E-18	-0.061842
0.75000	-34.264847	0.985677	-1.19E-16	2.46E-28	3.04E-17	-0.251027
1.00000	-34.264847	1.443555	-1.75E-16	2.46E-28	6.72E-17	-0.554681

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-34.264847	-0.387959	4.70E-17	2.46E-28	3.26E-18	-0.026882
0.25000	-34.264847	0.069920	-8.47E-18	2.46E-28	-1.56E-18	0.012872
0.50000	-34.264847	0.527798	-6.39E-17	2.46E-28	7.49E-18	-0.061842
0.75000	-34.264847	0.985677	-1.19E-16	2.46E-28	3.04E-17	-0.251027
1.00000	-34.264847	1.443555	-1.75E-16	2.46E-28	6.72E-17	-0.554681

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-17.132423	-1.178146	1.43E-16	1.19E-28	7.75E-18	-0.063977
0.25000	-17.132423	-0.465891	5.64E-17	1.19E-28	-1.71E-17	0.141527
0.50000	-17.132423	0.246365	-2.98E-17	1.19E-28	-2.05E-17	0.168968
0.75000	-17.132423	0.958620	-1.16E-16	1.19E-28	-2.22E-18	0.018345
1.00000	-17.132423	1.670876	-2.02E-16	1.19E-28	3.76E-17	-0.310342

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-17.132423	-1.178146	1.43E-16	1.19E-28	7.75E-18	-0.063977
0.25000	-17.132423	-0.465891	5.64E-17	1.19E-28	-1.71E-17	0.141527
0.50000	-17.132423	0.246365	-2.98E-17	1.19E-28	-2.05E-17	0.168968
0.75000	-17.132423	0.958620	-1.16E-16	1.19E-28	-2.22E-18	0.018345
1.00000	-17.132423	1.670876	-2.02E-16	1.19E-28	3.76E-17	-0.310342

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-19.036026	-0.639337	7.74E-17	1.35E-28	4.44E-18	-0.036697
0.25000	-19.036026	-0.176833	2.14E-17	1.35E-28	-7.91E-18	0.065325
0.50000	-19.036026	0.285671	-3.46E-17	1.35E-28	-6.26E-18	0.051720
0.75000	-19.036026	0.748174	-9.06E-17	1.35E-28	9.39E-18	-0.077511
1.00000	-19.036026	1.210678	-1.47E-16	1.35E-28	3.90E-17	-0.322367

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-19.036026	-0.639337	7.74E-17	1.35E-28	4.44E-18	-0.036697
0.25000	-19.036026	-0.176833	2.14E-17	1.35E-28	-7.91E-18	0.065325
0.50000	-19.036026	0.285671	-3.46E-17	1.35E-28	-6.26E-18	0.051720
0.75000	-19.036026	0.748174	-9.06E-17	1.35E-28	9.39E-18	-0.077511
1.00000	-19.036026	1.210678	-1.47E-16	1.35E-28	3.90E-17	-0.322367

ELEM 24 ========== LENGTH = 1.000000

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-34.264847	-0.108179	1.31E-17	2.44E-28	6.93E-17	-0.572050
0.25000	-34.264847	0.604077	-7.32E-17	2.44E-28	7.68E-17	-0.634037
0.50000	-34.264847	1.316332	-1.59E-16	2.44E-28	1.06E-16	-0.874088

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
0.75000	-34.264847	2.028588	-2.46E-16	2.44E-28	1.56E-16	-1.292203
1.00000	-34.264847	2.740843	-3.32E-16	2.44E-28	2.29E-16	-1.888382

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-34.264847	-0.108179	1.31E-17	2.44E-28	6.93E-17	-0.572050
0.25000	-34.264847	0.604077	-7.32E-17	2.44E-28	7.68E-17	-0.634037
0.50000	-34.264847	1.316332	-1.59E-16	2.44E-28	1.06E-16	-0.874088
0.75000	-34.264847	2.028588	-2.46E-16	2.44E-28	1.56E-16	-1.292203
1.00000	-34.264847	2.740843	-3.32E-16	2.44E-28	2.29E-16	-1.888382

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-34.264847	0.323817	-3.92E-17	2.46E-28	6.72E-17	-0.554681
0.25000	-34.264847	0.781696	-9.47E-17	2.46E-28	8.39E-17	-0.692870
0.50000	-34.264847	1.239574	-1.50E-16	2.46E-28	1.15E-16	-0.945529
0.75000	-34.264847	1.697453	-2.06E-16	2.46E-28	1.59E-16	-1.312657
1.00000	-34.264847	2.155331	-2.61E-16	2.46E-28	2.17E-16	-1.794255

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-34.264847	0.323817	-3.92E-17	2.46E-28	6.72E-17	-0.554681
0.25000	-34.264847	0.781696	-9.47E-17	2.46E-28	8.39E-17	-0.692870
0.50000	-34.264847	1.239574	-1.50E-16	2.46E-28	1.15E-16	-0.945529
0.75000	-34.264847	1.697453	-2.06E-16	2.46E-28	1.59E-16	-1.312657
1.00000	-34.264847	2.155331	-2.61E-16	2.46E-28	2.17E-16	-1.794255

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-17.132423	-0.658884	7.98E-17	1.19E-28	3.76E-17	-0.310342
0.25000	-17.132423	0.053372	-6.46E-18	1.19E-28	2.84E-17	-0.234653
0.50000	-17.132423	0.765627	-9.27E-17	1.19E-28	4.08E-17	-0.337028
0.75000	-17.132423	1.477883	-1.79E-16	1.19E-28	7.48E-17	-0.617467
1.00000	-17.132423	2.190138	-2.65E-16	1.19E-28	1.30E-16	-1.075969

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-17.132423	-0.658884	7.98E-17	1.19E-28	3.76E-17	-0.310342
0.25000	-17.132423	0.053372	-6.46E-18	1.19E-28	2.84E-17	-0.234653
0.50000	-17.132423	0.765627	-9.27E-17	1.19E-28	4.08E-17	-0.337028
0.75000	-17.132423	1.477883	-1.79E-16	1.19E-28	7.48E-17	-0.617467
1.00000	-17.132423	2.190138	-2.65E-16	1.19E-28	1.30E-16	-1.075969

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-19.036026	-0.173553	2.10E-17	1.35E-28	3.90E-17	-0.322367

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
0.25000	-19.036026	0.288951	-3.50E-17	1.35E-28	4.08E-17	-0.336792
0.50000	-19.036026	0.751454	-9.10E-17	1.35E-28	5.65E-17	-0.466843
0.75000	-19.036026	1.213958	-1.47E-16	1.35E-28	8.63E-17	-0.712519
1.00000	-19.036026	1.676461	-2.03E-16	1.35E-28	1.30E-16	-1.073821

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-19.036026	-0.173553	2.10E-17	1.35E-28	3.90E-17	-0.322367
0.25000	-19.036026	0.288951	-3.50E-17	1.35E-28	4.08E-17	-0.336792
0.50000	-19.036026	0.751454	-9.10E-17	1.35E-28	5.65E-17	-0.466843
0.75000	-19.036026	1.213958	-1.47E-16	1.35E-28	8.63E-17	-0.712519
1.00000	-19.036026	1.676461	-2.03E-16	1.35E-28	1.30E-16	-1.073821

ELEM 25 ========== LENGTH = 1.000000

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-34.264847	0.391857	-4.75E-17	2.44E-28	2.29E-16	-1.888382
0.25000	-34.264847	1.104112	-1.34E-16	2.44E-28	2.51E-16	-2.075378
0.50000	-34.264847	1.816368	-2.20E-16	2.44E-28	2.96E-16	-2.440438
0.75000	-34.264847	2.528623	-3.06E-16	2.44E-28	3.61E-16	-2.983562
1.00000	-34.264847	3.240879	-3.92E-16	2.44E-28	4.49E-16	-3.704750

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-34.264847	0.391857	-4.75E-17	2.44E-28	2.29E-16	-1.888382
0.25000	-34.264847	1.104112	-1.34E-16	2.44E-28	2.51E-16	-2.075378
0.50000	-34.264847	1.816368	-2.20E-16	2.44E-28	2.96E-16	-2.440438
0.75000	-34.264847	2.528623	-3.06E-16	2.44E-28	3.61E-16	-2.983562
1.00000	-34.264847	3.240879	-3.92E-16	2.44E-28	4.49E-16	-3.704750

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-34.264847	0.536177	-6.49E-17	2.46E-28	2.17E-16	-1.794255
0.25000	-34.264847	0.994056	-1.20E-16	2.46E-28	2.40E-16	-1.985534
0.50000	-34.264847	1.451934	-1.76E-16	2.46E-28	2.77E-16	-2.291283
0.75000	-34.264847	1.909813	-2.31E-16	2.46E-28	3.28E-16	-2.711501
1.00000	-34.264847	2.367691	-2.87E-16	2.46E-28	3.93E-16	-3.246189

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-34.264847	0.536177	-6.49E-17	2.46E-28	2.17E-16	-1.794255
0.25000	-34.264847	0.994056	-1.20E-16	2.46E-28	2.40E-16	-1.985534
0.50000	-34.264847	1.451934	-1.76E-16	2.46E-28	2.77E-16	-2.291283
0.75000	-34.264847	1.909813	-2.31E-16	2.46E-28	3.28E-16	-2.711501
1.00000	-34.264847	2.367691	-2.87E-16	2.46E-28	3.93E-16	-3.246189

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-17.132423	-0.006120	7.41E-19	1.19E-28	1.30E-16	-1.075969
0.25000	-17.132423	0.706135	-8.55E-17	1.19E-28	1.41E-16	-1.163471
0.50000	-17.132423	1.418391	-1.72E-16	1.19E-28	1.73E-16	-1.429037
0.75000	-17.132423	2.130647	-2.58E-16	1.19E-28	2.27E-16	-1.872667
1.00000	-17.132423	2.842902	-3.44E-16	1.19E-28	3.02E-16	-2.494360

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-17.132423	-0.006120	7.41E-19	1.19E-28	1.30E-16	-1.075969
0.25000	-17.132423	0.706135	-8.55E-17	1.19E-28	1.41E-16	-1.163471
0.50000	-17.132423	1.418391	-1.72E-16	1.19E-28	1.73E-16	-1.429037
0.75000	-17.132423	2.130647	-2.58E-16	1.19E-28	2.27E-16	-1.872667
1.00000	-17.132423	2.842902	-3.44E-16	1.19E-28	3.02E-16	-2.494360

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-19.036026	0.179796	-2.18E-17	1.35E-28	1.30E-16	-1.073821
0.25000	-19.036026	0.642299	-7.78E-17	1.35E-28	1.42E-16	-1.176583
0.50000	-19.036026	1.104803	-1.34E-16	1.35E-28	1.69E-16	-1.394971
0.75000	-19.036026	1.567307	-1.90E-16	1.35E-28	2.09E-16	-1.728985
1.00000	-19.036026	2.029810	-2.46E-16	1.35E-28	2.54E-16	-2.178625

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-19.036026	0.179796	-2.18E-17	1.35E-28	1.30E-16	-1.073821
0.25000	-19.036026	0.642299	-7.78E-17	1.35E-28	1.42E-16	-1.176583
0.50000	-19.036026	1.104803	-1.34E-16	1.35E-28	1.69E-16	-1.394971
0.75000	-19.036026	1.567307	-1.90E-16	1.35E-28	2.09E-16	-1.728985
1.00000	-19.036026	2.029810	-2.46E-16	1.35E-28	2.54E-16	-2.178625

ELEM 26 ========== LENGTH = 1.000000

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-34.264847	-2.115999	2.56E-16	2.44E-28	4.49E-16	-3.704750
0.25000	-34.264847	-1.403743	1.70E-16	2.44E-28	3.95E-16	-3.264782
0.50000	-34.264847	-0.691488	8.37E-17	2.44E-28	3.64E-16	-3.002878
0.75000	-34.264847	0.020768	-2.52E-18	2.44E-28	3.54E-16	-2.919038
1.00000	-34.264847	0.733023	-8.88E-17	2.44E-28	3.65E-16	-3.013262

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-34.264847	-2.115999	2.56E-16	2.44E-28	4.49E-16	-3.704750
0.25000	-34.264847	-1.403743	1.70E-16	2.44E-28	3.95E-16	-3.264782
0.50000	-34.264847	-0.691488	8.37E-17	2.44E-28	3.64E-16	-3.002878

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
0.75000	-34.264847	0.020768	-2.52E-18	2.44E-28	3.54E-16	-2.919038
1.00000	-34.264847	0.733023	-8.88E-17	2.44E-28	3.65E-16	-3.013262

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-34.264847	-2.434407	2.95E-16	2.46E-28	3.93E-16	-3.246189
0.25000	-34.264847	-1.976529	2.39E-16	2.46E-28	3.26E-16	-2.694822
0.50000	-34.264847	-1.518650	1.84E-16	2.46E-28	2.73E-16	-2.257925
0.75000	-34.264847	-1.060772	1.28E-16	2.46E-28	2.34E-16	-1.935497
1.00000	-34.264847	-0.602893	7.30E-17	2.46E-28	2.09E-16	-1.727539

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-34.264847	-2.434407	2.95E-16	2.46E-28	3.93E-16	-3.246189
0.25000	-34.264847	-1.976529	2.39E-16	2.46E-28	3.26E-16	-2.694822
0.50000	-34.264847	-1.518650	1.84E-16	2.46E-28	2.73E-16	-2.257925
0.75000	-34.264847	-1.060772	1.28E-16	2.46E-28	2.34E-16	-1.935497
1.00000	-34.264847	-0.602893	7.30E-17	2.46E-28	2.09E-16	-1.727539

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-17.132423	-0.612228	7.41E-17	1.19E-28	3.02E-16	-2.494360
0.25000	-17.132423	0.100028	-1.21E-17	1.19E-28	2.94E-16	-2.430335
0.50000	-17.132423	0.812283	-9.84E-17	1.19E-28	3.08E-16	-2.544374
0.75000	-17.132423	1.524539	-1.85E-16	1.19E-28	3.44E-16	-2.836477
1.00000	-17.132423	2.236794	-2.71E-16	1.19E-28	4.00E-16	-3.306644

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-17.132423	-0.612228	7.41E-17	1.19E-28	3.02E-16	-2.494360
0.25000	-17.132423	0.100028	-1.21E-17	1.19E-28	2.94E-16	-2.430335
0.50000	-17.132423	0.812283	-9.84E-17	1.19E-28	3.08E-16	-2.544374
0.75000	-17.132423	1.524539	-1.85E-16	1.19E-28	3.44E-16	-2.836477
1.00000	-17.132423	2.236794	-2.71E-16	1.19E-28	4.00E-16	-3.306644

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-19.036026	-1.091933	1.32E-16	1.35E-28	2.64E-16	-2.178625
0.25000	-19.036026	-0.629429	7.62E-17	1.35E-28	2.38E-16	-1.963454
0.50000	-19.036026	-0.166925	2.02E-17	1.35E-28	2.26E-16	-1.863910
0.75000	-19.036026	0.295578	-3.58E-17	1.35E-28	2.28E-16	-1.879992
1.00000	-19.036026	0.758082	-9.18E-17	1.35E-28	2.44E-16	-2.011699

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-19.036026	-1.091933	1.32E-16	1.35E-28	2.64E-16	-2.178625

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
0.25000	-19.036026	-0.629429	7.62E-17	1.35E-28	2.38E-16	-1.963454
0.50000	-19.036026	-0.166925	2.02E-17	1.35E-28	2.26E-16	-1.863910
0.75000	-19.036026	0.295578	-3.58E-17	1.35E-28	2.28E-16	-1.879992
1.00000	-19.036026	0.758082	-9.18E-17	1.35E-28	2.44E-16	-2.011699

ELEM 27 ========== LENGTH = 1.000000

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-34.264847	-13.182297	1.60E-15	2.44E-28	3.65E-16	-3.013262
0.25000	-34.264847	-12.470042	1.51E-15	2.44E-28	-2.34E-17	0.193280
0.50000	-34.264847	-11.757786	1.42E-15	2.44E-28	-3.90E-16	3.221759
0.75000	-34.264847	-11.045531	1.34E-15	2.44E-28	-7.35E-16	6.072174
1.00000	-34.264847	-10.333275	1.25E-15	2.44E-28	-1.06E-15	8.744524

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-34.264847	-13.182297	1.60E-15	2.44E-28	3.65E-16	-3.013262
0.25000	-34.264847	-12.470042	1.51E-15	2.44E-28	-2.34E-17	0.193280
0.50000	-34.264847	-11.757786	1.42E-15	2.44E-28	-3.90E-16	3.221759
0.75000	-34.264847	-11.045531	1.34E-15	2.44E-28	-7.35E-16	6.072174
1.00000	-34.264847	-10.333275	1.25E-15	2.44E-28	-1.06E-15	8.744524

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-34.264847	-13.511042	1.64E-15	2.46E-28	2.09E-16	-1.727539
0.25000	-34.264847	-13.053163	1.58E-15	2.46E-28	-1.93E-16	1.592987
0.50000	-34.264847	-12.595285	1.53E-15	2.46E-28	-5.81E-16	4.799043
0.75000	-34.264847	-12.137406	1.47E-15	2.46E-28	-9.56E-16	7.890629
1.00000	-34.264847	-11.679528	1.41E-15	2.46E-28	-1.32E-15	10.867746

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-34.264847	-13.511042	1.64E-15	2.46E-28	2.09E-16	-1.727539
0.25000	-34.264847	-13.053163	1.58E-15	2.46E-28	-1.93E-16	1.592987
0.50000	-34.264847	-12.595285	1.53E-15	2.46E-28	-5.81E-16	4.799043
0.75000	-34.264847	-12.137406	1.47E-15	2.46E-28	-9.56E-16	7.890629
1.00000	-34.264847	-11.679528	1.41E-15	2.46E-28	-1.32E-15	10.867746

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-17.132423	-6.130907	7.42E-16	1.19E-28	4.00E-16	-3.306644
0.25000	-17.132423	-5.418651	6.56E-16	1.19E-28	2.26E-16	-1.862949
0.50000	-17.132423	-4.706396	5.70E-16	1.19E-28	7.23E-17	-0.597318
0.75000	-17.132423	-3.994140	4.84E-16	1.19E-28	-5.94E-17	0.490249
1.00000	-17.132423	-3.281885	3.97E-16	1.19E-28	-1.70E-16	1.399752

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-17.132423	-6.130907	7.42E-16	1.19E-28	4.00E-16	-3.306644
0.25000	-17.132423	-5.418651	6.56E-16	1.19E-28	2.26E-16	-1.862949
0.50000	-17.132423	-4.706396	5.70E-16	1.19E-28	7.23E-17	-0.597318
0.75000	-17.132423	-3.994140	4.84E-16	1.19E-28	-5.94E-17	0.490249
1.00000	-17.132423	-3.281885	3.97E-16	1.19E-28	-1.70E-16	1.399752

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-19.036026	-7.237162	8.76E-16	1.35E-28	2.44E-16	-2.011699
0.25000	-19.036026	-6.774658	8.20E-16	1.35E-28	3.15E-17	-0.260222
0.50000	-19.036026	-6.312155	7.64E-16	1.35E-28	-1.67E-16	1.375630
0.75000	-19.036026	-5.849651	7.08E-16	1.35E-28	-3.51E-16	2.895856
1.00000	-19.036026	-5.387147	6.52E-16	1.35E-28	-5.21E-16	4.300455

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-19.036026	-7.237162	8.76E-16	1.35E-28	2.44E-16	-2.011699
0.25000	-19.036026	-6.774658	8.20E-16	1.35E-28	3.15E-17	-0.260222
0.50000	-19.036026	-6.312155	7.64E-16	1.35E-28	-1.67E-16	1.375630
0.75000	-19.036026	-5.849651	7.08E-16	1.35E-28	-3.51E-16	2.895856
1.00000	-19.036026	-5.387147	6.52E-16	1.35E-28	-5.21E-16	4.300455

ELEM 28 ========== LENGTH = 1.000000

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-34.264847	-36.890905	4.47E-15	2.44E-28	-1.06E-15	8.744524
0.25000	-34.264847	-35.965897	4.36E-15	2.44E-28	-2.16E-15	17.851625
0.50000	-34.264847	-35.040890	4.24E-15	2.44E-28	-3.24E-15	26.727473
0.75000	-34.264847	-34.115883	4.13E-15	2.44E-28	-4.28E-15	35.372070
1.00000	-34.264847	-33.190876	4.02E-15	2.44E-28	-5.30E-15	43.785415

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-34.264847	-36.890905	4.47E-15	2.44E-28	-1.06E-15	8.744524
0.25000	-34.264847	-35.965897	4.36E-15	2.44E-28	-2.16E-15	17.851625
0.50000	-34.264847	-35.040890	4.24E-15	2.44E-28	-3.24E-15	26.727473
0.75000	-34.264847	-34.115883	4.13E-15	2.44E-28	-4.28E-15	35.372070
1.00000	-34.264847	-33.190876	4.02E-15	2.44E-28	-5.30E-15	43.785415

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-34.264847	-34.820219	4.22E-15	2.46E-28	-1.32E-15	10.867746
0.25000	-34.264847	-34.225572	4.14E-15	2.46E-28	-2.36E-15	19.498470
0.50000	-34.264847	-33.630925	4.07E-15	2.46E-28	-3.39E-15	27.980532

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
0.75000	-34.264847	-33.036277	4.00E-15	2.46E-28	-4.40E-15	36.313932
1.00000	-34.264847	-32.441630	3.93E-15	2.46E-28	-5.39E-15	44.498670

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-34.264847	-34.820219	4.22E-15	2.46E-28	-1.32E-15	10.867746
0.25000	-34.264847	-34.225572	4.14E-15	2.46E-28	-2.36E-15	19.498470
0.50000	-34.264847	-33.630925	4.07E-15	2.46E-28	-3.39E-15	27.980532
0.75000	-34.264847	-33.036277	4.00E-15	2.46E-28	-4.40E-15	36.313932
1.00000	-34.264847	-32.441630	3.93E-15	2.46E-28	-5.39E-15	44.498670

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-17.132423	-21.344411	2.58E-15	1.19E-28	-1.70E-16	1.399752
0.25000	-17.132423	-20.419404	2.47E-15	1.19E-28	-8.02E-16	6.620229
0.50000	-17.132423	-19.494397	2.36E-15	1.19E-28	-1.41E-15	11.609454
0.75000	-17.132423	-18.569390	2.25E-15	1.19E-28	-1.96E-15	16.367428
1.00000	-17.132423	-17.644383	2.14E-15	1.19E-28	-2.53E-15	20.894149

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-17.132423	-21.344411	2.58E-15	1.19E-28	-1.70E-16	1.399752
0.25000	-17.132423	-20.419404	2.47E-15	1.19E-28	-8.02E-16	6.620229
0.50000	-17.132423	-19.494397	2.36E-15	1.19E-28	-1.41E-15	11.609454
0.75000	-17.132423	-18.569390	2.25E-15	1.19E-28	-1.96E-15	16.367428
1.00000	-17.132423	-17.644383	2.14E-15	1.19E-28	-2.53E-15	20.894149

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-19.036026	-21.038763	2.55E-15	1.35E-28	-5.21E-16	4.300455
0.25000	-19.036026	-20.438109	2.48E-15	1.35E-28	-1.15E-15	9.485064
0.50000	-19.036026	-19.837455	2.40E-15	1.35E-28	-1.76E-15	14.519510
0.75000	-19.036026	-19.236801	2.33E-15	1.35E-28	-2.35E-15	19.403792
1.00000	-19.036026	-18.636147	2.26E-15	1.35E-28	-2.92E-15	24.137911

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-19.036026	-21.038763	2.55E-15	1.35E-28	-5.21E-16	4.300455
0.25000	-19.036026	-20.438109	2.48E-15	1.35E-28	-1.15E-15	9.485064
0.50000	-19.036026	-19.837455	2.40E-15	1.35E-28	-1.76E-15	14.519510
0.75000	-19.036026	-19.236801	2.33E-15	1.35E-28	-2.35E-15	19.403792
1.00000	-19.036026	-18.636147	2.26E-15	1.35E-28	-2.92E-15	24.137911

F R A M E E L E M E N T I N T E R N A L F O R C E S

ELEM 29 ========== LENGTH = 1.075000

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-34.264847	-65.257834	5.71E-14	2.44E-28	-9.64E-15	43.785415
0.25000	-34.264847	-64.263452	5.69E-14	2.44E-28	-2.50E-14	61.189837
0.50000	-34.264847	-63.269069	5.68E-14	2.44E-28	-4.02E-14	78.327020
0.75000	-34.264847	-62.274686	5.67E-14	2.44E-28	-5.55E-14	95.196962
1.00000	-34.264847	-61.280303	5.66E-14	2.44E-28	-7.07E-14	111.799664

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-34.264847	-65.257834	5.71E-14	2.44E-28	-9.64E-15	43.785415
0.25000	-34.264847	-64.263452	5.69E-14	2.44E-28	-2.50E-14	61.189837
0.50000	-34.264847	-63.269069	5.68E-14	2.44E-28	-4.02E-14	78.327020
0.75000	-34.264847	-62.274686	5.67E-14	2.44E-28	-5.55E-14	95.196962
1.00000	-34.264847	-61.280303	5.66E-14	2.44E-28	-7.07E-14	111.799664

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-34.264847	-55.913906	5.71E-14	2.46E-28	-9.82E-15	44.498670
0.25000	-34.264847	-55.274660	5.70E-14	2.46E-28	-2.51E-14	59.439634
0.50000	-34.264847	-54.635414	5.69E-14	2.46E-28	-4.05E-14	74.208800
0.75000	-34.264847	-53.996168	5.68E-14	2.46E-28	-5.57E-14	88.806169
1.00000	-34.264847	-53.356922	5.68E-14	2.46E-28	-7.10E-14	103.231740

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-34.264847	-55.913906	5.71E-14	2.46E-28	-9.82E-15	44.498670
0.25000	-34.264847	-55.274660	5.70E-14	2.46E-28	-2.51E-14	59.439634
0.50000	-34.264847	-54.635414	5.69E-14	2.46E-28	-4.05E-14	74.208800
0.75000	-34.264847	-53.996168	5.68E-14	2.46E-28	-5.57E-14	88.806169
1.00000	-34.264847	-53.356922	5.68E-14	2.46E-28	-7.10E-14	103.231740

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-17.132423	-45.710417	2.85E-14	1.19E-28	-4.56E-15	20.894149
0.25000	-17.132423	-44.716034	2.84E-14	1.19E-28	-1.22E-14	33.045204
0.50000	-17.132423	-43.721652	2.83E-14	1.19E-28	-1.98E-14	44.929018
0.75000	-17.132423	-42.727269	2.82E-14	1.19E-28	-2.74E-14	56.545591
1.00000	-17.132423	-41.732886	2.80E-14	1.19E-28	-3.50E-14	67.894925

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-17.132423	-45.710417	2.85E-14	1.19E-28	-4.56E-15	20.894149
0.25000	-17.132423	-44.716034	2.84E-14	1.19E-28	-1.22E-14	33.045204
0.50000	-17.132423	-43.721652	2.83E-14	1.19E-28	-1.98E-14	44.929018

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
0.75000	-17.132423	-42.727269	2.82E-14	1.19E-28	-2.74E-14	56.545591
1.00000	-17.132423	-41.732886	2.80E-14	1.19E-28	-3.50E-14	67.894925

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-19.036026	-38.708313	3.17E-14	1.35E-28	-5.31E-15	24.137911
0.25000	-19.036026	-38.062610	3.16E-14	1.35E-28	-1.38E-14	34.454003
0.50000	-19.036026	-37.416907	3.15E-14	1.35E-28	-2.23E-14	44.596564
0.75000	-19.036026	-36.771204	3.15E-14	1.35E-28	-3.08E-14	54.565591
1.00000	-19.036026	-36.125501	3.14E-14	1.35E-28	-3.92E-14	64.361086

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-19.036026	-38.708313	3.17E-14	1.35E-28	-5.31E-15	24.137911
0.25000	-19.036026	-38.062610	3.16E-14	1.35E-28	-1.38E-14	34.454003
0.50000	-19.036026	-37.416907	3.15E-14	1.35E-28	-2.23E-14	44.596564
0.75000	-19.036026	-36.771204	3.15E-14	1.35E-28	-3.08E-14	54.565591
1.00000	-19.036026	-36.125501	3.14E-14	1.35E-28	-3.92E-14	64.361086

7. 구조물(벨마우스) 해석 전산결과 (발파암)

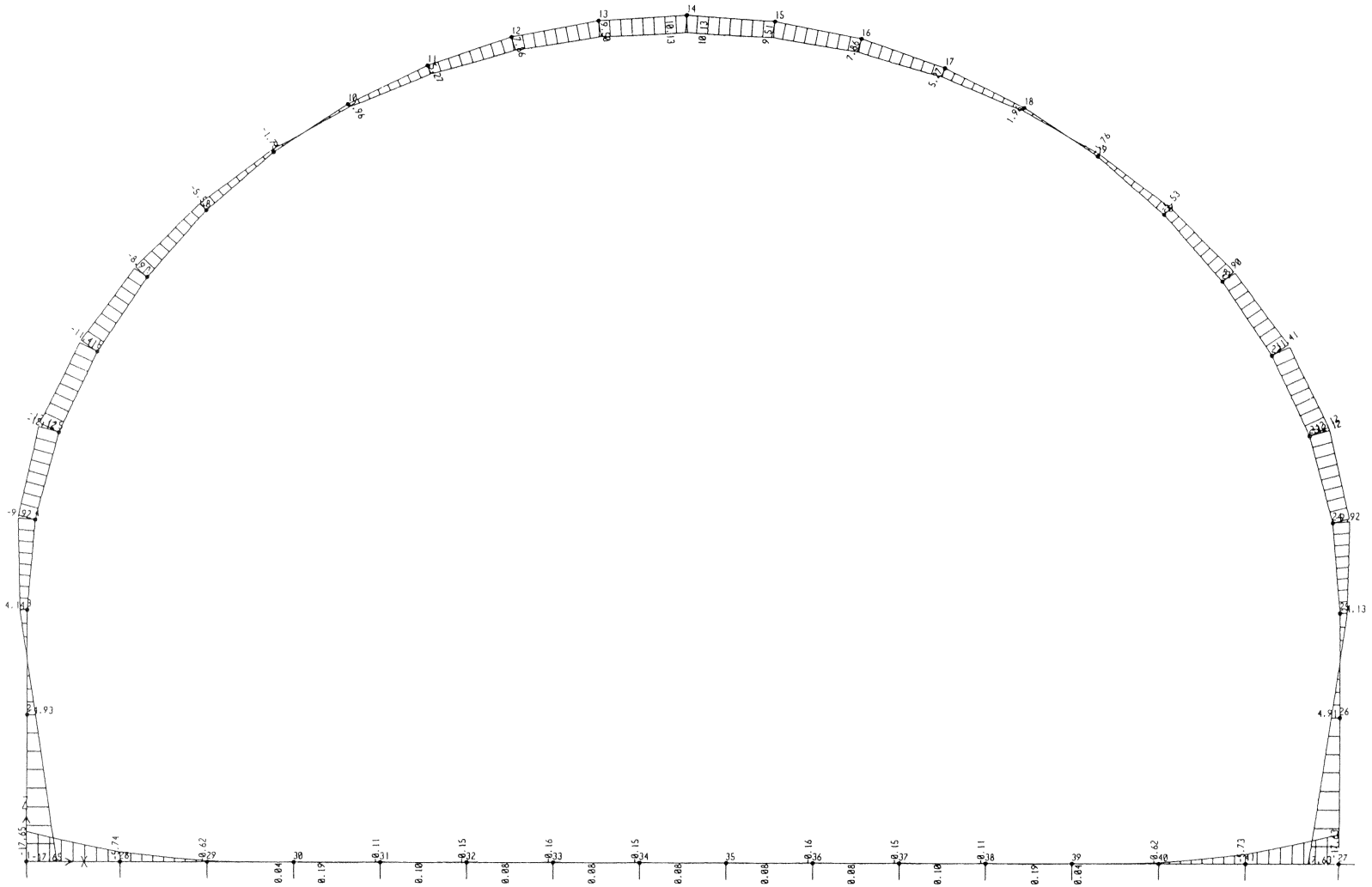
7-1. 원통형 구조계산 결과

■ 단면력도

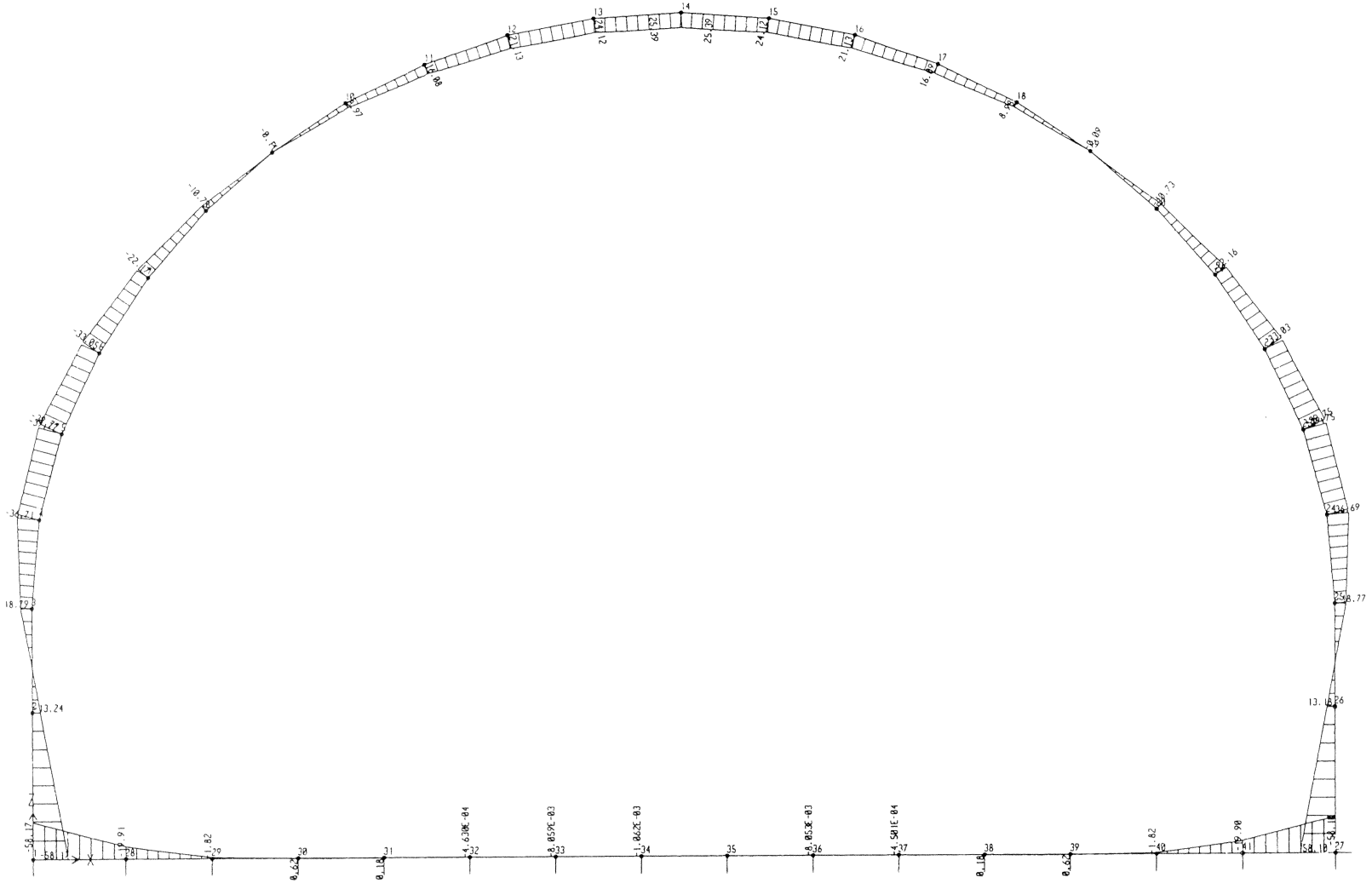
SAP2000

7-23-03 19:43:02

다) 부재력도



SAP2000 v7.40 - File:t2-1-2 - Moment 3-3 Diagram (LOAD1) - Ton-m Units



SAP2000 v7.40 - File:t2-1-2 - Moment 3-3 Diagram (LOAD2) - Ton-m Units

SAP2000

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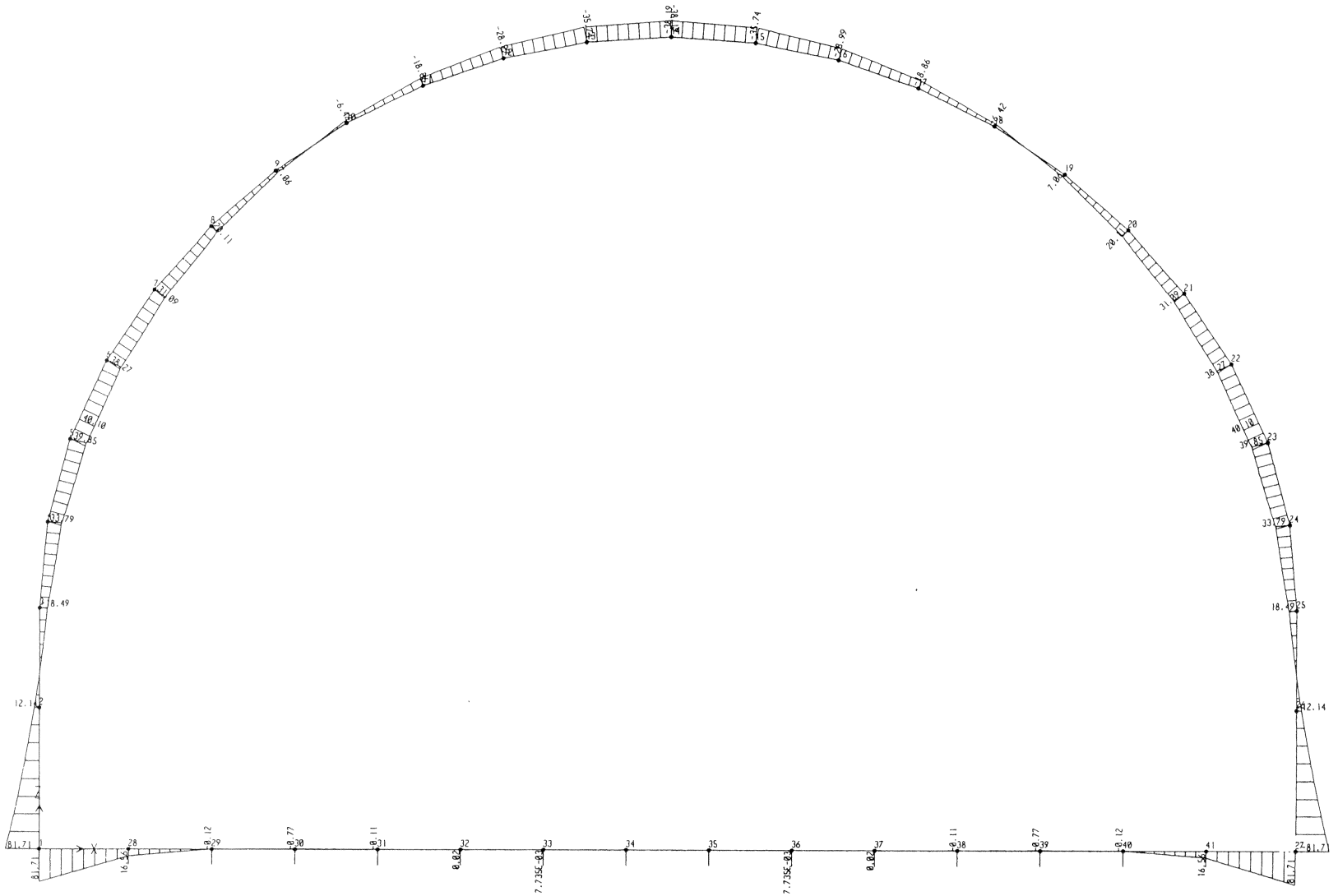
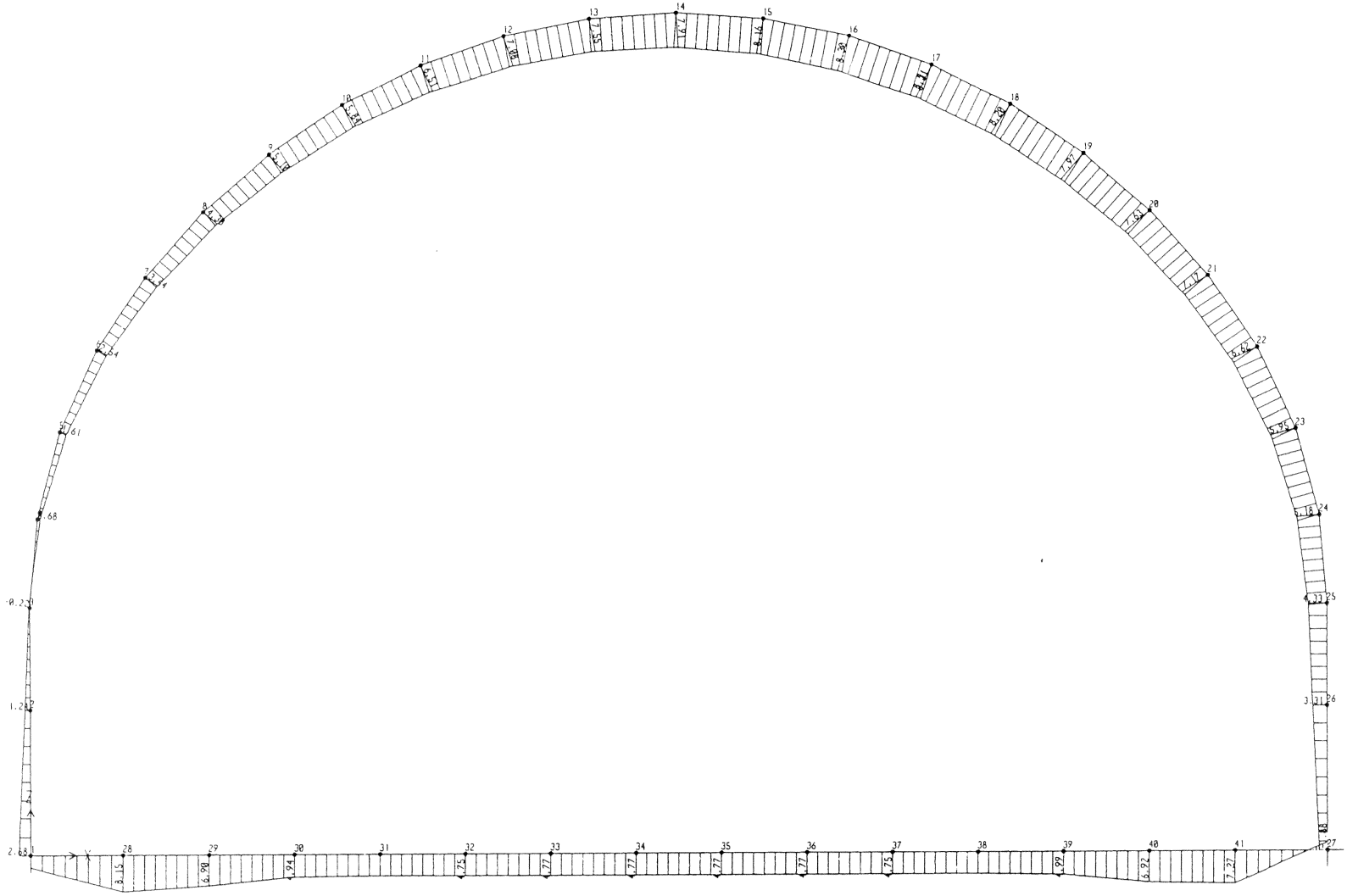
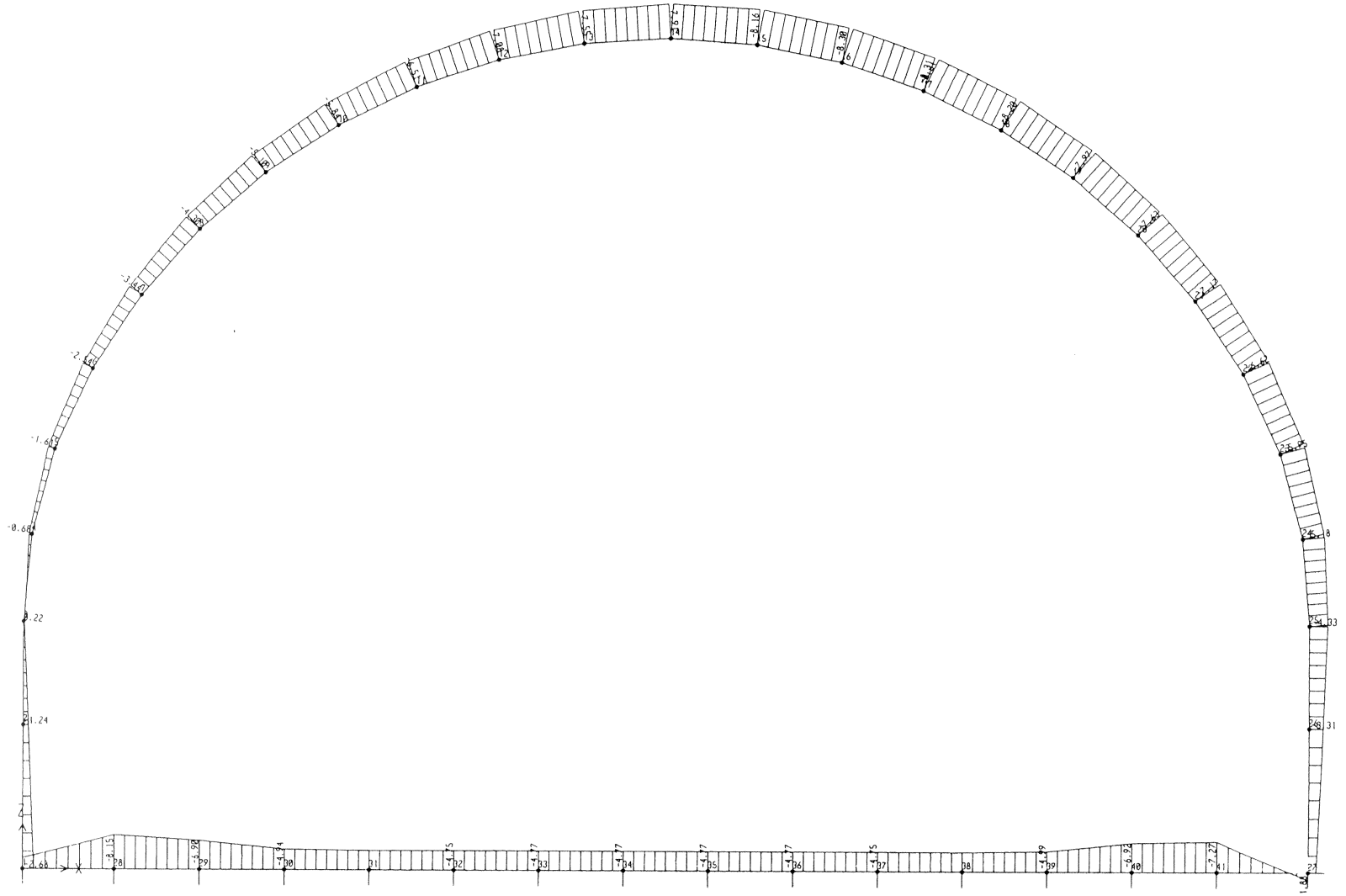


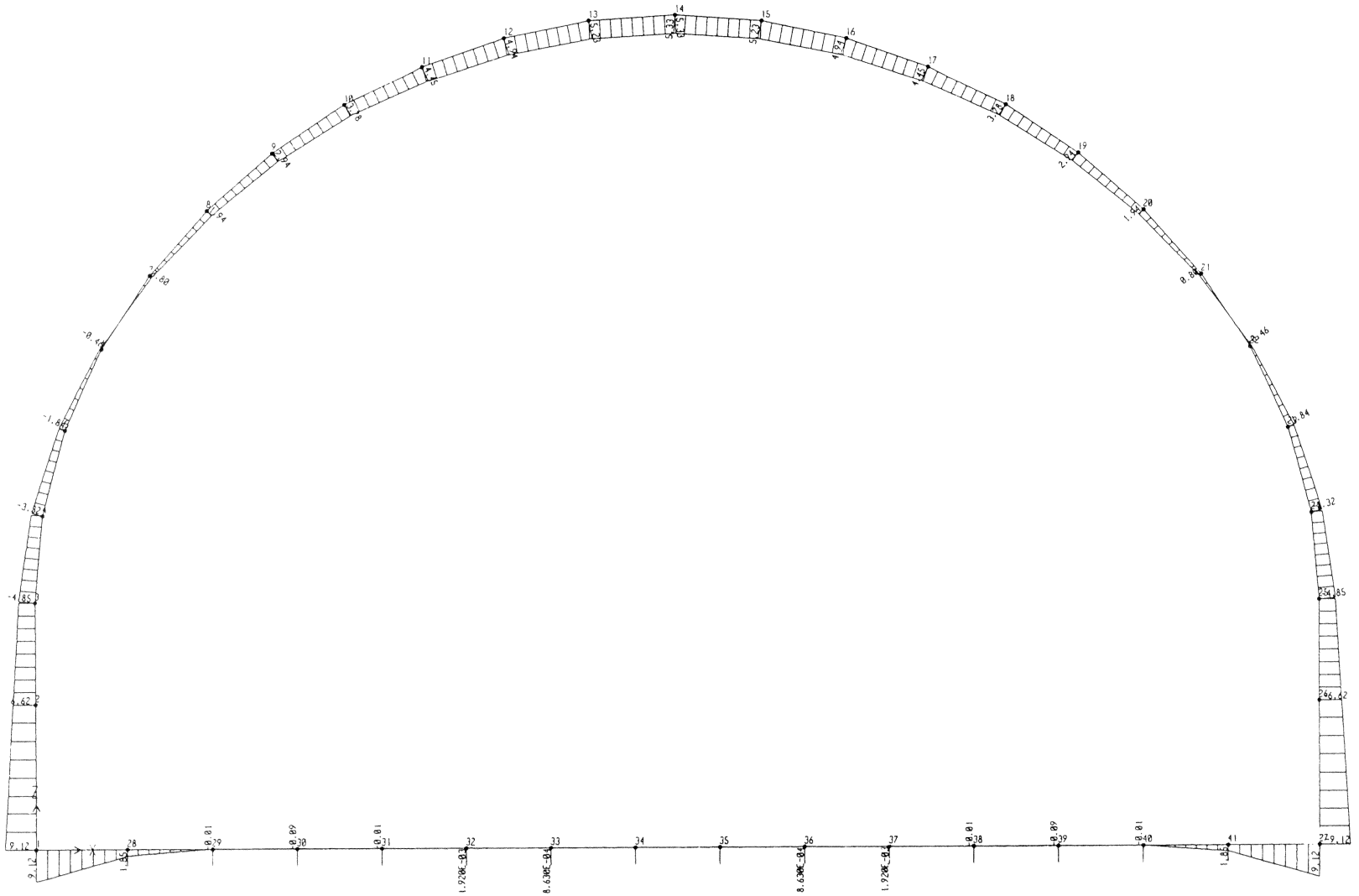
SAP2000 v7.40 - File:t2-1-2 - Moment 3-3 Diagram (LOAD3) - Ton-m Units



SAP2000 v7.40 - File:t2-1-2 - Moment 3-3 Diagram (LOAD4) - Ton-m Units



SAP2000 v7.40 - File:t2-1-2 - Moment 3-3 Diagram (LOAD5) - Ton-m Units



SAP2000 v7.40 - File:t2-1-2 - Moment 3-3 Diagram (LOAD6) - Ton-m Units

SAP2000

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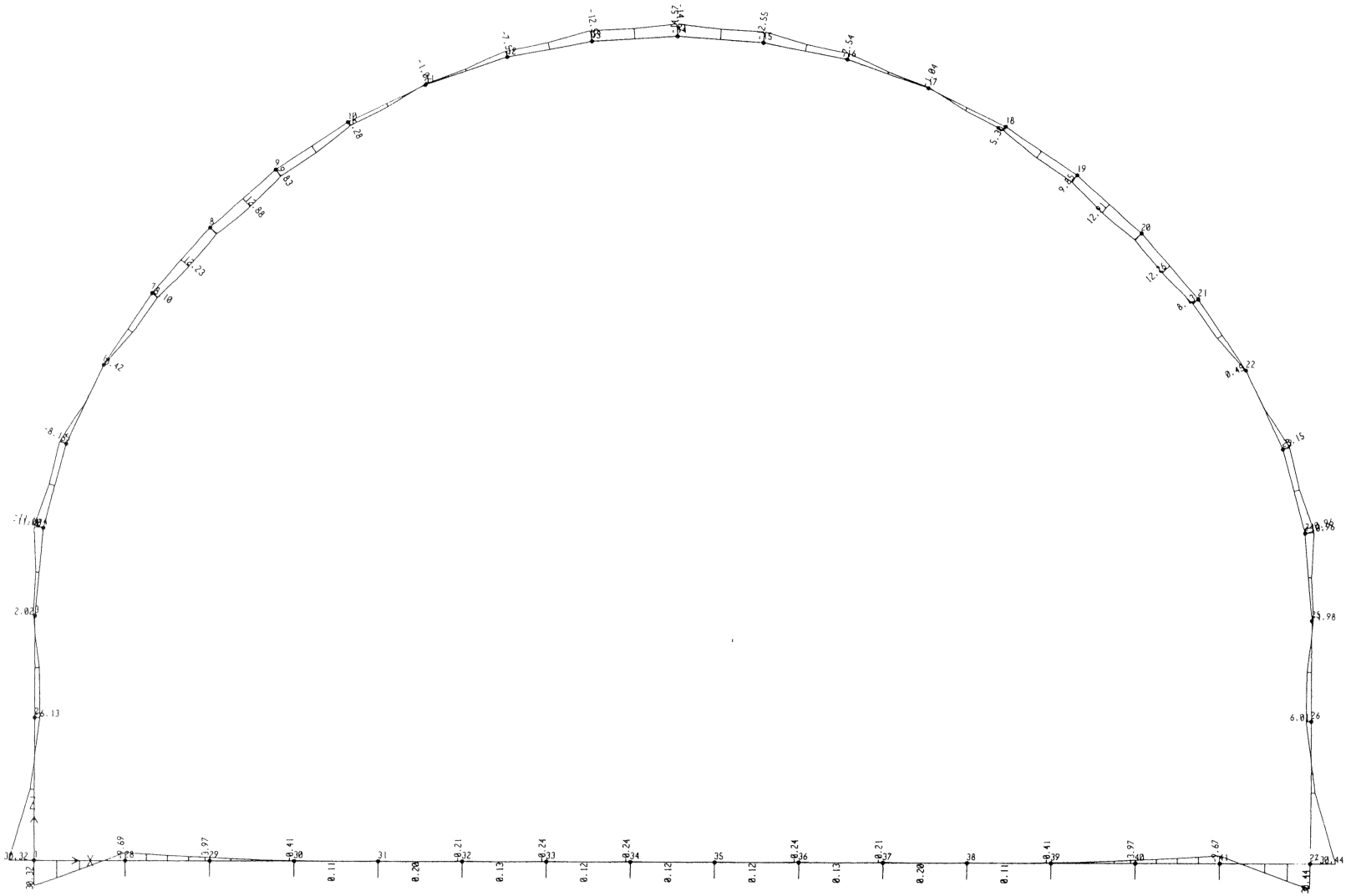
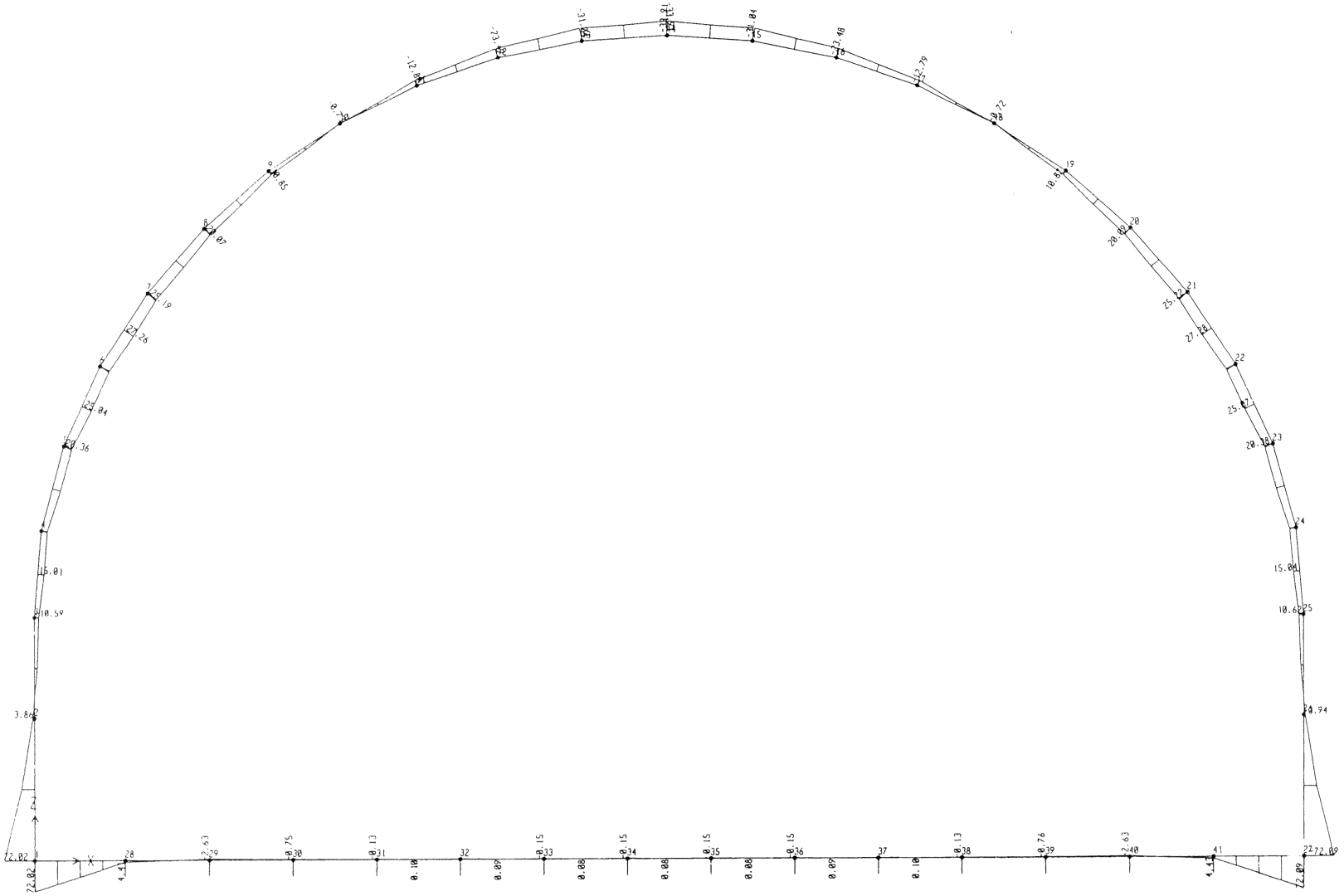


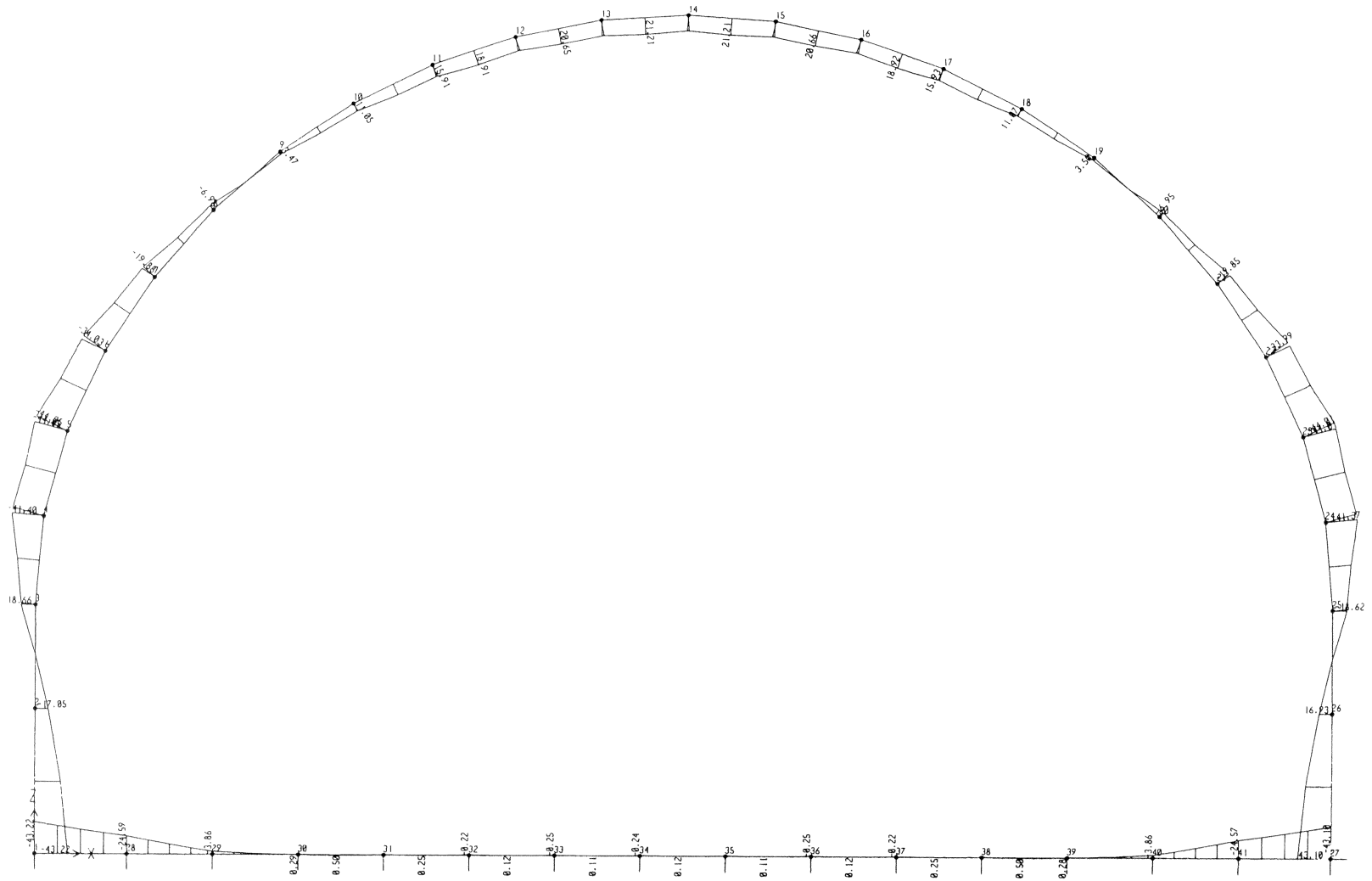
SAP2000 v7.40 - File:t2-1-2 - Moment 3-3 Diagram (COMB1) - Ton-m Units



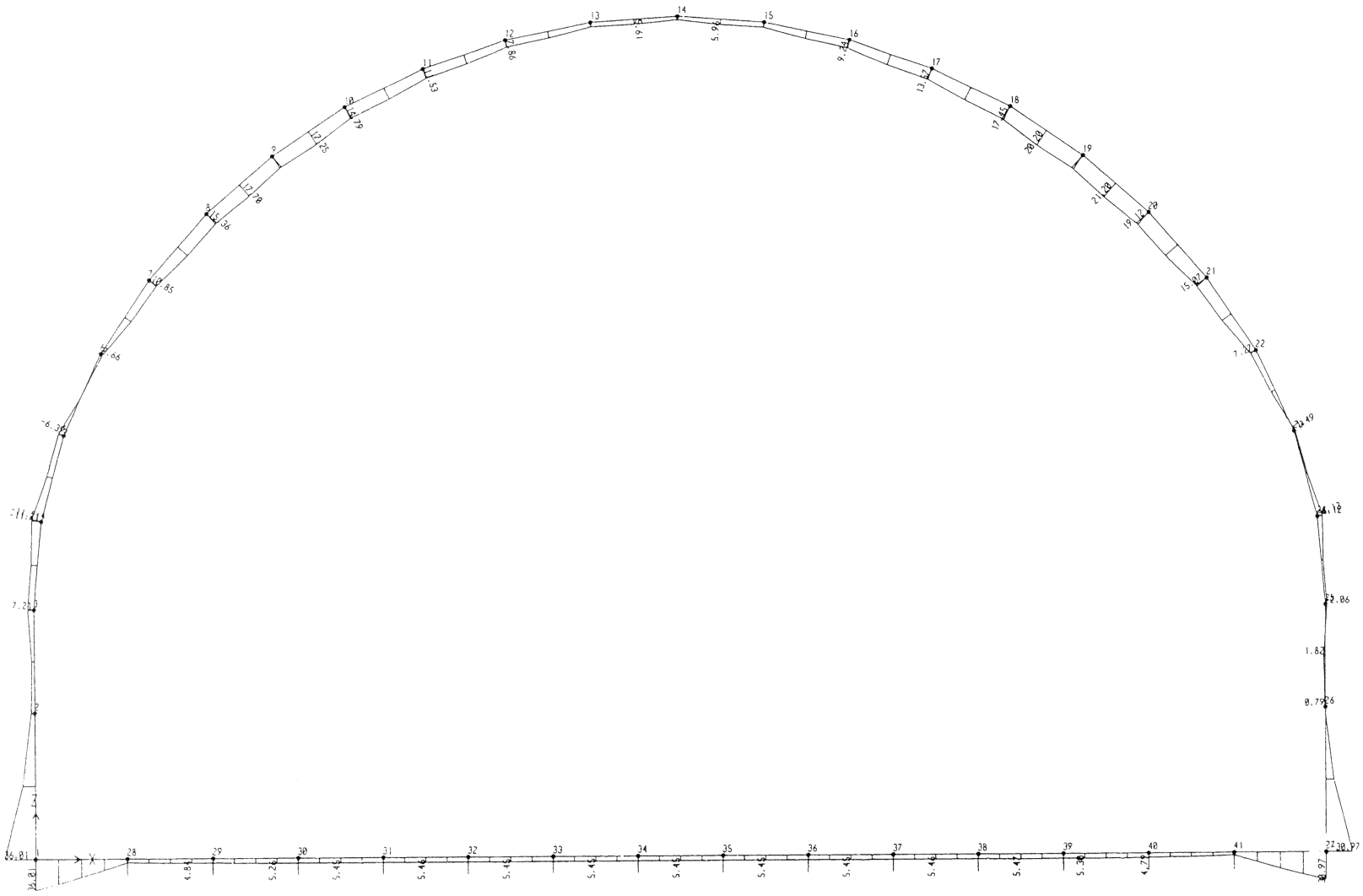
SAP2000 v7.40 - File:t2-1-2 - Moment 3-3 Diagram (COMB2) - Ton-m Units

SAP2000

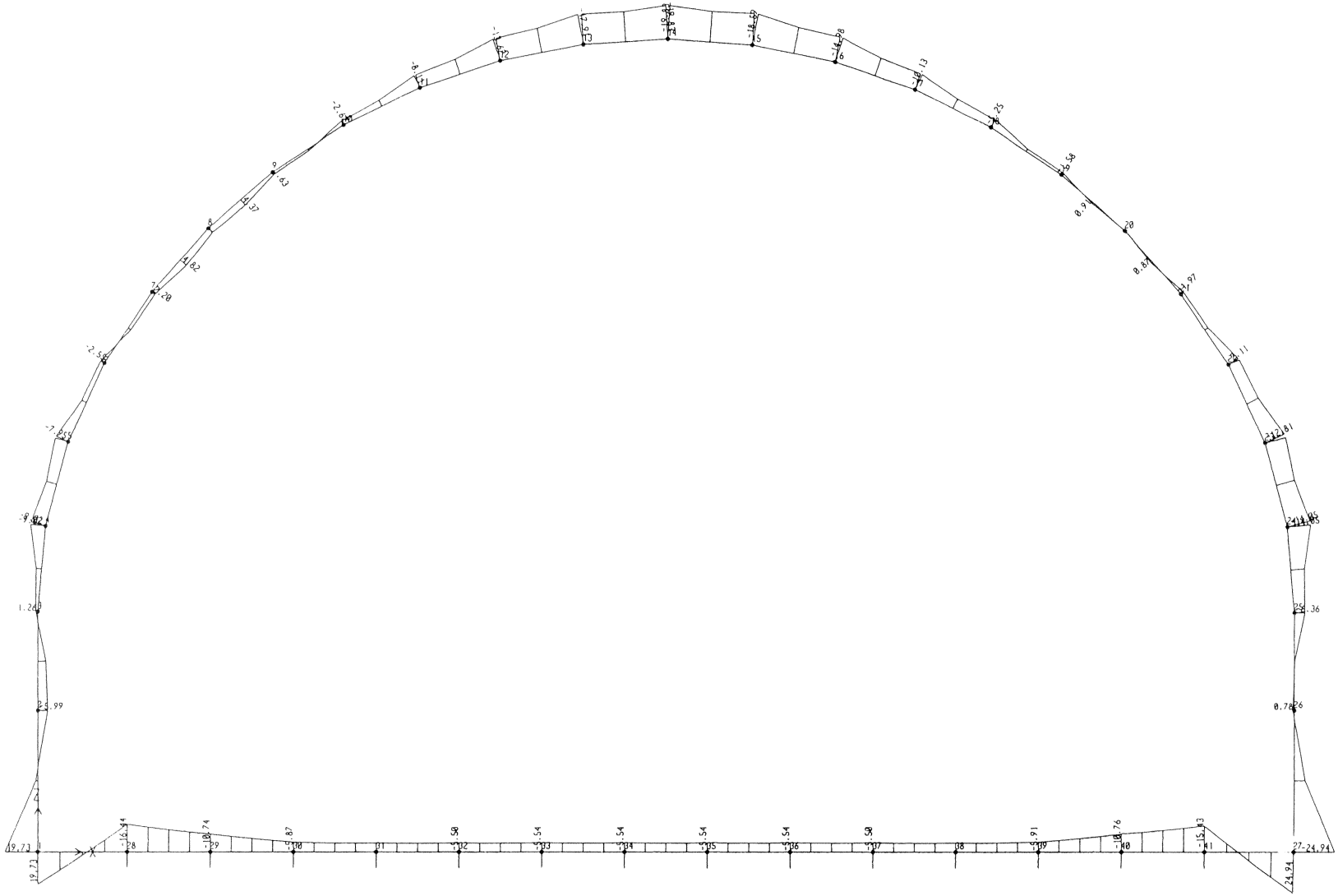
7-23-03 19:46:08

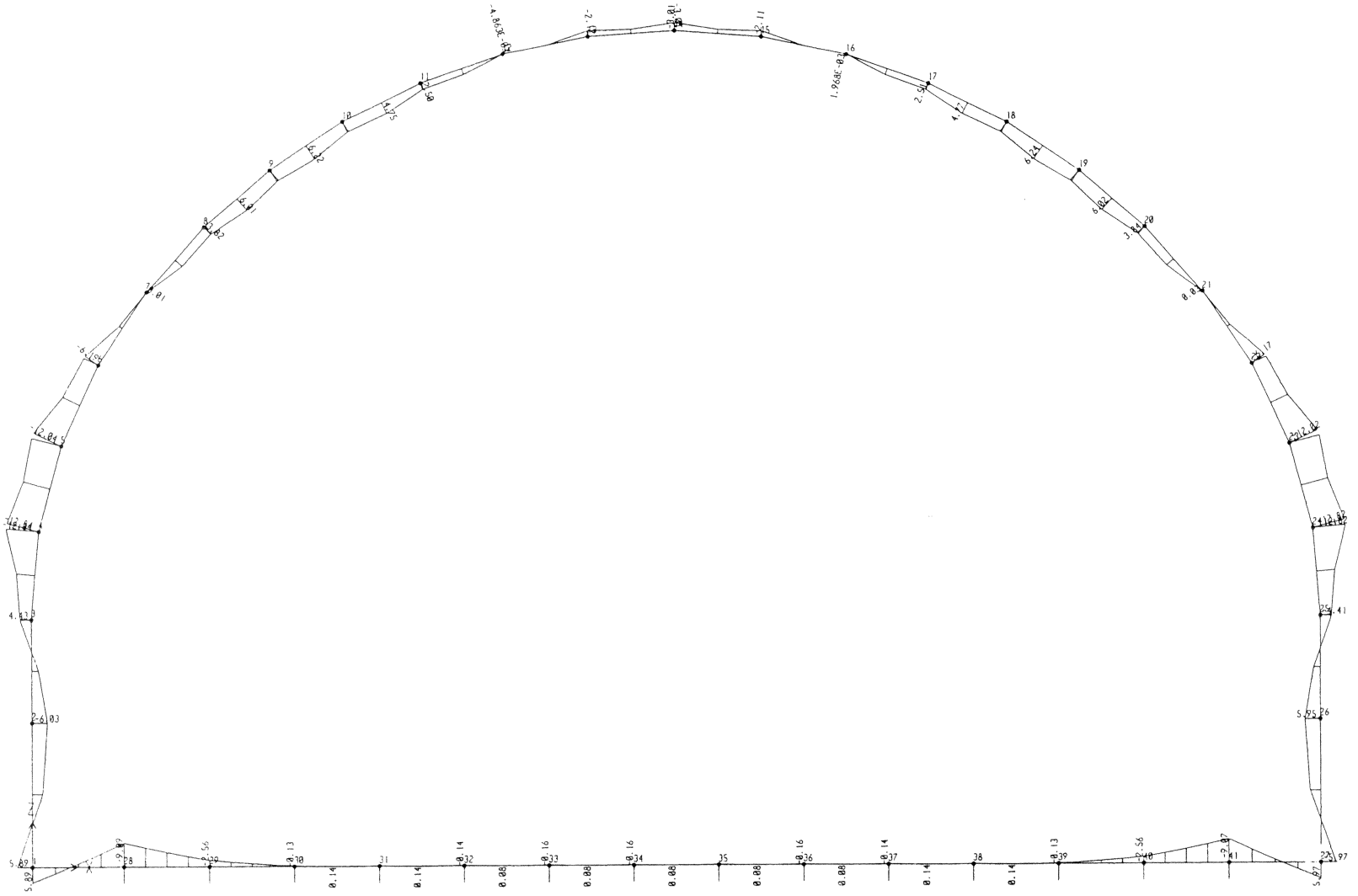


SAP2000 v7.40 - File:t2-1-2 - Moment 3-3 Diagram (COMB3) - Ton-m Units



SAP2000 v7.40 - File:t2-1-2 - Moment 3-3 Diagram (COMB4) - Ton-m Units

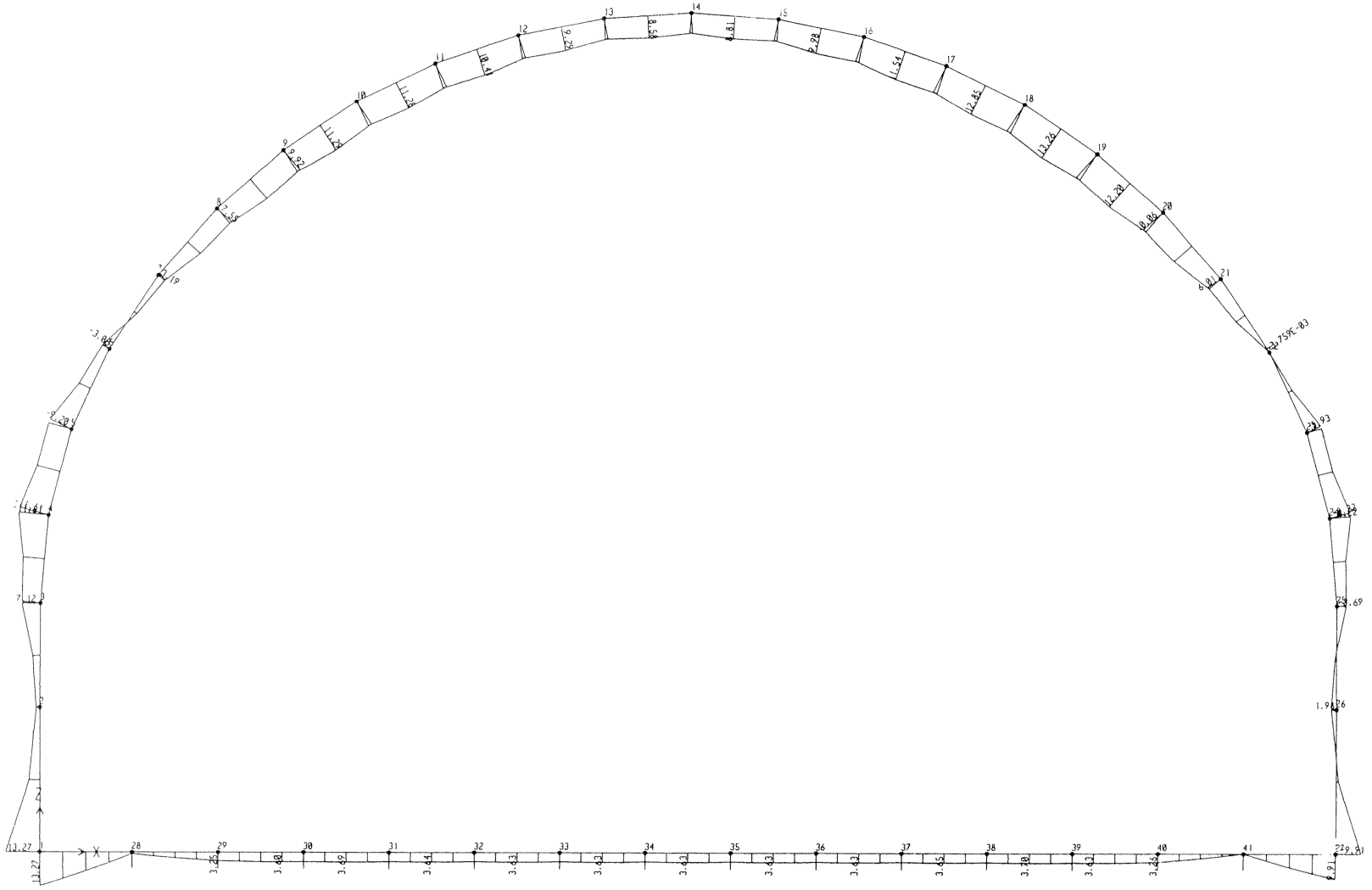




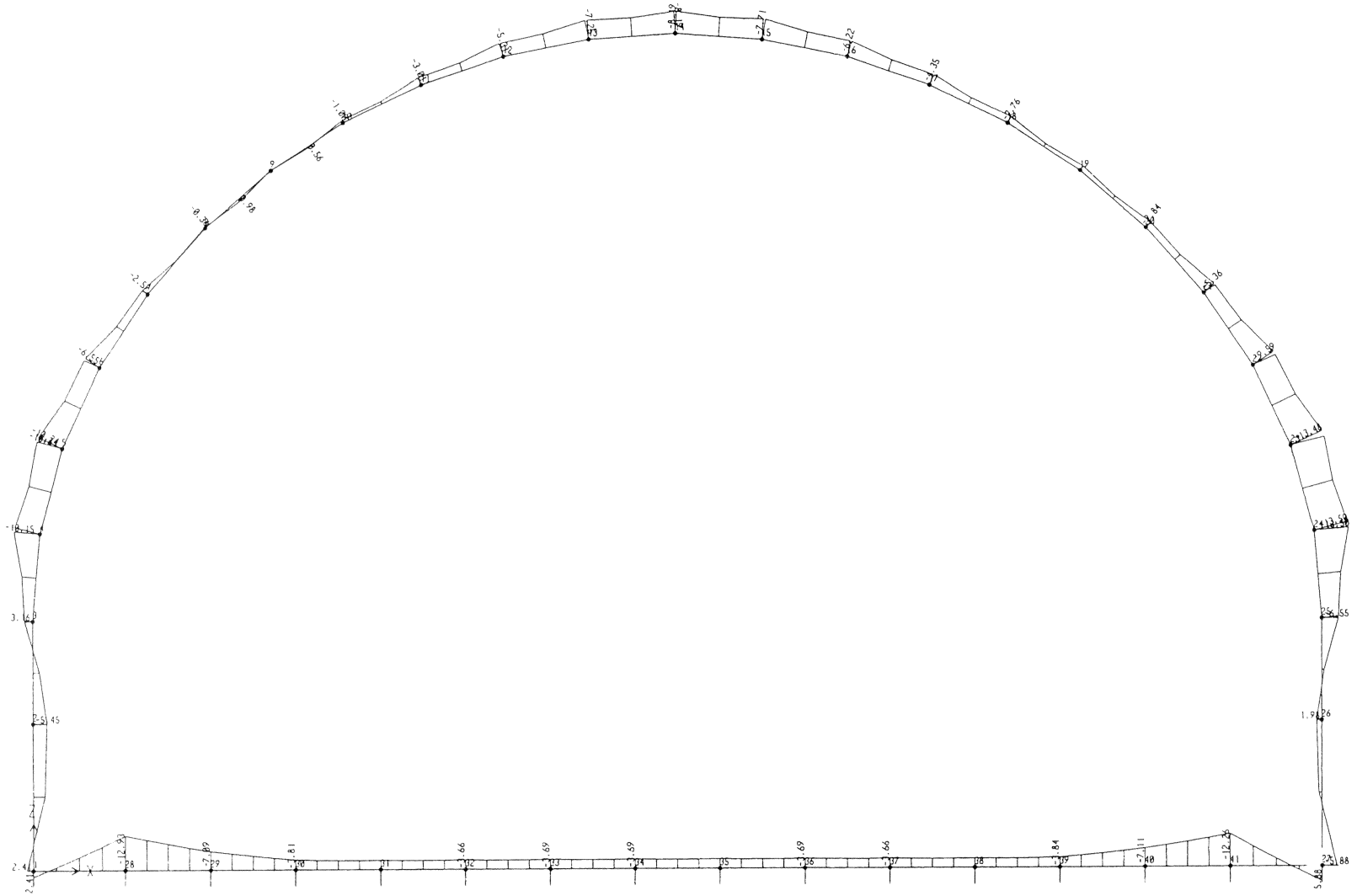
SAP2000 v7.40 - File:t2-1-2 - Moment 3-3 Diagram (COMB6) - Ton-m Units

SAP2000

7-23-03 19:47:09



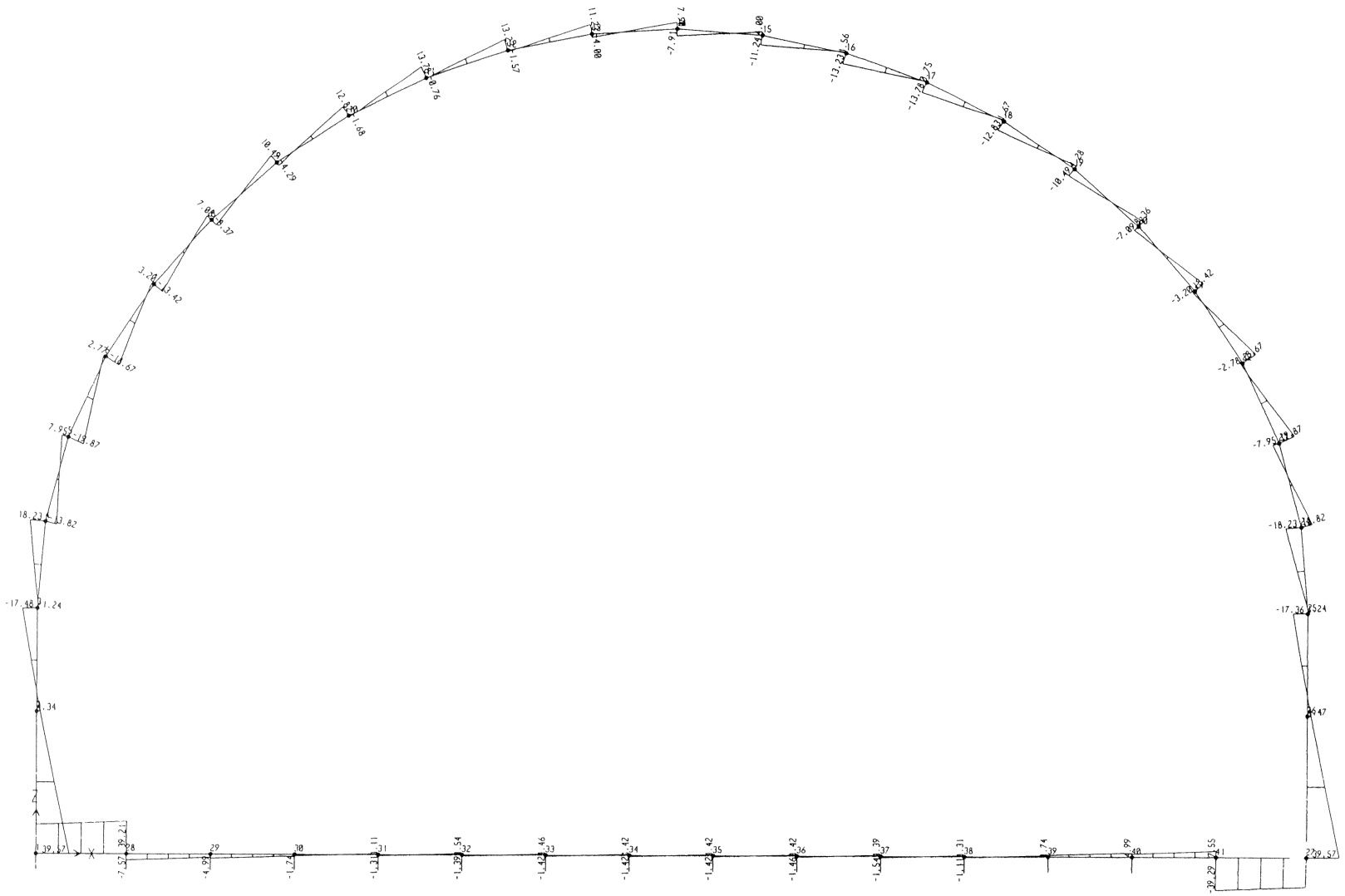
SAP2000 v7.40 - File:t2-1-2 - Moment 3-3 Diagram (COMB7) - Ton-m Units



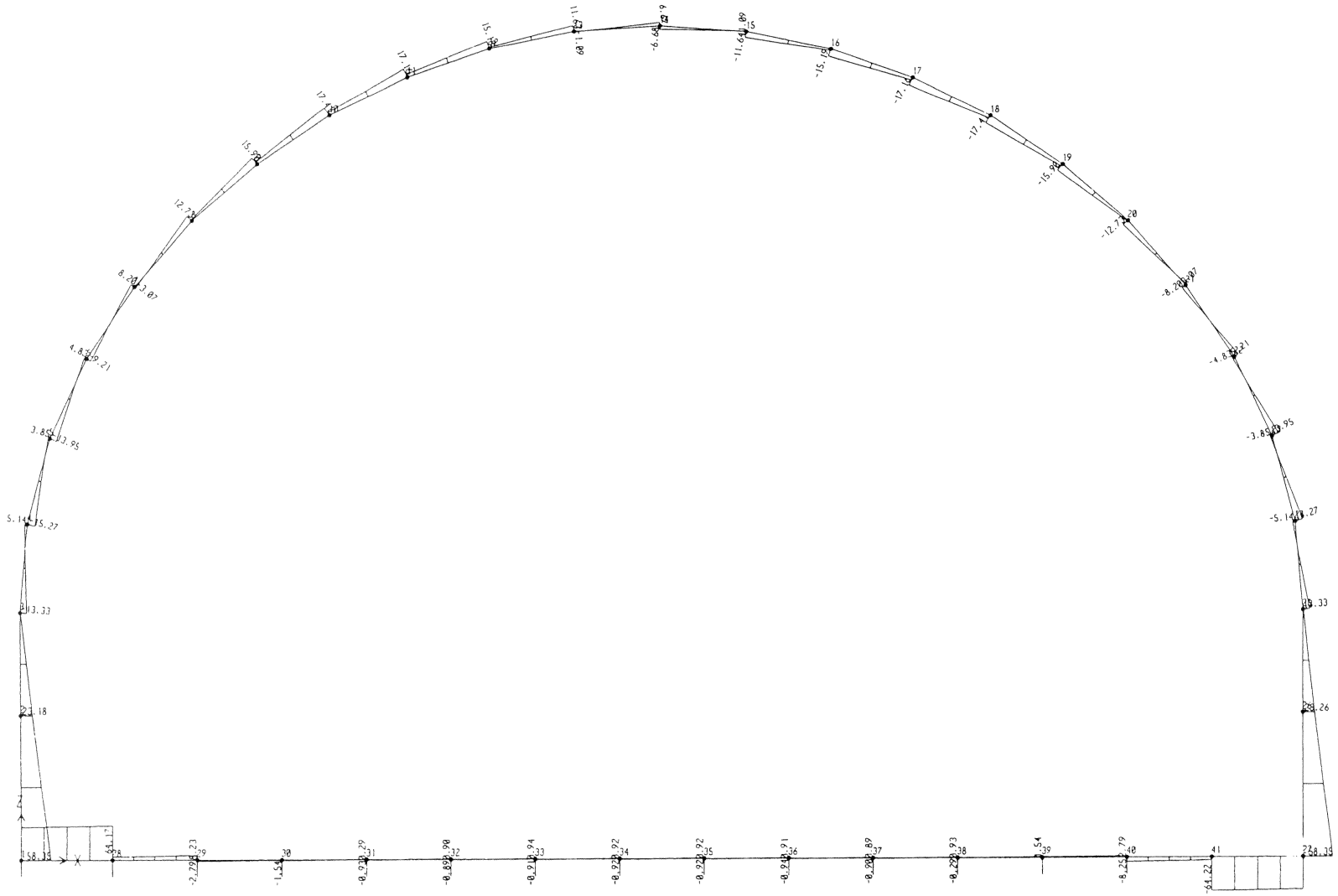
SAP2000 v7.40 - File:t2-1-2 - Moment 3-3 Diagram (COMB8) - Ton-m Units

SAP2000

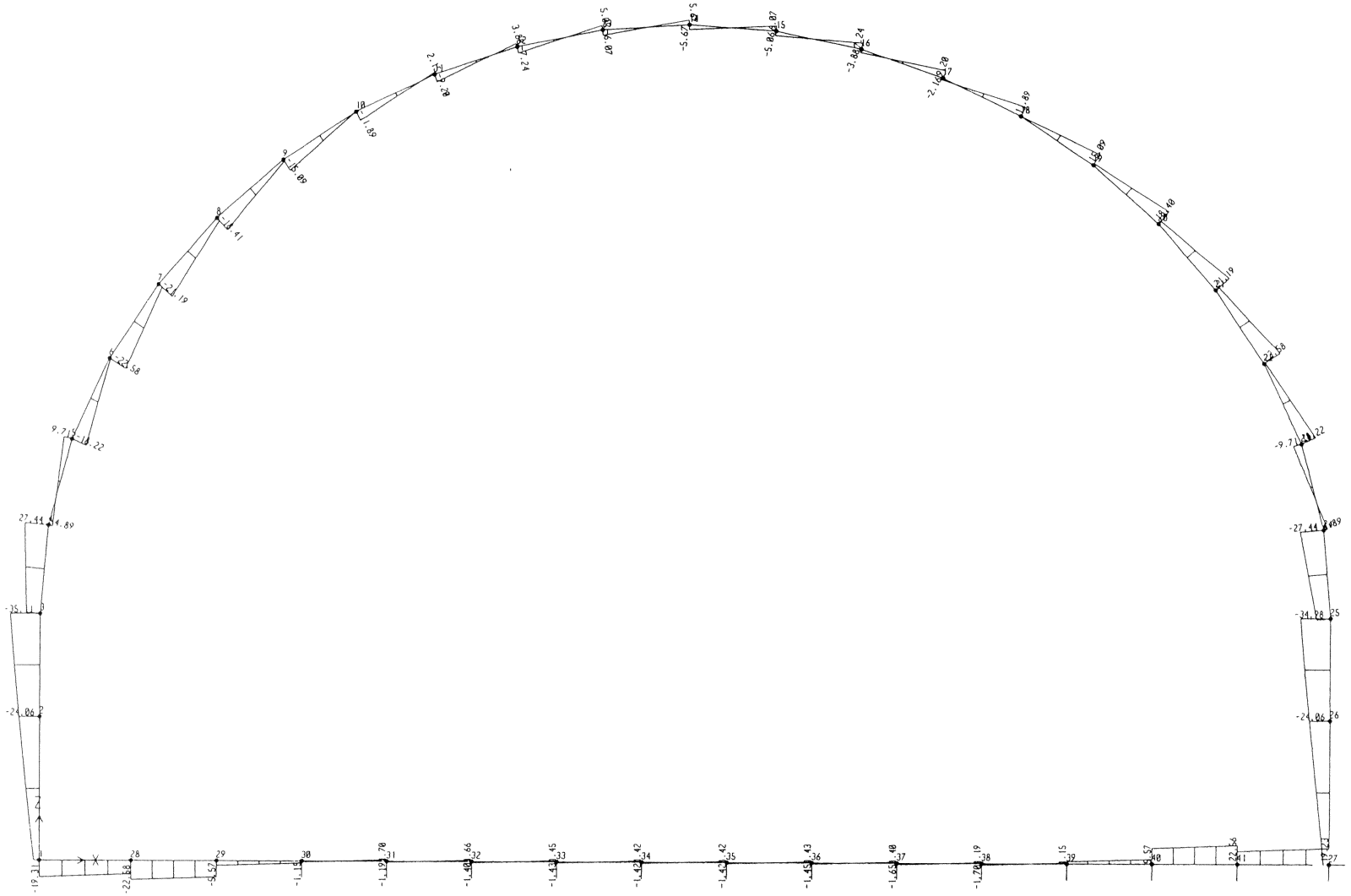
7-23-03 19:47:39



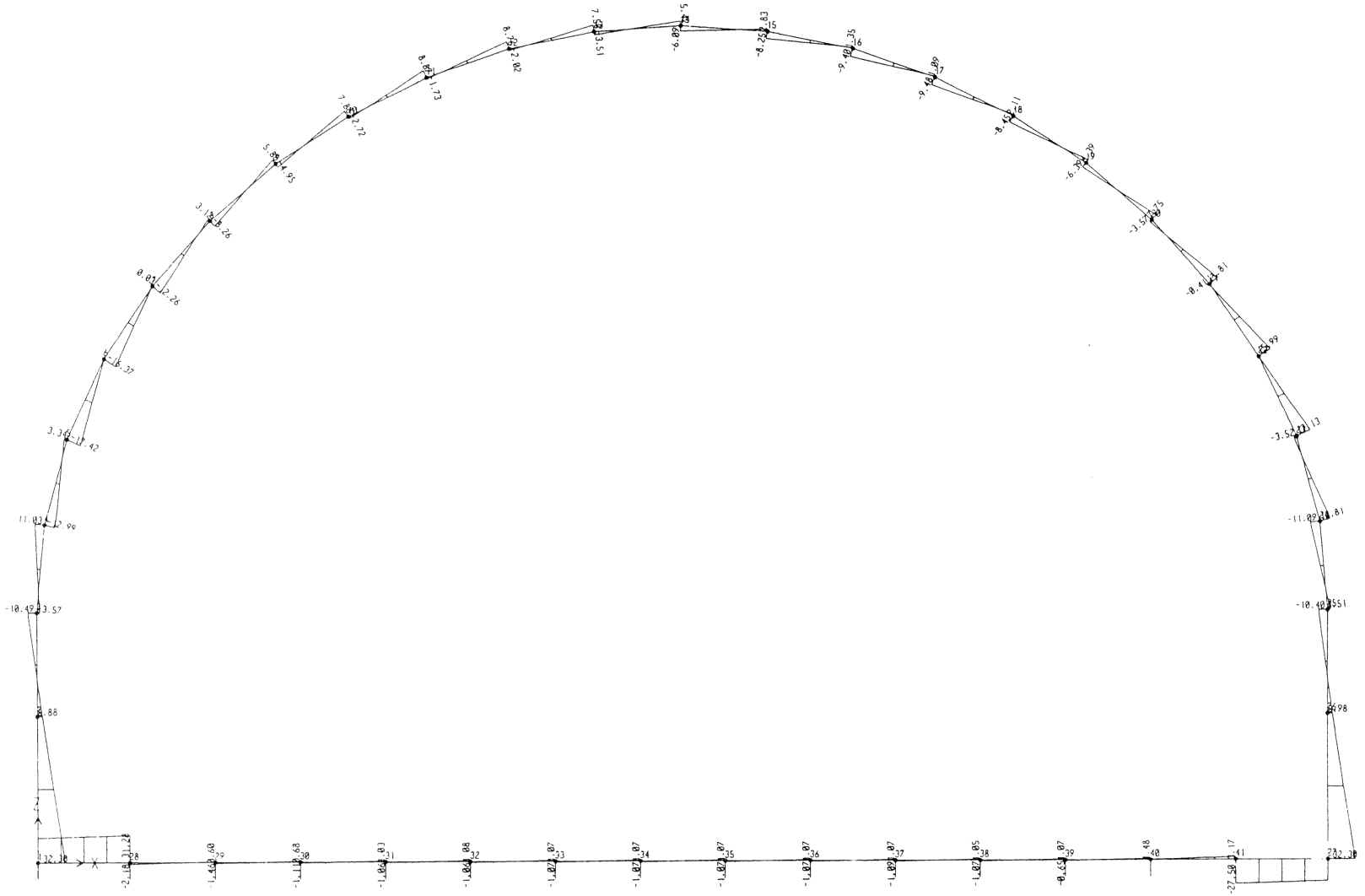
SAP2000 v7.40 - File:t2-1-2 - Shear Force 2-2 Diagram (COMB1) - Ton-m Units



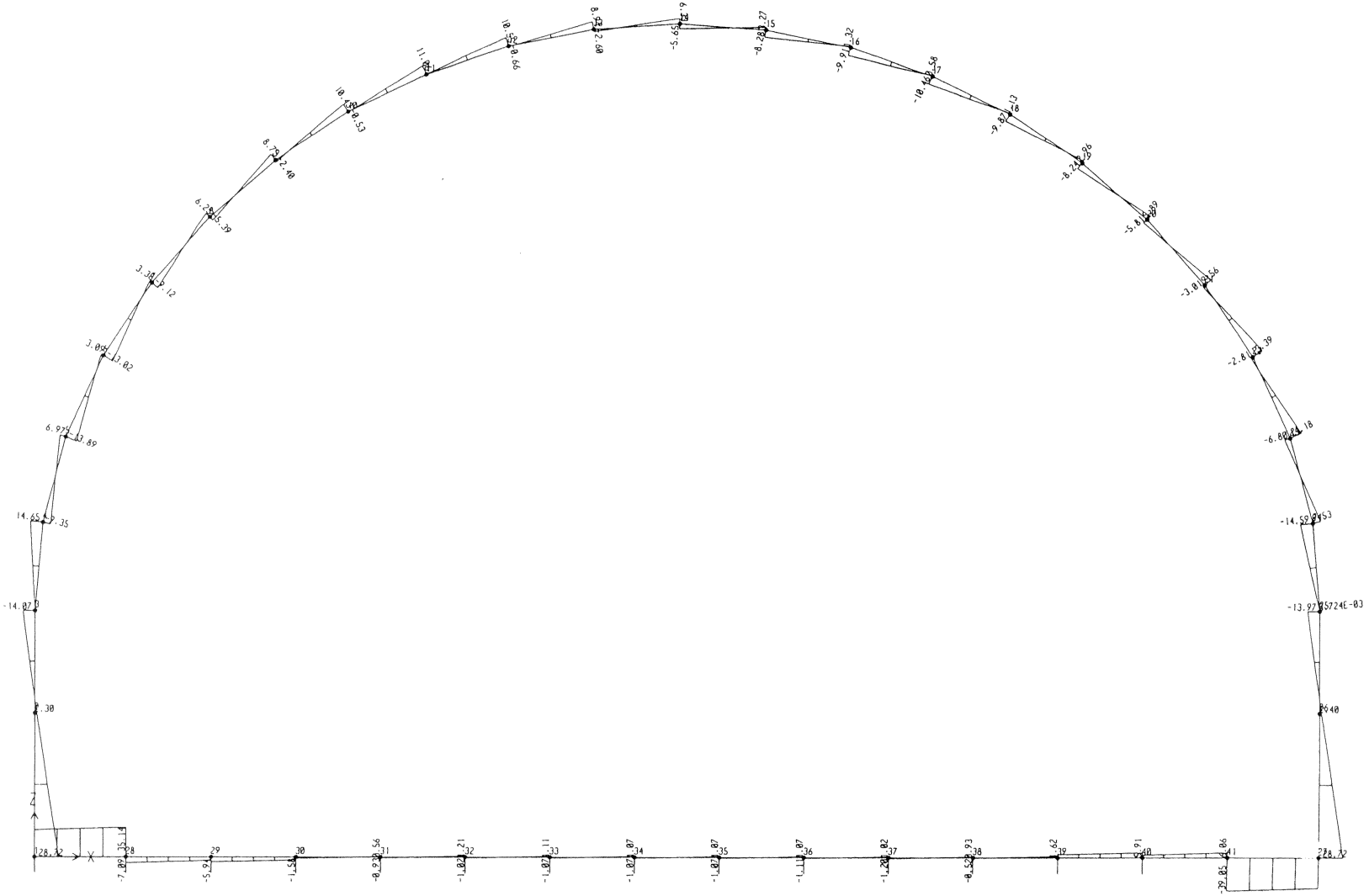
SAP2000 v7.40 - File:t2-1-2 - Shear Force 2-2 Diagram (COMB2) - Ton-m Units



SAP2000 v7.40 - File:t2-1-2 - Shear Force 2-2 Diagram (COMB3) - Ton-m Units



SAP2000 v7.40 - File:t2-1-2 - Shear Force 2-2 Diagram (COMB4) - Ton-m Units



■ 전산 OUT PUT

3) 입력데이터 및 output (부재력도)

가) 입력데이터 (SAP 2000 program)

```
; File C:W2003proW토질부Wt2-1-2.$2k saved 7-23-03 20:44:27 in Ton-m

SYSTEM
  DOF=UX,UY,UZ,RX,RY,RZ  LENGTH=m  FORCE=Ton  LINES=59

JOINT
  1  X=0  Y=0  Z=0
  2  X=0  Y=0  Z=1.687847
  3  X=-7.213203E-04  Y=0  Z=2.887847
  4  X=8.945698E-02  Y=0  Z=3.91859
  5  X=.3572519  Y=0  Z=4.918014
  6  X=.7945265  Y=0  Z=5.855752
  7  X=1.363475  Y=0  Z=6.707245
  8  X=2.038699  Y=0  Z=7.477191
  9  X=2.808645  Y=0  Z=8.152415
  10  X=3.660139  Y=0  Z=8.721365
  11  X=4.57861  Y=0  Z=9.174305
  12  X=5.548344  Y=0  Z=9.503486
  13  X=6.552749  Y=0  Z=9.703274
  14  X=7.574639  Y=0  Z=9.770252
  15  X=8.596528  Y=0  Z=9.703274
  16  X=9.600933  Y=0  Z=9.503486
  17  X=10.57067  Y=0  Z=9.174305
  18  X=11.48914  Y=0  Z=8.721365
  19  X=12.34063  Y=0  Z=8.152415
  20  X=13.11058  Y=0  Z=7.477191
  21  X=13.7858  Y=0  Z=6.707245
  22  X=14.35475  Y=0  Z=5.855752
  23  X=14.79203  Y=0  Z=4.918014
  24  X=15.05982  Y=0  Z=3.91859
  25  X=15.15  Y=0  Z=2.887847
  26  X=15.15  Y=0  Z=1.687847
  27  X=15.15  Y=0  Z=0
  28  X=1.075  Y=0  Z=0
  29  X=2.075  Y=0  Z=0
  30  X=3.075  Y=0  Z=0
  31  X=4.075  Y=0  Z=0
  32  X=5.075  Y=0  Z=0
  33  X=6.075  Y=0  Z=0
  34  X=7.075  Y=0  Z=0
  35  X=8.075  Y=0  Z=0
  36  X=9.075  Y=0  Z=0
  37  X=10.075  Y=0  Z=0
  38  X=11.075  Y=0  Z=0
  39  X=12.075  Y=0  Z=0
  40  X=13.075  Y=0  Z=0
  41  X=14.075  Y=0  Z=0

LOCAL
  ADD=27  ANG=0,180,180

PATTERN
  NAME=DEFAULT

SPRING
  ADD=1  U3=1624484
  ADD=28  U3=1751002
  ADD=29  U3=1686900
  ADD=30  U3=1686900
  ADD=31  U3=1686900
  ADD=32  U3=1686900
```

```
  ADD=33  U3=1686900
  ADD=34  U3=1686900
  ADD=35  U3=1686900
  ADD=36  U3=1686900
  ADD=37  U3=1686900
  ADD=38  U3=1686900
  ADD=39  U3=1686900
  ADD=40  U3=1686900
  ADD=41  U3=1751002
  ADD=27  U1=1E+10  U2=1E+10  U3=1624484  R1=1E+10  R3=1E+10

MATERIAL
  NAME=STEEL  IDES=S  M=.798142  W=7.833414
    T=0  E=2.038902E+07  U=.3  A=.0000117  FY=25310.51
  NAME=CONC  IDES=C  M=.2448012  W=2.402616
    T=0  E=2531051  U=.2  A=.0000099
  NAME=OTHER  IDES=N  M=.2448012  W=2.402616
    T=0  E=2531051  U=.2  A=.0000099

FRAME SECTION
  NAME=FSEC1 MAT=CONC SH=R T=1,1 A=1 J=.1408333 I=8.333334E-02,8.333334E-02 AS=.8333333,.8333333
  NAME=FSEC2 MAT=CONC SH=R T=.85,1 A=.85 J=9.985561E-02 I=5.117708E-02,7.083333E-02 AS=.7083333,.7083333
  NAME=FSEC3 MAT=CONC SH=R T=.77,1 A=.77 J=8.051882E-02 I=3.804442E-02,6.416667E-02 AS=.6416667,.6416667

FRAME
  1  J=1,2  SEC=FSEC1  NSEG=2  ANG=0
  2  J=2,3  SEC=FSEC2  NSEG=2  ANG=0
  3  J=3,4  SEC=FSEC2  NSEG=2  ANG=0
  4  J=4,5  SEC=FSEC2  NSEG=2  ANG=0
  5  J=5,6  SEC=FSEC2  NSEG=2  ANG=0
  6  J=6,7  SEC=FSEC2  NSEG=2  ANG=0
  7  J=7,8  SEC=FSEC2  NSEG=2  ANG=0
  8  J=8,9  SEC=FSEC2  NSEG=2  ANG=0
  9  J=9,10  SEC=FSEC2  NSEG=2  ANG=0
  10  J=10,11  SEC=FSEC2  NSEG=2  ANG=0
  11  J=11,12  SEC=FSEC2  NSEG=2  ANG=0
  12  J=12,13  SEC=FSEC2  NSEG=2  ANG=0
  13  J=13,14  SEC=FSEC2  NSEG=2  ANG=0
  14  J=14,15  SEC=FSEC2  NSEG=2  ANG=0
  15  J=15,16  SEC=FSEC2  NSEG=2  ANG=0
  16  J=16,17  SEC=FSEC2  NSEG=2  ANG=0
  17  J=17,18  SEC=FSEC2  NSEG=2  ANG=0
  18  J=18,19  SEC=FSEC2  NSEG=2  ANG=0
  19  J=19,20  SEC=FSEC2  NSEG=2  ANG=0
  20  J=20,21  SEC=FSEC2  NSEG=2  ANG=0
  21  J=21,22  SEC=FSEC2  NSEG=2  ANG=0
  22  J=22,23  SEC=FSEC2  NSEG=2  ANG=0
  23  J=23,24  SEC=FSEC2  NSEG=2  ANG=0
  24  J=24,25  SEC=FSEC2  NSEG=2  ANG=0
  25  J=25,26  SEC=FSEC2  NSEG=2  ANG=0
  26  J=26,27  SEC=FSEC1  NSEG=2  ANG=0
  27  J=1,28  SEC=FSEC1  NSEG=4  ANG=0
  28  J=28,29  SEC=FSEC1  NSEG=4  ANG=0
  29  J=29,30  SEC=FSEC3  NSEG=4  ANG=0
  30  J=30,31  SEC=FSEC3  NSEG=4  ANG=0
  31  J=31,32  SEC=FSEC3  NSEG=4  ANG=0
  32  J=32,33  SEC=FSEC3  NSEG=4  ANG=0
  33  J=33,34  SEC=FSEC3  NSEG=4  ANG=0
  34  J=34,35  SEC=FSEC3  NSEG=4  ANG=0
  35  J=35,36  SEC=FSEC3  NSEG=4  ANG=0
  36  J=36,37  SEC=FSEC3  NSEG=4  ANG=0
  37  J=37,38  SEC=FSEC3  NSEG=4  ANG=0
  38  J=38,39  SEC=FSEC3  NSEG=4  ANG=0
```

```
  39  J=39,40  SEC=FSEC3  NSEG=4  ANG=0
  40  J=40,41  SEC=FSEC1  NSEG=4  ANG=0
  41  J=41,27  SEC=FSEC1  NSEG=4  ANG=0

LOAD
  NAME=LOAD1  SW=1  CSYS=0
  NAME=LOAD2  CSYS=0
    TYPE=DISTRIBUTED SPAN
      ADD=3  RD=0,1  UZ=-19.014,-16.952
      ADD=4  RD=0,1  UZ=-16.952,-14.954
      ADD=5  RD=0,1  UZ=-14.954,-13.078
      ADD=6  RD=0,1  UZ=-13.078,-11.376
      ADD=7  RD=0,1  UZ=-11.376,-9.836
      ADD=8  RD=0,1  UZ=-9.836,-8.486
      ADD=9  RD=0,1  UZ=-8.486,-7.348
      ADD=10  RD=0,1  UZ=-7.348,-6.442
      ADD=11  RD=0,1  UZ=-6.442,-5.782
      ADD=12  RD=0,1  UZ=-5.782,-5.384
      ADD=13  RD=0,1  UZ=-5.384,-5.25
      ADD=14  RD=0,1  UZ=-5.25,-5.384
      ADD=15  RD=0,1  UZ=-5.384,-5.782
      ADD=16  RD=0,1  UZ=-5.782,-6.442
      ADD=17  RD=0,1  UZ=-6.442,-7.348
      ADD=18  RD=0,1  UZ=-7.348,-8.486
      ADD=19  RD=0,1  UZ=-8.486,-9.836
      ADD=20  RD=0,1  UZ=-9.836,-11.376
      ADD=21  RD=0,1  UZ=-11.376,-13.078
      ADD=22  RD=0,1  UZ=-13.078,-14.954
      ADD=23  RD=0,1  UZ=-14.954,-16.952
      ADD=24  RD=0,1  UZ=-16.952,-19.014
  NAME=LOAD3  CSYS=0
    TYPE=DISTRIBUTED SPAN
      ADD=1  RD=0,1  UX=12.395,10.707
      ADD=2  RD=0,.9999997  UX=10.707,9.507
      ADD=3  RD=0,1  UX=9.507,8.476
      ADD=4  RD=0,1  UX=8.476,7.477
      ADD=5  RD=0,1  UX=7.477,6.539
      ADD=6  RD=0,1  UX=6.539,5.688
      ADD=7  RD=0,1  UX=5.688,4.918
      ADD=8  RD=0,1  UX=4.918,4.243
      ADD=9  RD=0,1  UX=4.243,3.674
      ADD=10  RD=0,1  UX=3.674,3.221
      ADD=11  RD=0,1  UX=3.221,2.891
      ADD=12  RD=0,1  UX=2.891,2.692
      ADD=13  RD=0,1  UX=2.692,2.625
      ADD=15  RD=0,1  UX=-2.692,-2.891
      ADD=14  RD=0,1  UX=-2.625,-2.692
      ADD=16  RD=0,1  UX=-2.891,-3.221
      ADD=17  RD=0,1  UX=-3.221,-3.674
      ADD=18  RD=0,1  UX=-3.674,-4.243
      ADD=19  RD=0,1  UX=-4.243,-4.918
      ADD=20  RD=0,1  UX=-4.918,-5.688
      ADD=21  RD=0,1  UX=-5.688,-6.539
      ADD=22  RD=0,1  UX=-6.539,-7.477
      ADD=23  RD=0,1  UX=-7.477,-8.476
      ADD=24  RD=0,1  UX=-8.476,-9.507
      ADD=25  RD=0,1  UX=-9.507,-10.707
      ADD=26  RD=0,1  UX=-10.707,-12.395
  NAME=LOAD4  CSYS=0
    TYPE=TEMPERATURE  ELEM=FRAME
      ADD=1  T2=5
      ADD=2  T2=5
      ADD=3  T2=5
```

```
    ADD=4   T2=5
    ADD=5   T2=5
    ADD=6   T2=5
    ADD=7   T2=5
    ADD=8   T2=5
    ADD=9   T2=5
    ADD=10   T2=5
    ADD=11   T2=5
    ADD=12   T2=5
    ADD=13   T2=5
    ADD=14   T2=5
    ADD=15   T2=5
    ADD=16   T2=5
    ADD=17   T2=5
    ADD=18   T2=5
    ADD=19   T2=5
    ADD=20   T2=5
    ADD=21   T2=5
    ADD=22   T2=5
    ADD=23   T2=5
    ADD=24   T2=5
    ADD=25   T2=5
    ADD=26   T2=5
    ADD=27   T2=5
    ADD=28   T2=5
    ADD=29   T2=5
    ADD=30   T2=5
    ADD=31   T2=5
    ADD=32   T2=5
    ADD=33   T2=5
    ADD=34   T2=5
    ADD=35   T2=5
    ADD=36   T2=5
    ADD=37   T2=5
    ADD=38   T2=5
    ADD=39   T2=5
    ADD=40   T2=5
    ADD=41   T2=5
NAME=LOAD5   CSYS=0
  TYPE=TEMPERATURE   ELEM=FRAME
    ADD=1   T2=-5
    ADD=2   T2=-5
    ADD=3   T2=-5
    ADD=4   T2=-5
    ADD=5   T2=-5
    ADD=6   T2=-5
    ADD=7   T2=-5
    ADD=8   T2=-5
    ADD=9   T2=-5
    ADD=10   T2=-5
    ADD=11   T2=-5
    ADD=12   T2=-5
    ADD=13   T2=-5
    ADD=14   T2=-5
    ADD=15   T2=-5
    ADD=16   T2=-5
    ADD=17   T2=-5
    ADD=18   T2=-5
    ADD=19   T2=-5
    ADD=20   T2=-5
    ADD=21   T2=-5
    ADD=22   T2=-5
    ADD=23   T2=-5
```

```
        ADD=24   T2=-5
        ADD=25   T2=-5
        ADD=26   T2=-5
        ADD=27   T2=-5
        ADD=28   T2=-5
        ADD=29   T2=-5
        ADD=30   T2=-5
        ADD=31   T2=-5
        ADD=32   T2=-5
        ADD=33   T2=-5
        ADD=34   T2=-5
        ADD=35   T2=-5
        ADD=36   T2=-5
        ADD=37   T2=-5
        ADD=38   T2=-5
        ADD=39   T2=-5
        ADD=40   T2=-5
        ADD=41   T2=-5
    NAME=LOAD6   CSYS=0
      TYPE=TEMPERATURE   ELEM=FRAME
        ADD=1   T=-20
        ADD=2   T=-20
        ADD=3   T=-20
        ADD=4   T=-20
        ADD=5   T=-20
        ADD=6   T=-20
        ADD=7   T=-20
        ADD=8   T=-20
        ADD=9   T=-20
        ADD=10   T=-20
        ADD=11   T=-20
        ADD=12   T=-20
        ADD=13   T=-20
        ADD=14   T=-20
        ADD=15   T=-20
        ADD=16   T=-20
        ADD=17   T=-20
        ADD=18   T=-20
        ADD=19   T=-20
        ADD=20   T=-20
        ADD=21   T=-20
        ADD=22   T=-20
        ADD=23   T=-20
        ADD=24   T=-20
        ADD=25   T=-20
        ADD=26   T=-20

COMBO
  NAME=COMB1
    LOAD=LOAD1   SF=1.54
    LOAD=LOAD2   SF=1.54
    LOAD=LOAD3   SF=1.8
  NAME=COMB2
    LOAD=LOAD1   SF=.99
    LOAD=LOAD2   SF=.99
    LOAD=LOAD3   SF=1.8
  NAME=COMB3
    LOAD=LOAD1   SF=1.54
    LOAD=LOAD2   SF=1.54
    LOAD=LOAD3   SF=.9
  NAME=COMB4
    LOAD=LOAD1   SF=1.155
    LOAD=LOAD2   SF=1.155
```

```
    LOAD=LOAD3  SF=1.35
    LOAD=LOAD4  SF=1.125
    LOAD=LOAD6  SF=1.125
  NAME=COMB5
    LOAD=LOAD1  SF=1.155
    LOAD=LOAD2  SF=1.155
    LOAD=LOAD3  SF=1.35
    LOAD=LOAD5  SF=1.125
  NAME=COMB6
    LOAD=LOAD1  SF=1
    LOAD=LOAD2  SF=1
    LOAD=LOAD3  SF=1
  NAME=COMB7
    LOAD=LOAD1  SF=.75
    LOAD=LOAD2  SF=.75
    LOAD=LOAD3  SF=.75
    LOAD=LOAD4  SF=.75
    LOAD=LOAD6  SF=.75
  NAME=COMB8
    LOAD=LOAD1  SF=.75
    LOAD=LOAD2  SF=.75
    LOAD=LOAD3  SF=.75
    LOAD=LOAD5  SF=.75

OUTPUT
  ELEM=FRAME  TYPE=FORCE  COMB=COMB1
  ELEM=FRAME  TYPE=FORCE  COMB=COMB2
  ELEM=FRAME  TYPE=FORCE  COMB=COMB3
  ELEM=FRAME  TYPE=FORCE  COMB=COMB4
  ELEM=FRAME  TYPE=FORCE  COMB=COMB5
  ELEM=FRAME  TYPE=FORCE  COMB=COMB6
  ELEM=FRAME  TYPE=FORCE  COMB=COMB7
  ELEM=FRAME  TYPE=FORCE  COMB=COMB8

END

; The following data is used for graphics, design and pushover analysis.
; If changes are made to the analysis data above, then the following data
; should be checked for consistency.
SAP2000 V7.40 SUPPLEMENTAL DATA
  GROUP "DXFIN"  FRAME 1
  GROUP "DXFIN"  FRAME 2
  GROUP "DXFIN"  FRAME 3
  GROUP "DXFIN"  FRAME 4
  GROUP "DXFIN"  FRAME 5
  GROUP "DXFIN"  FRAME 6
  GROUP "DXFIN"  FRAME 7
  GROUP "DXFIN"  FRAME 8
  GROUP "DXFIN"  FRAME 9
  GROUP "DXFIN"  FRAME 10
  GROUP "DXFIN"  FRAME 11
  GROUP "DXFIN"  FRAME 12
  GROUP "DXFIN"  FRAME 13
  GROUP "DXFIN"  FRAME 14
  GROUP "DXFIN"  FRAME 15
  GROUP "DXFIN"  FRAME 16
  GROUP "DXFIN"  FRAME 17
  GROUP "DXFIN"  FRAME 18
  GROUP "DXFIN"  FRAME 19
  GROUP "DXFIN"  FRAME 20
  GROUP "DXFIN"  FRAME 21
  GROUP "DXFIN"  FRAME 22
  GROUP "DXFIN"  FRAME 23
```

```
  GROUP "DXFIN"  FRAME 24
  GROUP "DXFIN"  FRAME 25
  GROUP "DXFIN"  FRAME 26
  GROUP "DXFIN"  FRAME 27
  GROUP "DXFIN"  FRAME 28
  GROUP "DXFIN"  FRAME 29
  GROUP "DXFIN"  FRAME 30
  GROUP "DXFIN"  FRAME 31
  GROUP "DXFIN"  FRAME 32
  GROUP "DXFIN"  FRAME 33
  GROUP "DXFIN"  FRAME 34
  GROUP "DXFIN"  FRAME 35
  GROUP "DXFIN"  FRAME 36
  GROUP "DXFIN"  FRAME 37
  GROUP "DXFIN"  FRAME 38
  GROUP "DXFIN"  FRAME 39
  GROUP "DXFIN"  FRAME 40
  GROUP "DXFIN"  FRAME 41
  MATERIAL STEEL FY 25310.51
  MATERIAL CONC FYREBAR 42184.18 FYSHEAR 28122.79 FC 2812.279 FCSHEAR 2812.279
  CONCRETESECTION FSEC1 COLUMN  COVER .05 REBAR RR-3-3
  CONCRETESECTION FSEC2 COLUMN  COVER .04572 REBAR RR-3-3
  CONCRETESECTION FSEC3 COLUMN  COVER .04572 REBAR RR-3-3
  STATICLOAD LOAD1 TYPE DEAD
  STATICLOAD LOAD2 TYPE DEAD
  STATICLOAD LOAD3 TYPE OTHER
  STATICLOAD LOAD4 TYPE QUAKE
  STATICLOAD LOAD5 TYPE QUAKE
  STATICLOAD LOAD6 TYPE DEAD
  COMBO COMB1 DESIGN CONCRETE
  COMBO COMB2 DESIGN CONCRETE
  COMBO COMB3 DESIGN CONCRETE
  COMBO COMB4 DESIGN CONCRETE
  COMBO COMB6 DESIGN CONCRETE
  COMBO COMB7 DESIGN CONCRETE
  COMBO COMB8 DESIGN CONCRETE
END SUPPLEMENTAL DATA
```

4) output

S A P 2 0 0 0 (R)

Structural Analysis Programs

Nonlinear Version 7.40

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results produced by this program

23 Jul 2003 19:11:27

D I S P L A C E M E N T D E G R E E S O F F R E E D O M

(A) = Active DOF, equilibrium equation
(-) = Restrained DOF, reaction computed
(+) = Constrained DOF
(>) = External substructure DOF
( ) = Null DOF

JOINTS	U1	U2	U3	R1	R2	R3
1 TO 41	A	A	A	A	A	A

A S S E M B L E D J O I N T M A S S E S

IN LOCAL COORDINATES

JOINT	U1	U2	U3	R1	R2	R3
1	0.338174	0.338174	0.338174	.000000	.000000	.000000
2	0.331442	0.331442	0.331442	.000000	.000000	.000000
3	0.232497	0.232497	0.232497	.000000	.000000	.000000
4	0.215297	0.215297	0.215297	.000000	.000000	.000000
5	0.215297	0.215297	0.215297	.000000	.000000	.000000
6	0.214195	0.214195	0.214195	.000000	.000000	.000000
7	0.213092	0.213092	0.213092	.000000	.000000	.000000
8	0.213092	0.213092	0.213092	.000000	.000000	.000000
9	0.213092	0.213092	0.213092	.000000	.000000	.000000
10	0.213092	0.213092	0.213092	.000000	.000000	.000000
11	0.213092	0.213092	0.213092	.000000	.000000	.000000
12	0.213092	0.213092	0.213092	.000000	.000000	.000000
13	0.213092	0.213092	0.213092	.000000	.000000	.000000
14	0.213092	0.213092	0.213092	.000000	.000000	.000000
15	0.213092	0.213092	0.213092	.000000	.000000	.000000
16	0.213092	0.213092	0.213092	.000000	.000000	.000000
17	0.213092	0.213092	0.213092	.000000	.000000	.000000
18	0.213092	0.213092	0.213092	.000000	.000000	.000000
19	0.213092	0.213092	0.213092	.000000	.000000	.000000
20	0.213092	0.213092	0.213092	.000000	.000000	.000000
21	0.213092	0.213092	0.213092	.000000	.000000	.000000
22	0.214195	0.214195	0.214195	.000000	.000000	.000000
23	0.215297	0.215297	0.215297	.000000	.000000	.000000
24	0.215297	0.215297	0.215297	.000000	.000000	.000000
25	0.232497	0.232497	0.232497	.000000	.000000	.000000
26	0.331442	0.331442	0.331442	.000000	.000000	.000000
27	0.338174	0.338174	0.338174	.000000	.000000	.000000
28	0.253981	0.253981	0.253981	.000000	.000000	.000000
29	0.216649	0.216649	0.216649	.000000	.000000	.000000
30	0.188497	0.188497	0.188497	.000000	.000000	.000000
31	0.188497	0.188497	0.188497	.000000	.000000	.000000
32	0.188497	0.188497	0.188497	.000000	.000000	.000000
33	0.188497	0.188497	0.188497	.000000	.000000	.000000
34	0.188497	0.188497	0.188497	.000000	.000000	.000000
35	0.188497	0.188497	0.188497	.000000	.000000	.000000
36	0.188497	0.188497	0.188497	.000000	.000000	.000000
37	0.188497	0.188497	0.188497	.000000	.000000	.000000
38	0.188497	0.188497	0.188497	.000000	.000000	.000000
39	0.188497	0.188497	0.188497	.000000	.000000	.000000
40	0.216649	0.216649	0.216649	.000000	.000000	.000000
41	0.253981	0.253981	0.253981	.000000	.000000	.000000

T O T A L A S S E M B L E D J O I N T M A S S E S

IN GLOBAL COORDINATES

	UX	UY	UZ	RX	RY	RZ
TOTAL	9.116416	9.116416	9.116416	.000000	.000000	.000000

T O T A L A C C E L E R A T E D M A S S A N D L O C A T I O N

TOTAL MASS ACTIVATED BY ACCELERATION LOADS, IN GLOBAL COORDINATES

	UX	UY	UZ
MASS	9.116416	9.116416	9.116416
X-LOC	7.574804	7.574804	7.574804
Y-LOC	.000000	.000000	.000000
Z-LOC	3.969680	3.969680	3.969680

G L O B A L F O R C E B A L A N C E

TOTAL FORCE AND MOMENT AT THE ORIGIN, IN GLOBAL COORDINATES

LOAD LOAD1 ----------

	FX	FY	FZ	MX	MY	MZ
APPLIED	1.89E-16	-1.04E-31	-89.473611	1.63E-30	677.745062	-3.83E-31
SPRINGS	-4.20E-13	-1.07E-15	89.473611	1.71E-27	-677.745062	2.34E-10
TOTAL	-4.20E-13	-1.07E-15	3.98E-13	1.71E-27	-6.03E-12	2.34E-10

LOAD LOAD2 ----------

	FX	FY	FZ	MX	MY	MZ
APPLIED	5.97E-16	-8.82E-31	-229.939695	6.54E-30	1741.710	-5.75E-30
SPRINGS	-1.35E-12	-1.31E-26	229.939695	5.74E-27	-1741.710	8.09E-10
TOTAL	-1.35E-12	-1.31E-26	1.11E-12	5.75E-27	-1.96E-11	8.09E-10

LOAD LOAD3 ----------

	FX	FY	FZ	MX	MY	MZ
APPLIED	-3.27E-06	-2.07E-32	-1.34E-15	3.48E-31	-8.18E-06	2.37E-30
SPRINGS	3.27E-06	3.16E-27	-1.17E-12	-6.50E-27	8.18E-06	-9.00E-10
TOTAL	1.33E-12	3.16E-27	-1.17E-12	-6.50E-27	2.13E-11	-9.00E-10

LOAD LOAD4 ----------

	FX	FY	FZ	MX	MY	MZ
APPLIED	.000000	-4.38E-47	-1.58E-30	7.24E-32	-1.82E-14	6.33E-31
SPRINGS	-5.99E-13	1.81E-28	-1.56E-13	2.52E-27	-3.36E-12	1.37E-10
TOTAL	-5.99E-13	1.81E-28	-1.56E-13	2.52E-27	-3.38E-12	1.37E-10

LOAD LOAD5 ----------

	FX	FY	FZ	MX	MY	MZ
APPLIED	.000000	4.38E-47	1.58E-30	-7.24E-32	1.82E-14	-6.33E-31
SPRINGS	5.99E-13	-1.81E-28	1.56E-13	-2.52E-27	3.36E-12	-1.37E-10
TOTAL	5.99E-13	-1.81E-28	1.56E-13	-2.52E-27	3.38E-12	-1.37E-10

LOAD LOAD6 ----------

	FX	FY	FZ	MX	MY	MZ
APPLIED	.000000	.000000	.000000	.000000	-5.62E-13	.000000
SPRINGS	-1.01E-12	1.61E-13	8.14E-13	-1.15E-28	-1.22E-11	-9.80E-11
TOTAL	-1.01E-12	1.61E-13	8.14E-13	-1.15E-28	-1.28E-11	-9.80E-11

G L O B A L F O R C E B A L A N C E

TOTAL FORCE AND MOMENT AT THE ORIGIN, IN GLOBAL COORDINATES

COMB COMB1 ---------- MAX

	FX	FY	FZ	MX	MY	MZ
APPLIED	-5.89E-06	-1.55E-30	-491.896491	1.32E-29	3725.961	-5.17E-30
SPRINGS	5.89E-06	-1.64E-15	491.896491	-2.37E-28	-3725.961	-1.45E-11
TOTAL	-3.34E-13	-1.64E-15	2.07E-13	-2.24E-28	-1.06E-12	-1.45E-11

COMB COMB1 ---------- MIN

	FX	FY	FZ	MX	MY	MZ
APPLIED	-5.89E-06	-1.55E-30	-491.896491	1.32E-29	3725.961	-5.17E-30
SPRINGS	5.89E-06	-1.64E-15	491.896491	-2.37E-28	-3725.961	-1.45E-11
TOTAL	-3.34E-13	-1.64E-15	2.07E-13	-2.24E-28	-1.06E-12	-1.45E-11

COMB COMB2 ---------- MAX

	FX	FY	FZ	MX	MY	MZ
APPLIED	-5.89E-06	-1.01E-30	-316.219173	8.72E-30	2395.261	-1.80E-30
SPRINGS	5.89E-06	-1.06E-15	316.219173	-4.33E-27	-2395.261	-5.88E-10
TOTAL	6.41E-13	-1.06E-15	-6.21E-13	-4.32E-27	1.30E-11	-5.88E-10

COMB COMB2 ---------- MIN

	FX	FY	FZ	MX	MY	MZ
APPLIED	-5.89E-06	-1.01E-30	-316.219173	8.72E-30	2395.261	-1.80E-30
SPRINGS	5.89E-06	-1.06E-15	316.219173	-4.33E-27	-2395.261	-5.88E-10
TOTAL	6.41E-13	-1.06E-15	-6.21E-13	-4.32E-27	1.30E-11	-5.88E-10

COMB COMB3 ---------- MAX

	FX	FY	FZ	MX	MY	MZ
APPLIED	-2.94E-06	-1.54E-30	-491.896491	1.29E-29	3725.961	-7.31E-30
SPRINGS	2.94E-06	-1.64E-15	491.896491	5.62E-27	-3725.961	7.96E-10
TOTAL	-1.53E-12	-1.64E-15	1.26E-12	5.63E-27	-2.02E-11	7.96E-10

COMB COMB3 ---------- MIN

	FX	FY	FZ	MX	MY	MZ
APPLIED	-2.94E-06	-1.54E-30	-491.896491	1.29E-29	3725.961	-7.31E-30
SPRINGS	2.94E-06	-1.64E-15	491.896491	5.62E-27	-3725.961	7.96E-10
TOTAL	-1.53E-12	-1.64E-15	1.26E-12	5.63E-27	-2.02E-11	7.96E-10

G L O B A L F O R C E B A L A N C E

TOTAL FORCE AND MOMENT AT THE ORIGIN, IN GLOBAL COORDINATES

COMB COMB4 ---------- MAX

	FX	FY	FZ	MX	MY	MZ
APPLIED	-4.42E-06	-1.17E-30	-368.922368	9.99E-30	2794.471	-3.17E-30
SPRINGS	4.42E-06	1.80E-13	368.922368	2.52E-27	-2794.471	3.34E-11
TOTAL	-2.07E-12	1.80E-13	8.96E-13	2.53E-27	-1.90E-11	3.34E-11

COMB COMB4 ---------- MIN

	FX	FY	FZ	MX	MY	MZ
APPLIED	-4.42E-06	-1.17E-30	-368.922368	9.99E-30	2794.471	-3.17E-30
SPRINGS	4.42E-06	1.80E-13	368.922368	2.52E-27	-2794.471	3.34E-11
TOTAL	-2.07E-12	1.80E-13	8.96E-13	2.53E-27	-1.90E-11	3.34E-11

COMB COMB5 ---------- MAX

	FX	FY	FZ	MX	MY	MZ
APPLIED	-4.42E-06	-1.17E-30	-368.922368	9.83E-30	2794.471	-4.59E-30
SPRINGS	4.42E-06	-1.23E-15	368.922368	-3.01E-27	-2794.471	-1.65E-10
TOTAL	4.24E-13	-1.23E-15	3.31E-13	-3.00E-27	3.01E-12	-1.65E-10

COMB COMB5 ---------- MIN

	FX	FY	FZ	MX	MY	MZ
APPLIED	-4.42E-06	-1.17E-30	-368.922368	9.83E-30	2794.471	-4.59E-30
SPRINGS	4.42E-06	-1.23E-15	368.922368	-3.01E-27	-2794.471	-1.65E-10
TOTAL	4.24E-13	-1.23E-15	3.31E-13	-3.00E-27	3.01E-12	-1.65E-10

COMB COMB6 ---------- MAX

	FX	FY	FZ	MX	MY	MZ
APPLIED	-3.27E-06	-1.01E-30	-319.413306	8.52E-30	2419.455	-3.76E-30
SPRINGS	3.27E-06	-1.07E-15	319.413306	9.44E-28	-2419.455	1.43E-10
TOTAL	-4.41E-13	-1.07E-15	3.33E-13	9.52E-28	-4.28E-12	1.43E-10

COMB COMB6 ---------- MIN

	FX	FY	FZ	MX	MY	MZ
APPLIED	-3.27E-06	-1.01E-30	-319.413306	8.52E-30	2419.455	-3.76E-30
SPRINGS	3.27E-06	-1.07E-15	319.413306	9.44E-28	-2419.455	1.43E-10
TOTAL	-4.41E-13	-1.07E-15	3.33E-13	9.52E-28	-4.28E-12	1.43E-10

G L O B A L F O R C E B A L A N C E

TOTAL FORCE AND MOMENT AT THE ORIGIN, IN GLOBAL COORDINATES

COMB COMB7 ---------- MAX

	FX	FY	FZ	MX	MY	MZ
APPLIED	-2.45E-06	-7.55E-31	-239.559979	6.44E-30	1814.591	-2.35E-30
SPRINGS	2.45E-06	1.20E-13	239.559979	2.51E-27	-1814.591	1.36E-10
TOTAL	-1.54E-12	1.20E-13	7.43E-13	2.52E-27	-1.53E-11	1.36E-10

COMB COMB7 ---------- MIN

	FX	FY	FZ	MX	MY	MZ
APPLIED	-2.45E-06	-7.55E-31	-239.559979	6.44E-30	1814.591	-2.35E-30
SPRINGS	2.45E-06	1.20E-13	239.559979	2.51E-27	-1814.591	1.36E-10
TOTAL	-1.54E-12	1.20E-13	7.43E-13	2.52E-27	-1.53E-11	1.36E-10

COMB COMB8 ---------- MAX

	FX	FY	FZ	MX	MY	MZ
APPLIED	-2.45E-06	-7.55E-31	-239.559979	6.34E-30	1814.591	-3.29E-30
SPRINGS	2.45E-06	-8.01E-16	239.559979	-1.18E-27	-1814.591	3.90E-12
TOTAL	1.18E-13	-8.01E-16	3.67E-13	-1.17E-27	-6.79E-13	3.90E-12

COMB COMB8 ---------- MIN

	FX	FY	FZ	MX	MY	MZ
APPLIED	-2.45E-06	-7.55E-31	-239.559979	6.34E-30	1814.591	-3.29E-30
SPRINGS	2.45E-06	-8.01E-16	239.559979	-1.18E-27	-1814.591	3.90E-12
TOTAL	1.18E-13	-8.01E-16	3.67E-13	-1.17E-27	-6.79E-13	3.90E-12

F R A M E E L E M E N T I N T E R N A L F O R C E S

ELEM 1 ========== LENGTH = 1.687847

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-222.603669	39.568060	-7.09E-21	1.18E-17	-1.82E-19	30.321227
0.50000	-219.481128	21.380327	-7.09E-21	1.18E-17	-1.76E-19	4.693504
1.00000	-216.358587	4.474683	-7.09E-21	1.18E-17	-1.70E-19	-6.126156

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-222.603669	39.568060	-7.09E-21	1.18E-17	-1.82E-19	30.321227
0.50000	-219.481128	21.380327	-7.09E-21	1.18E-17	-1.76E-19	4.693504
1.00000	-216.358587	4.474683	-7.09E-21	1.18E-17	-1.70E-19	-6.126156

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-143.102401	58.353862	-4.75E-21	-1.98E-17	-1.20E-19	72.018631
0.50000	-141.095053	40.166129	-4.75E-21	-1.98E-17	-1.16E-19	30.537129
1.00000	-139.087705	23.260485	-4.75E-21	-1.98E-17	-1.12E-19	3.863690

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-143.102401	58.353862	-4.75E-21	-1.98E-17	-1.20E-19	72.018631
0.50000	-141.095053	40.166129	-4.75E-21	-1.98E-17	-1.16E-19	30.537129
1.00000	-139.087705	23.260485	-4.75E-21	-1.98E-17	-1.12E-19	3.863690

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-222.603610	-6.516092	-6.82E-21	5.01E-17	-1.77E-19	-43.215753
0.50000	-219.481069	-15.609958	-6.82E-21	5.01E-17	-1.72E-19	-33.834323
1.00000	-216.358528	-24.062780	-6.82E-21	5.01E-17	-1.66E-19	-17.048862

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-222.603610	-6.516092	-6.82E-21	5.01E-17	-1.77E-19	-43.215753
0.50000	-219.481069	-15.609958	-6.82E-21	5.01E-17	-1.72E-19	-33.834323
1.00000	-216.358528	-24.062780	-6.82E-21	5.01E-17	-1.66E-19	-17.048862

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-167.290921	32.297293	-8.93E-19	3.93E-17	-2.36E-17	36.010371
0.50000	-164.949015	18.656493	-8.93E-19	3.93E-17	-2.28E-17	14.577446
1.00000	-162.607109	5.977260	-8.93E-19	3.93E-17	-2.20E-17	4.250569

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-167.290921	32.297293	-8.93E-19	3.93E-17	-2.36E-17	36.010371
0.50000	-164.949015	18.656493	-8.93E-19	3.93E-17	-2.28E-17	14.577446
1.00000	-162.607109	5.977260	-8.93E-19	3.93E-17	-2.20E-17	4.250569

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-166.614597	29.718550	8.82E-19	2.36E-17	2.33E-17	19.727499
0.50000	-164.272691	15.077751	8.82E-19	2.36E-17	2.25E-17	1.314759
1.00000	-161.930785	2.398517	8.82E-19	2.36E-17	2.18E-17	-5.991933

COMB COMB5 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-166.614597	29.718550	8.82E-19	2.36E-17	2.33E-17	19.727499
0.50000	-164.272691	15.077751	8.82E-19	2.36E-17	2.25E-17	1.314759
1.00000	-161.930785	2.398517	8.82E-19	2.36E-17	2.18E-17	-5.991933

COMB COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-144.547826	17.048611	-4.56E-21	1.49E-17	-1.17E-19	5.894293
0.50000	-142.520202	6.944315	-4.56E-21	1.49E-17	-1.13E-19	-4.179713
1.00000	-140.492578	-2.447710	-4.56E-21	1.49E-17	-1.09E-19	-6.027016

COMB COMB6 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-144.547826	17.048611	-4.56E-21	1.49E-17	-1.17E-19	5.894293
0.50000	-142.520202	6.944315	-4.56E-21	1.49E-17	-1.13E-19	-4.179713
1.00000	-140.492578	-2.447710	-4.56E-21	1.49E-17	-1.09E-19	-6.027016

COMB COMB7 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-108.636316	14.533956	-5.95E-19	3.15E-17	-1.57E-17	13.267020
0.50000	-107.115598	6.955734	-5.95E-19	3.15E-17	-1.52E-17	4.236761
1.00000	-105.594880	-0.088284	-5.95E-19	3.15E-17	-1.47E-17	1.376529

COMB COMB7 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-108.636316	14.533956	-5.95E-19	3.15E-17	-1.57E-17	13.267020
0.50000	-107.115598	6.955734	-5.95E-19	3.15E-17	-1.52E-17	4.236761
1.00000	-105.594880	-0.088284	-5.95E-19	3.15E-17	-1.47E-17	1.376529

COMB COMB8 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-108.185433	12.148128	5.88E-19	2.10E-17	1.55E-17	2.411772

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
0.50000	-106.664715	4.569906	5.88E-19	2.10E-17	1.50E-17	-4.605030
1.00000	-105.143997	-2.474112	5.88E-19	2.10E-17	1.45E-17	-5.451806

COMB COMB8 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-108.185433	12.148128	5.88E-19	2.10E-17	1.55E-17	2.411772
0.50000	-106.664715	4.569906	5.88E-19	2.10E-17	1.50E-17	-4.605030
1.00000	-105.143997	-2.474112	5.88E-19	2.10E-17	1.45E-17	-5.451806

ELEM 2 ========== LENGTH = 1.200000

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-216.361238	4.344629	-7.09E-21	1.18E-17	-1.77E-19	-6.126156
0.50000	-214.467467	-6.893796	-7.09E-21	1.18E-17	-1.73E-19	-5.329006
1.00000	-212.574086	-17.484216	-7.09E-21	1.18E-17	-1.68E-19	2.016801

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-216.361238	4.344629	-7.09E-21	1.18E-17	-1.77E-19	-6.126156
0.50000	-214.467467	-6.893796	-7.09E-21	1.18E-17	-1.73E-19	-5.329006
1.00000	-212.574086	-17.484216	-7.09E-21	1.18E-17	-1.68E-19	2.016801

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-139.101662	23.176875	-4.75E-21	-1.98E-17	-9.99E-20	3.863690
0.50000	-137.881825	11.938044	-4.75E-21	-1.98E-17	-9.71E-20	-6.638388
1.00000	-136.662378	1.347220	-4.75E-21	-1.98E-17	-9.42E-20	-10.591566

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-139.101662	23.176875	-4.75E-21	-1.98E-17	-9.99E-20	3.863690
0.50000	-137.881825	11.938044	-4.75E-21	-1.98E-17	-9.71E-20	-6.638388
1.00000	-136.662378	1.347220	-4.75E-21	-1.98E-17	-9.42E-20	-10.591566

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-216.344025	-24.192829	-6.82E-21	5.01E-17	-1.96E-19	-17.048862
0.50000	-214.453632	-29.811475	-6.82E-21	5.01E-17	-1.92E-19	-0.831368
1.00000	-212.563434	-35.106117	-6.82E-21	5.01E-17	-1.88E-19	18.660114

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-216.344025	-24.192829	-6.82E-21	5.01E-17	-1.96E-19	-17.048862
0.50000	-214.453632	-29.811475	-6.82E-21	5.01E-17	-1.92E-19	-0.831368

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
1.00000	-212.563434	-35.106117	-6.82E-21	5.01E-17	-1.88E-19	18.660114

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-162.610673	5.879515	-8.93E-19	3.93E-17	-2.21E-17	4.250569
0.50000	-161.190345	-2.549304	-8.93E-19	3.93E-17	-2.15E-17	3.275805
1.00000	-159.770309	-10.492118	-8.93E-19	3.93E-17	-2.10E-17	7.212534

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-162.610673	5.879515	-8.93E-19	3.93E-17	-2.21E-17	4.250569
0.50000	-161.190345	-2.549304	-8.93E-19	3.93E-17	-2.15E-17	3.275805
1.00000	-159.770309	-10.492118	-8.93E-19	3.93E-17	-2.10E-17	7.212534

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-161.932197	2.301180	8.82E-19	2.36E-17	2.18E-17	-5.991933
0.50000	-160.511869	-6.127639	8.82E-19	2.36E-17	2.12E-17	-4.819695
1.00000	-159.091833	-14.070453	8.82E-19	2.36E-17	2.07E-17	1.264035

COMB COMB5 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-161.932197	2.301180	8.82E-19	2.36E-17	2.18E-17	-5.991933
0.50000	-160.511869	-6.127639	8.82E-19	2.36E-17	2.12E-17	-4.819695
1.00000	-159.091833	-14.070453	8.82E-19	2.36E-17	2.07E-17	1.264035

COMB COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-140.491081	-2.532159	-4.56E-21	1.49E-17	-1.18E-19	-6.027016
0.50000	-139.261994	-8.775623	-4.56E-21	1.49E-17	-1.16E-19	-2.616681
1.00000	-138.033122	-14.659083	-4.56E-21	1.49E-17	-1.13E-19	4.431733

COMB COMB6 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-140.491081	-2.532159	-4.56E-21	1.49E-17	-1.18E-19	-6.027016
0.50000	-139.261994	-8.775623	-4.56E-21	1.49E-17	-1.16E-19	-2.616681
1.00000	-138.033122	-14.659083	-4.56E-21	1.49E-17	-1.13E-19	4.431733

COMB COMB7 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-105.594807	-0.151757	-5.95E-19	3.15E-17	-1.47E-17	1.376529
0.50000	-104.672992	-4.834355	-5.95E-19	3.15E-17	-1.44E-17	2.885863
1.00000	-103.751338	-9.246950	-5.95E-19	3.15E-17	-1.40E-17	7.123755

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB7 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-105.594807	-0.151757	-5.95E-19	3.15E-17	-1.47E-17	1.376529
0.50000	-104.672992	-4.834355	-5.95E-19	3.15E-17	-1.44E-17	2.885863
1.00000	-103.751338	-9.246950	-5.95E-19	3.15E-17	-1.40E-17	7.123755

COMB COMB8 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-105.142490	-2.537314	5.88E-19	2.10E-17	1.45E-17	-5.451806
0.50000	-104.220675	-7.219911	5.88E-19	2.10E-17	1.42E-17	-2.511138
1.00000	-103.299021	-11.632506	5.88E-19	2.10E-17	1.38E-17	3.158089

COMB COMB8 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-105.142490	-2.537314	5.88E-19	2.10E-17	1.45E-17	-5.451806
0.50000	-104.220675	-7.219911	5.88E-19	2.10E-17	1.42E-17	-2.511138
1.00000	-103.299021	-11.632506	5.88E-19	2.10E-17	1.38E-17	3.158089

ELEM 3 ========== LENGTH = 1.034680

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-213.288322	-1.237572	1.50E-16	1.18E-17	2.43E-16	-2.016801
0.50000	-197.736396	8.768960	-1.06E-15	1.18E-17	4.82E-16	-3.988649
1.00000	-182.960907	18.225689	-2.21E-15	1.18E-17	1.33E-15	-10.995059

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-213.288322	-1.237572	1.50E-16	1.18E-17	2.43E-16	-2.016801
0.50000	-197.736396	8.768960	-1.06E-15	1.18E-17	4.82E-16	-3.988649
1.00000	-182.960907	18.225689	-2.21E-15	1.18E-17	1.33E-15	-10.995059

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-136.016928	-13.334763	1.61E-15	-1.97E-17	-1.28E-15	10.591566
0.50000	-126.287359	-3.837621	4.65E-16	-1.97E-17	-1.82E-15	15.010947
1.00000	-117.041986	5.135286	-6.22E-16	-1.97E-17	-1.77E-15	14.652679

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-136.016928	-13.334763	1.61E-15	-1.97E-17	-1.28E-15	10.591566
0.50000	-126.287359	-3.837621	4.65E-16	-1.97E-17	-1.82E-15	15.010947
1.00000	-117.041986	5.135286	-6.22E-16	-1.97E-17	-1.77E-15	14.652679

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-214.824112	16.317282	-1.98E-15	4.99E-17	2.26E-15	-18.660114
0.50000	-198.896850	22.033694	-2.67E-15	4.99E-17	3.46E-15	-28.593758
1.00000	-183.766944	27.439409	-3.32E-15	4.99E-17	5.01E-15	-41.404363

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-214.824112	16.317282	-1.98E-15	4.99E-17	2.26E-15	-18.660114
0.50000	-198.896850	22.033694	-2.67E-15	4.99E-17	3.46E-15	-28.593758
1.00000	-183.766944	27.439409	-3.32E-15	4.99E-17	5.01E-15	-41.404363

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-160.074667	-3.568925	4.33E-16	4.10E-17	8.91E-16	-7.212534
0.50000	-148.410722	3.935974	-4.76E-16	4.10E-17	9.04E-16	-7.325256
1.00000	-137.329106	11.028521	-1.33E-15	4.10E-17	1.37E-15	-11.213900

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-160.074667	-3.568925	4.33E-16	4.10E-17	8.91E-16	-7.212534
0.50000	-148.410722	3.935974	-4.76E-16	4.10E-17	9.04E-16	-7.325256
1.00000	-137.329106	11.028521	-1.33E-15	4.10E-17	1.37E-15	-11.213900

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-159.712824	0.055145	-7.56E-18	2.17E-17	1.30E-16	-1.264035
0.50000	-148.048879	7.560044	-9.16E-16	2.17E-17	3.72E-16	-3.251633
1.00000	-136.967263	14.652591	-1.78E-15	2.17E-17	1.07E-15	-9.015154

COMB COMB5 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-159.712824	0.055145	-7.56E-18	2.17E-17	1.30E-16	-1.264035
0.50000	-148.048879	7.560044	-9.16E-16	2.17E-17	3.72E-16	-3.251633
1.00000	-136.967263	14.652591	-1.78E-15	2.17E-17	1.07E-15	-9.015154

COMB COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-138.787009	2.489500	-3.01E-16	1.48E-17	5.36E-16	-4.431733
0.50000	-128.617947	8.182464	-9.91E-16	1.48E-17	8.71E-16	-7.205709
1.00000	-118.956989	13.563267	-1.64E-15	1.48E-17	1.55E-15	-12.844136

COMB COMB6 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-138.787009	2.489500	-3.01E-16	1.48E-17	5.36E-16	-4.431733

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
0.50000	-128.617947	8.182464	-9.91E-16	1.48E-17	8.71E-16	-7.205709
1.00000	-118.956989	13.563267	-1.64E-15	1.48E-17	1.55E-15	-12.844136

COMB COMB7 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-104.162541	0.106628	-1.23E-17	3.26E-17	8.74E-16	-7.123755
0.50000	-96.535744	4.376351	-5.29E-16	3.26E-17	1.02E-15	-8.293461
1.00000	-89.290025	8.411953	-1.02E-15	3.26E-17	1.42E-15	-11.611506

COMB COMB7 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-104.162541	0.106628	-1.23E-17	3.26E-17	8.74E-16	-7.123755
0.50000	-96.535744	4.376351	-5.29E-16	3.26E-17	1.02E-15	-8.293461
1.00000	-89.290025	8.411953	-1.02E-15	3.26E-17	1.42E-15	-11.611506

COMB COMB8 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-103.921312	2.522674	-3.06E-16	1.97E-17	3.67E-16	-3.158089
0.50000	-96.294515	6.792397	-8.23E-16	1.97E-17	6.60E-16	-5.577713
1.00000	-89.048797	10.827999	-1.31E-15	1.97E-17	1.21E-15	-10.145675

COMB COMB8 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-103.921312	2.522674	-3.06E-16	1.97E-17	3.67E-16	-3.158089
0.50000	-96.294515	6.792397	-8.23E-16	1.97E-17	6.60E-16	-5.577713
1.00000	-89.048797	10.827999	-1.31E-15	1.97E-17	1.21E-15	-10.145675

ELEM 4 ========== LENGTH = 1.034680

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-183.346177	-13.822044	1.67E-15	1.14E-17	1.33E-15	-10.995059
0.50000	-171.096095	-2.609033	3.16E-16	1.14E-17	8.17E-16	-6.773084
1.00000	-159.494414	7.948691	-9.63E-16	1.14E-17	9.88E-16	-8.182543

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-183.346177	-13.822044	1.67E-15	1.14E-17	1.33E-15	-10.995059
0.50000	-171.096095	-2.609033	3.16E-16	1.14E-17	8.17E-16	-6.773084
1.00000	-159.494414	7.948691	-9.63E-16	1.14E-17	9.88E-16	-8.182543

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-116.155587	-15.266869	1.85E-15	-1.91E-17	-1.77E-15	14.652679
0.50000	-108.988625	-5.415875	6.56E-16	-1.91E-17	-2.41E-15	19.977605

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
1.00000	-102.195496	3.853401	-4.67E-16	-1.91E-17	-2.46E-15	20.356692

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-116.155587	-15.266869	1.85E-15	-1.91E-17	-1.77E-15	14.652679
0.50000	-108.988625	-5.415875	6.56E-16	-1.91E-17	-2.41E-15	19.977605
1.00000	-102.195496	3.853401	-4.67E-16	-1.91E-17	-2.46E-15	20.356692

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-185.739914	-4.888268	5.92E-16	4.85E-17	5.00E-15	-41.404363
0.50000	-172.498506	2.625063	-3.18E-16	4.85E-17	4.93E-15	-40.837506
1.00000	-159.965692	9.707752	-1.18E-15	4.85E-17	5.32E-15	-44.046200

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-185.739914	-4.888268	5.92E-16	4.85E-17	5.00E-15	-41.404363
0.50000	-172.498506	2.625063	-3.18E-16	4.85E-17	4.93E-15	-40.837506
1.00000	-159.965692	9.707752	-1.18E-15	4.85E-17	5.32E-15	-44.046200

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-137.157850	-12.985988	1.57E-15	4.33E-17	1.37E-15	-11.213900
0.50000	-127.970289	-4.576230	5.55E-16	4.33E-17	8.19E-16	-6.692269
1.00000	-119.269028	3.342063	-4.04E-16	4.33E-17	7.83E-16	-6.394215

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-137.157850	-12.985988	1.57E-15	4.33E-17	1.37E-15	-11.213900
0.50000	-127.970289	-4.576230	5.55E-16	4.33E-17	8.19E-16	-6.692269
1.00000	-119.269028	3.342063	-4.04E-16	4.33E-17	7.83E-16	-6.394215

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-137.430818	-9.354143	1.13E-15	1.76E-17	1.07E-15	-9.015154
0.50000	-128.243257	-0.944385	1.13E-16	1.76E-17	7.47E-16	-6.372422
1.00000	-119.541995	6.973909	-8.45E-16	1.76E-17	9.39E-16	-7.953267

COMB COMB5 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-137.430818	-9.354143	1.13E-15	1.76E-17	1.07E-15	-9.015154
0.50000	-128.243257	-0.944385	1.13E-16	1.76E-17	7.47E-16	-6.372422
1.00000	-119.541995	6.973909	-8.45E-16	1.76E-17	9.39E-16	-7.953267

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-119.505000	-7.299465	8.84E-16	1.44E-17	1.55E-15	-12.844136
0.50000	-111.364439	-0.712312	8.63E-17	1.44E-17	1.30E-15	-10.788258
1.00000	-103.656208	5.491470	-6.65E-16	1.44E-17	1.45E-15	-12.041010

COMB COMB6 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-119.505000	-7.299465	8.84E-16	1.44E-17	1.55E-15	-12.844136
0.50000	-111.364439	-0.712312	8.63E-17	1.44E-17	1.30E-15	-10.788258
1.00000	-103.656208	5.491470	-6.65E-16	1.44E-17	1.45E-15	-12.041010

COMB COMB7 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-89.394229	-7.220902	8.75E-16	3.39E-17	1.41E-15	-11.611506
0.50000	-83.288808	-2.280538	2.77E-16	3.39E-17	1.11E-15	-9.166164
1.00000	-77.507635	2.372299	-2.87E-16	3.39E-17	1.12E-15	-9.202296

COMB COMB7 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-89.394229	-7.220902	8.75E-16	3.39E-17	1.41E-15	-11.611506
0.50000	-83.288808	-2.280538	2.77E-16	3.39E-17	1.11E-15	-9.166164
1.00000	-77.507635	2.372299	-2.87E-16	3.39E-17	1.12E-15	-9.202296

COMB COMB8 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-89.576207	-4.799672	5.81E-16	1.68E-17	1.21E-15	-10.145675
0.50000	-83.470786	0.140693	-1.76E-17	1.68E-17	1.07E-15	-8.952933
1.00000	-77.689613	4.793530	-5.81E-16	1.68E-17	1.22E-15	-10.241664

COMB COMB8 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-89.576207	-4.799672	5.81E-16	1.68E-17	1.21E-15	-10.145675
0.50000	-83.470786	0.140693	-1.76E-17	1.68E-17	1.07E-15	-8.952933
1.00000	-77.689613	4.793530	-5.81E-16	1.68E-17	1.22E-15	-10.241664

ELEM 5 ========== LENGTH = 1.034679

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-158.451609	-19.867998	2.41E-15	1.08E-17	9.86E-16	-8.182543
0.50000	-149.368256	-8.190847	9.92E-16	1.08E-17	1.11E-16	-0.955245
1.00000	-140.777620	2.774658	-3.36E-16	1.08E-17	-5.51E-17	0.415079

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-158.451609	-19.867998	2.41E-15	1.08E-17	9.86E-16	-8.182543
0.50000	-149.368256	-8.190847	9.92E-16	1.08E-17	1.11E-16	-0.955245
1.00000	-140.777620	2.774658	-3.36E-16	1.08E-17	-5.51E-17	0.415079

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-101.312051	-13.951213	1.69E-15	-1.79E-17	-2.46E-15	20.356692
0.50000	-96.490705	-4.261470	5.16E-16	-1.79E-17	-3.02E-15	25.041947
1.00000	-91.920186	4.829424	-5.85E-16	-1.79E-17	-3.00E-15	24.869217

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-101.312051	-13.951213	1.69E-15	-1.79E-17	-2.46E-15	20.356692
0.50000	-96.490705	-4.261470	5.16E-16	-1.79E-17	-3.02E-15	25.041947
1.00000	-91.920186	4.829424	-5.85E-16	-1.79E-17	-3.00E-15	24.869217

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-159.221185	-18.217498	2.21E-15	4.55E-17	5.31E-15	-44.046200
0.50000	-148.712699	-9.596552	1.16E-15	4.55E-17	4.44E-15	-36.873692
1.00000	-138.789217	-1.489343	1.80E-16	4.55E-17	4.10E-15	-34.028252

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-159.221185	-18.217498	2.21E-15	4.55E-17	5.31E-15	-44.046200
0.50000	-148.712699	-9.596552	1.16E-15	4.55E-17	4.44E-15	-36.873692
1.00000	-138.789217	-1.489343	1.80E-16	4.55E-17	4.10E-15	-34.028252

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-118.037405	-17.419572	2.11E-15	4.41E-17	7.75E-16	-6.394215
0.50000	-111.224890	-8.661709	1.05E-15	4.41E-17	-3.97E-17	0.329216
1.00000	-104.781913	-0.437580	5.39E-17	4.41E-17	-3.22E-16	2.659918

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-118.037405	-17.419572	2.11E-15	4.41E-17	7.75E-16	-6.394215
0.50000	-111.224890	-8.661709	1.05E-15	4.41E-17	-3.97E-17	0.329216
1.00000	-104.781913	-0.437580	5.39E-17	4.41E-17	-3.22E-16	2.659918

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-118.936889	-13.890303	1.68E-15	1.31E-17	9.36E-16	-7.953267

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
0.50000	-112.124374	-5.132440	6.21E-16	1.31E-17	3.44E-16	-3.055667
1.00000	-105.681397	3.091689	-3.75E-16	1.31E-17	2.83E-16	-2.550796

COMB COMB5 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-118.936889	-13.890303	1.68E-15	1.31E-17	9.36E-16	-7.953267
0.50000	-112.124374	-5.132440	6.21E-16	1.31E-17	3.44E-16	-3.055667
1.00000	-105.681397	3.091689	-3.75E-16	1.31E-17	2.83E-16	-2.550796

COMB COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-103.035020	-12.591680	1.52E-15	1.35E-17	1.45E-15	-12.041010
0.50000	-96.869398	-5.582429	6.76E-16	1.35E-17	8.85E-16	-7.358237
1.00000	-91.041034	1.001841	-1.21E-16	1.35E-17	7.44E-16	-6.191699

COMB COMB6 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-103.035020	-12.591680	1.52E-15	1.35E-17	1.45E-15	-12.041010
0.50000	-96.869398	-5.582429	6.76E-16	1.35E-17	8.85E-16	-7.358237
1.00000	-91.041034	1.001841	-1.21E-16	1.35E-17	7.44E-16	-6.191699

COMB COMB7 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-76.742064	-11.122809	1.35E-15	3.41E-17	1.11E-15	-9.202296
0.50000	-72.117847	-5.865870	7.11E-16	3.41E-17	5.82E-16	-4.821578
1.00000	-67.746574	-0.927668	1.13E-16	3.41E-17	3.70E-16	-3.078035

COMB COMB7 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-76.742064	-11.122809	1.35E-15	3.41E-17	1.11E-15	-9.202296
0.50000	-72.117847	-5.865870	7.11E-16	3.41E-17	5.82E-16	-4.821578
1.00000	-67.746574	-0.927668	1.13E-16	3.41E-17	3.70E-16	-3.078035

COMB COMB8 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-77.341720	-8.769963	1.06E-15	1.35E-17	1.22E-15	-10.241664
0.50000	-72.717503	-3.513024	4.25E-16	1.35E-17	8.37E-16	-7.078166
1.00000	-68.346230	1.425178	-1.73E-16	1.35E-17	7.74E-16	-6.551845

COMB COMB8 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-77.341720	-8.769963	1.06E-15	1.35E-17	1.22E-15	-10.241664
0.50000	-72.717503	-3.513024	4.25E-16	1.35E-17	8.37E-16	-7.078166
1.00000	-68.346230	1.425178	-1.73E-16	1.35E-17	7.74E-16	-6.551845

F R A M E E L E M E N T I N T E R N A L F O R C E S

ELEM 6 ========== LENGTH = 1.024081

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-139.561288	-18.673074	2.26E-15	9.90E-18	-5.67E-17	0.415079
0.50000	-133.166078	-7.387376	8.95E-16	9.90E-18	-8.61E-16	7.057263
1.00000	-127.110947	3.199429	-3.87E-16	9.90E-18	-9.87E-16	8.099641

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-139.561288	-18.673074	2.26E-15	9.90E-18	-5.67E-17	0.415079
0.50000	-133.166078	-7.387376	8.95E-16	9.90E-18	-8.61E-16	7.057263
1.00000	-127.110947	3.199429	-3.87E-16	9.90E-18	-9.87E-16	8.099641

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-91.585050	-9.209909	1.12E-15	-1.64E-17	-3.00E-15	24.869217
0.50000	-88.630765	-0.223359	2.71E-17	-1.64E-17	-3.29E-15	27.260185
1.00000	-85.817288	8.197444	-9.93E-16	-1.64E-17	-3.04E-15	25.194516

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-91.585050	-9.209909	1.12E-15	-1.64E-17	-3.00E-15	24.869217
0.50000	-88.630765	-0.223359	2.71E-17	-1.64E-17	-3.29E-15	27.260185
1.00000	-85.817288	8.197444	-9.93E-16	-1.64E-17	-3.04E-15	25.194516

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-136.947378	-22.584968	2.74E-15	4.18E-17	4.09E-15	-34.028252
0.50000	-128.932477	-13.723311	1.66E-15	4.18E-17	2.97E-15	-24.755459
1.00000	-121.366596	-5.397508	6.54E-16	4.18E-17	2.38E-15	-19.883005

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-136.947378	-22.584968	2.74E-15	4.18E-17	4.09E-15	-34.028252
0.50000	-128.932477	-13.723311	1.66E-15	4.18E-17	2.97E-15	-24.755459
1.00000	-121.366596	-5.397508	6.54E-16	4.18E-17	2.38E-15	-19.883005

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-103.495859	-16.372171	1.98E-15	4.35E-17	-3.29E-16	2.659918
0.50000	-98.699451	-7.907897	9.59E-16	4.35E-17	-1.08E-15	8.853743
1.00000	-94.158102	0.032206	-3.01E-18	4.35E-17	-1.32E-15	10.847714

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-103.495859	-16.372171	1.98E-15	4.35E-17	-3.29E-16	2.659918
0.50000	-98.699451	-7.907897	9.59E-16	4.35E-17	-1.08E-15	8.853743
1.00000	-94.158102	0.032206	-3.01E-18	4.35E-17	-1.32E-15	10.847714

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-104.921755	-13.020808	1.58E-15	8.97E-18	2.81E-16	-2.550796
0.50000	-100.125348	-4.556535	5.51E-16	8.97E-18	-2.61E-16	1.926995
1.00000	-95.583999	3.383569	-4.11E-16	8.97E-18	-2.94E-16	2.204932

COMB COMB5 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-104.921755	-13.020808	1.58E-15	8.97E-18	2.81E-16	-2.550796
0.50000	-100.125348	-4.556535	5.51E-16	8.97E-18	-2.61E-16	1.926995
1.00000	-95.583999	3.383569	-4.11E-16	8.97E-18	-2.94E-16	2.204932

COMB COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-90.133869	-12.859206	1.56E-15	1.24E-17	7.42E-16	-6.191699
0.50000	-85.677297	-5.985556	7.25E-16	1.24E-17	1.60E-16	-1.385116
1.00000	-81.461992	0.464850	-5.63E-17	1.24E-17	-9.42E-18	0.010237

COMB COMB6 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-90.133869	-12.859206	1.56E-15	1.24E-17	7.42E-16	-6.191699
0.50000	-85.677297	-5.985556	7.25E-16	1.24E-17	1.60E-16	-1.385116
1.00000	-81.461992	0.464850	-5.63E-17	1.24E-17	-9.42E-18	0.010237

COMB COMB7 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-66.816997	-11.222648	1.36E-15	3.33E-17	3.65E-16	-3.078035
0.50000	-63.474568	-6.067411	7.35E-16	3.33E-17	-1.70E-16	1.335027
1.00000	-60.313089	-1.229606	1.50E-16	3.33E-17	-3.94E-16	3.189667

COMB COMB7 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-66.816997	-11.222648	1.36E-15	3.33E-17	3.65E-16	-3.078035
0.50000	-63.474568	-6.067411	7.35E-16	3.33E-17	-1.70E-16	1.335027
1.00000	-60.313089	-1.229606	1.50E-16	3.33E-17	-3.94E-16	3.189667

COMB COMB8 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-67.767595	-8.988406	1.09E-15	1.03E-17	7.72E-16	-6.551845

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
0.50000	-64.425166	-3.833169	4.64E-16	1.03E-17	3.76E-16	-3.282805
1.00000	-61.263687	1.004636	-1.22E-16	1.03E-17	2.91E-16	-2.572188

COMB COMB8 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-67.767595	-8.988406	1.09E-15	1.03E-17	7.72E-16	-6.551845
0.50000	-64.425166	-3.833169	4.64E-16	1.03E-17	3.76E-16	-3.282805
1.00000	-61.263687	1.004636	-1.22E-16	1.03E-17	2.91E-16	-2.572188

ELEM 7 ========== LENGTH = 1.024082

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-126.441099	-13.419298	1.63E-15	8.97E-18	-9.89E-16	8.099641
0.50000	-122.053867	-2.834918	3.43E-16	8.97E-18	-1.49E-15	12.232588
1.00000	-117.889171	7.082336	-8.58E-16	8.97E-18	-1.35E-15	11.116695

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-126.441099	-13.419298	1.63E-15	8.97E-18	-9.89E-16	8.099641
0.50000	-122.053867	-2.834918	3.43E-16	8.97E-18	-1.49E-15	12.232588
1.00000	-117.889171	7.082336	-8.58E-16	8.97E-18	-1.35E-15	11.116695

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-86.153089	-3.074122	3.72E-16	-1.48E-17	-3.04E-15	25.194516
0.50000	-84.525448	5.090163	-6.16E-16	-1.48E-17	-2.97E-15	24.656003
1.00000	-82.957307	12.730301	-1.54E-15	-1.48E-17	-2.42E-15	20.071233

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-86.153089	-3.074122	3.72E-16	-1.48E-17	-3.04E-15	25.194516
0.50000	-84.525448	5.090163	-6.16E-16	-1.48E-17	-2.97E-15	24.656003
1.00000	-82.957307	12.730301	-1.54E-15	-1.48E-17	-2.42E-15	20.071233

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-119.623764	-21.192896	2.57E-15	3.78E-17	2.38E-15	-19.883005
0.50000	-113.566719	-12.512573	1.52E-15	3.78E-17	1.33E-15	-11.276487
1.00000	-107.849194	-4.365983	5.29E-16	3.78E-17	8.12E-16	-6.978005

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-119.623764	-21.192896	2.57E-15	3.78E-17	2.38E-15	-19.883005
0.50000	-113.566719	-12.512573	1.52E-15	3.78E-17	1.33E-15	-11.276487

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
1.00000	-107.849194	-4.365983	5.29E-16	3.78E-17	8.12E-16	-6.978005

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-93.356766	-12.258203	1.49E-15	4.21E-17	-1.33E-15	10.847714
0.50000	-90.066342	-4.319918	5.24E-16	4.21E-17	-1.84E-15	15.070703
1.00000	-86.942819	3.118023	-3.77E-16	4.21E-17	-1.87E-15	15.357063

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-93.356766	-12.258203	1.49E-15	4.21E-17	-1.33E-15	10.847714
0.50000	-90.066342	-4.319918	5.24E-16	4.21E-17	-1.84E-15	15.070703
1.00000	-86.942819	3.118023	-3.77E-16	4.21E-17	-1.87E-15	15.357063

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-95.207906	-9.121630	1.10E-15	5.39E-18	-2.95E-16	2.204932
0.50000	-91.917482	-1.183344	1.42E-16	5.39E-18	-6.11E-16	4.821867
1.00000	-88.793959	6.254596	-7.58E-16	5.39E-18	-4.51E-16	3.502172

COMB COMB5 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-95.207906	-9.121630	1.10E-15	5.39E-18	-2.95E-16	2.204932
0.50000	-91.917482	-1.183344	1.42E-16	5.39E-18	-6.11E-16	4.821867
1.00000	-88.793959	6.254596	-7.58E-16	5.39E-18	-4.51E-16	3.502172

COMB COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-80.825745	-10.172081	1.23E-15	1.12E-17	-1.10E-17	0.010237
0.50000	-77.663652	-3.656289	4.43E-16	1.12E-17	-4.38E-16	3.533167
1.00000	-74.668008	2.451327	-2.97E-16	1.12E-17	-4.73E-16	3.824245

COMB COMB6 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-80.825745	-10.172081	1.23E-15	1.12E-17	-1.10E-17	0.010237
0.50000	-77.663652	-3.656289	4.43E-16	1.12E-17	-4.38E-16	3.533167
1.00000	-74.668008	2.451327	-2.97E-16	1.12E-17	-4.73E-16	3.824245

COMB COMB7 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-59.636603	-9.091547	1.10E-15	3.20E-17	-3.99E-16	3.189667
0.50000	-57.265033	-4.204703	5.10E-16	3.20E-17	-8.10E-16	6.580717
1.00000	-55.018300	0.376009	-4.49E-17	3.20E-17	-9.27E-16	7.547878

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB7 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-59.636603	-9.091547	1.10E-15	3.20E-17	-3.99E-16	3.189667
0.50000	-57.265033	-4.204703	5.10E-16	3.20E-17	-8.10E-16	6.580717
1.00000	-55.018300	0.376009	-4.49E-17	3.20E-17	-9.27E-16	7.547878

COMB COMB8 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-60.870696	-7.000498	8.47E-16	7.53E-18	2.90E-16	-2.572188
0.50000	-58.499127	-2.113654	2.55E-16	7.53E-18	8.80E-18	-0.251841
1.00000	-56.252394	2.467058	-2.99E-16	7.53E-18	2.16E-17	-0.355382

COMB COMB8 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-60.870696	-7.000498	8.47E-16	7.53E-18	2.90E-16	-2.572188
0.50000	-58.499127	-2.113654	2.55E-16	7.53E-18	8.80E-18	-0.251841
1.00000	-56.252394	2.467058	-2.99E-16	7.53E-18	2.16E-17	-0.355382

ELEM 8 ========== LENGTH = 1.024082

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-117.805036	-8.365969	1.01E-15	7.89E-18	-1.36E-15	11.116695
0.50000	-115.095754	1.362173	-1.65E-16	7.89E-18	-1.57E-15	12.883984
1.00000	-112.503548	10.485036	-1.27E-15	7.89E-18	-1.20E-15	9.825028

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-117.805036	-8.365969	1.01E-15	7.89E-18	-1.36E-15	11.116695
0.50000	-115.095754	1.362173	-1.65E-16	7.89E-18	-1.57E-15	12.883984
1.00000	-112.503548	10.485036	-1.27E-15	7.89E-18	-1.20E-15	9.825028

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-83.909235	1.793226	-2.17E-16	-1.30E-17	-2.42E-15	20.071233
0.50000	-83.342911	9.077791	-1.10E-15	-1.30E-17	-2.08E-15	17.268300
1.00000	-82.768324	15.899998	-1.93E-15	-1.30E-17	-1.30E-15	10.853744

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-83.909235	1.793226	-2.17E-16	-1.30E-17	-2.42E-15	20.071233
0.50000	-83.342911	9.077791	-1.10E-15	-1.30E-17	-2.08E-15	17.268300
1.00000	-82.768324	15.899998	-1.93E-15	-1.30E-17	-1.30E-15	10.853744

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-106.356640	-18.405857	2.23E-15	3.32E-17	8.07E-16	-6.978005
0.50000	-102.001858	-10.120779	1.23E-15	3.32E-17	-7.44E-17	0.303949
1.00000	-97.881088	-2.338429	2.83E-16	3.32E-17	-4.58E-16	3.472310

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-106.356640	-18.405857	2.23E-15	3.32E-17	8.07E-16	-6.978005
0.50000	-102.001858	-10.120779	1.23E-15	3.32E-17	-7.44E-17	0.303949
1.00000	-97.881088	-2.338429	2.83E-16	3.32E-17	-4.58E-16	3.472310

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-86.605989	-8.257034	1.00E-15	3.98E-17	-1.88E-15	15.357063
0.50000	-84.574027	-0.960927	1.17E-16	3.98E-17	-2.16E-15	17.697680
1.00000	-82.629873	5.881220	-7.11E-16	3.98E-17	-2.01E-15	16.418614

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-86.605989	-8.257034	1.00E-15	3.98E-17	-1.88E-15	15.357063
0.50000	-84.574027	-0.960927	1.17E-16	3.98E-17	-2.16E-15	17.697680
1.00000	-82.629873	5.881220	-7.11E-16	3.98E-17	-2.01E-15	16.418614

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-88.850699	-5.388918	6.52E-16	1.83E-18	-4.52E-16	3.502172
0.50000	-86.818737	1.907188	-2.32E-16	1.83E-18	-5.57E-16	4.374196
1.00000	-84.874583	8.749336	-1.06E-15	1.83E-18	-2.23E-16	1.626537

COMB COMB5 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-88.850699	-5.388918	6.52E-16	1.83E-18	-4.52E-16	3.502172
0.50000	-86.818737	1.907188	-2.32E-16	1.83E-18	-5.57E-16	4.374196
1.00000	-84.874583	8.749336	-1.06E-15	1.83E-18	-2.23E-16	1.626537

COMB COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-74.349170	-7.315832	8.86E-16	9.86E-18	-4.74E-16	3.824245
0.50000	-72.281216	-1.269561	1.54E-16	9.86E-18	-7.39E-16	6.006332
1.00000	-70.311222	4.402909	-5.33E-16	9.86E-18	-6.39E-16	5.188181

COMB COMB6 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-74.349170	-7.315832	8.86E-16	9.86E-18	-4.74E-16	3.824245

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
0.50000	-72.281216	-1.269561	1.54E-16	9.86E-18	-7.39E-16	6.006332
1.00000	-70.311222	4.402909	-5.33E-16	9.86E-18	-6.39E-16	5.188181

COMB COMB7 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-54.596685	-6.808579	8.25E-16	3.00E-17	-9.31E-16	7.547878
0.50000	-53.045720	-2.273875	2.76E-16	3.00E-17	-1.21E-15	9.861211
1.00000	-51.568224	1.980477	-2.39E-16	3.00E-17	-1.22E-15	9.924364

COMB COMB7 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-54.596685	-6.808579	8.25E-16	3.00E-17	-9.31E-16	7.547878
0.50000	-53.045720	-2.273875	2.76E-16	3.00E-17	-1.21E-15	9.861211
1.00000	-51.568224	1.980477	-2.39E-16	3.00E-17	-1.22E-15	9.924364

COMB COMB8 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-56.093159	-4.896501	5.92E-16	4.67E-18	2.08E-17	-0.355382
0.50000	-54.542193	-0.361798	4.32E-17	4.67E-18	-1.40E-16	0.978888
1.00000	-53.064698	3.892554	-4.72E-16	4.67E-18	-2.92E-17	0.062979

COMB COMB8 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-56.093159	-4.896501	5.92E-16	4.67E-18	2.08E-17	-0.355382
0.50000	-54.542193	-0.361798	4.32E-17	4.67E-18	-1.40E-16	0.978888
1.00000	-53.064698	3.892554	-4.72E-16	4.67E-18	-2.92E-17	0.062979

ELEM 9 ========== LENGTH = 1.024083

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-112.909638	-4.289291	5.19E-16	6.68E-18	-1.20E-15	9.825028
0.50000	-111.564537	4.526820	-5.48E-16	6.68E-18	-1.19E-15	9.742080
1.00000	-110.250686	12.824186	-1.55E-15	6.68E-18	-6.49E-16	5.277727

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-112.909638	-4.289291	5.19E-16	6.68E-18	-1.20E-15	9.825028
0.50000	-111.564537	4.526820	-5.48E-16	6.68E-18	-1.19E-15	9.742080
1.00000	-110.250686	12.824186	-1.55E-15	6.68E-18	-6.49E-16	5.277727

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-84.135595	4.960563	-6.01E-16	-1.09E-17	-1.30E-15	10.853744
0.50000	-84.393240	11.377995	-1.38E-15	-1.09E-17	-7.89E-16	6.654285

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
1.00000	-84.593108	17.409919	-2.11E-15	-1.09E-17	1.05E-16	-0.732469

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-84.135595	4.960563	-6.01E-16	-1.09E-17	-1.30E-15	10.853744
0.50000	-84.393240	11.377995	-1.38E-15	-1.09E-17	-7.89E-16	6.654285
1.00000	-84.593108	17.409919	-2.11E-15	-1.09E-17	1.05E-16	-0.732469

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-96.738480	-15.094440	1.83E-15	2.80E-17	-4.62E-16	3.472310
0.50000	-93.822085	-7.328234	8.88E-16	2.80E-17	-1.16E-15	9.193954
1.00000	-91.045952	-0.007933	9.68E-19	2.80E-17	-1.38E-15	11.053138

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-96.738480	-15.094440	1.83E-15	2.80E-17	-4.62E-16	3.472310
0.50000	-93.822085	-7.328234	8.88E-16	2.80E-17	-1.16E-15	9.193954
1.00000	-91.045952	-0.007933	9.68E-19	2.80E-17	-1.38E-15	11.053138

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-82.690618	-4.954432	6.01E-16	3.68E-17	-2.01E-15	16.418614
0.50000	-81.681792	1.657651	-2.00E-16	3.68E-17	-2.11E-15	17.246057
1.00000	-80.696404	7.880675	-9.54E-16	3.68E-17	-1.82E-15	14.787446

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-82.690618	-4.954432	6.01E-16	3.68E-17	-2.01E-15	16.418614
0.50000	-81.681792	1.657651	-2.00E-16	3.68E-17	-2.11E-15	17.246057
1.00000	-80.696404	7.880675	-9.54E-16	3.68E-17	-1.82E-15	14.787446

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-85.290488	-2.403847	2.90E-16	-1.64E-18	-2.23E-16	1.626537
0.50000	-84.281662	4.208237	-5.11E-16	-1.64E-18	-1.65E-16	1.147974
1.00000	-83.296274	10.431261	-1.26E-15	-1.64E-18	2.91E-16	-2.616642

COMB COMB5 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-85.290488	-2.403847	2.90E-16	-1.64E-18	-2.23E-16	1.626537
0.50000	-84.281662	4.208237	-5.11E-16	-1.64E-18	-1.65E-16	1.147974
1.00000	-83.296274	10.431261	-1.26E-15	-1.64E-18	2.91E-16	-2.616642

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-70.284396	-4.812194	5.83E-16	8.33E-18	-6.41E-16	5.188181
0.50000	-69.116195	0.715602	-8.67E-17	8.33E-18	-7.66E-16	6.223203
1.00000	-67.988735	5.920214	-7.17E-16	8.33E-18	-5.59E-16	4.510506

COMB COMB6 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-70.284396	-4.812194	5.83E-16	8.33E-18	-6.41E-16	5.188181
0.50000	-69.116195	0.715602	-8.67E-17	8.33E-18	-7.66E-16	6.223203
1.00000	-67.988735	5.920214	-7.17E-16	8.33E-18	-5.59E-16	4.510506

COMB COMB7 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-51.385557	-4.767455	5.78E-16	2.74E-17	-1.22E-15	9.924364
0.50000	-50.509406	-0.621608	7.59E-17	2.74E-17	-1.39E-15	11.293733
1.00000	-49.663811	3.281851	-3.97E-16	2.74E-17	-1.31E-15	10.602313

COMB COMB7 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-51.385557	-4.767455	5.78E-16	2.74E-17	-1.22E-15	9.924364
0.50000	-50.509406	-0.621608	7.59E-17	2.74E-17	-1.39E-15	11.293733
1.00000	-49.663811	3.281851	-3.97E-16	2.74E-17	-1.31E-15	10.602313

COMB COMB8 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-53.118803	-3.067064	3.71E-16	1.81E-18	-2.96E-17	0.062979
0.50000	-52.242652	1.078782	-1.31E-16	1.81E-18	-8.97E-17	0.561678
1.00000	-51.397057	4.982241	-6.04E-16	1.81E-18	9.97E-17	-1.000412

COMB COMB8 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-53.118803	-3.067064	3.71E-16	1.81E-18	-2.96E-17	0.062979
0.50000	-52.242652	1.078782	-1.31E-16	1.81E-18	-8.97E-17	0.561678
1.00000	-51.397057	4.982241	-6.04E-16	1.81E-18	9.97E-17	-1.000412

ELEM 10 ========== LENGTH = 1.024082

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-110.981369	-1.676098	2.03E-16	5.34E-18	-6.50E-16	5.277727
0.50000	-110.728795	6.256221	-7.58E-16	5.34E-18	-5.06E-16	4.087512
1.00000	-110.446960	13.775836	-1.67E-15	5.34E-18	1.18E-16	-1.058715

FRAME ELEMENT INTERNAL FORCES

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-110.981369	-1.676098	2.03E-16	5.34E-18	-6.50E-16	5.277727
0.50000	-110.728795	6.256221	-7.58E-16	5.34E-18	-5.06E-16	4.087512
1.00000	-110.446980	13.775836	-1.67E-15	5.34E-18	1.18E-16	-1.058715

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-86.141851	6.219383	-7.53E-16	-8.67E-18	1.06E-16	-0.732469
0.50000	-87.030696	11.837132	-1.43E-15	-8.67E-18	6.68E-16	-5.368034
1.00000	-87.833877	17.156597	-2.08E-15	-8.67E-18	1.57E-15	-12.803750

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-86.141851	6.219383	-7.53E-16	-8.67E-18	1.06E-16	-0.732469
0.50000	-87.030696	11.837132	-1.43E-15	-8.67E-18	6.68E-16	-5.368034
1.00000	-87.833877	17.156597	-2.08E-15	-8.67E-18	1.57E-15	-12.803750

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-90.266010	-11.891721	1.44E-15	2.23E-17	-1.38E-15	11.053138
0.50000	-88.541735	-4.685166	5.67E-16	2.23E-17	-1.90E-15	15.281520
1.00000	-86.881835	2.154853	-2.61E-16	2.23E-17	-1.97E-15	15.913692

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-90.266010	-11.891721	1.44E-15	2.23E-17	-1.38E-15	11.053138
0.50000	-88.541735	-4.685166	5.67E-16	2.23E-17	-1.90E-15	15.281520
1.00000	-86.881835	2.154853	-2.61E-16	2.23E-17	-1.97E-15	15.913692

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-81.034670	-2.719716	3.30E-16	3.30E-17	-1.82E-15	14.787446
0.50000	-80.845239	3.229523	-3.90E-16	3.30E-17	-1.81E-15	14.643718
1.00000	-80.633879	8.869234	-1.07E-15	3.30E-17	-1.43E-15	11.532981

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-81.034670	-2.719716	3.30E-16	3.30E-17	-1.82E-15	14.787446
0.50000	-80.845239	3.229523	-3.90E-16	3.30E-17	-1.81E-15	14.643718
1.00000	-80.633879	8.869234	-1.07E-15	3.30E-17	-1.43E-15	11.532981

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-83.945215	-0.530302	6.33E-17	-4.97E-18	2.92E-16	-2.616642

FRAME ELEMENT INTERNAL FORCES

REL DIST	P	V2	V3	T	M2	M3
0.50000	-83.755785	5.418937	-6.57E-16	-4.97E-18	4.45E-16	-3.881441
1.00000	-83.544424	11.058649	-1.34E-15	-4.97E-18	9.58E-16	-8.113248

COMB COMB5 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-83.945215	-0.530302	6.33E-17	-4.97E-18	2.92E-16	-2.616642
0.50000	-83.755785	5.418937	-6.57E-16	-4.97E-18	4.45E-16	-3.881441
1.00000	-83.544424	11.058649	-1.34E-15	-4.97E-18	9.58E-16	-8.113248

COMB COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-68.179826	-3.004726	3.64E-16	6.65E-18	-5.60E-16	4.510506
0.50000	-67.739740	2.009984	-2.43E-16	6.65E-18	-5.89E-16	4.754115
1.00000	-67.298228	6.765366	-8.19E-16	6.65E-18	-3.16E-16	2.496380

COMB COMB6 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-68.179826	-3.004726	3.64E-16	6.65E-18	-5.60E-16	4.510506
0.50000	-67.739740	2.009984	-2.43E-16	6.65E-18	-5.89E-16	4.754115
1.00000	-67.298228	6.765366	-8.19E-16	6.65E-18	-3.16E-16	2.496380

COMB COMB7 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-49.667298	-3.228640	3.92E-16	2.43E-17	-1.31E-15	10.602313
0.50000	-49.337234	0.532393	-6.39E-17	2.43E-17	-1.39E-15	11.284309
1.00000	-49.006100	4.098929	-4.96E-16	2.43E-17	-1.25E-15	10.090296

COMB COMB7 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-49.667298	-3.228640	3.92E-16	2.43E-17	-1.31E-15	10.602313
0.50000	-49.337234	0.532393	-6.39E-17	2.43E-17	-1.39E-15	11.284309
1.00000	-49.006100	4.098929	-4.96E-16	2.43E-17	-1.25E-15	10.090296

COMB COMB8 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-51.607662	-1.769030	2.14E-16	-9.99E-19	9.97E-17	-1.000412
0.50000	-51.277598	1.992003	-2.42E-16	-9.99E-19	1.08E-16	-1.065797
1.00000	-50.946464	5.558539	-6.74E-16	-9.99E-19	3.43E-16	-3.007189

COMB COMB8 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-51.607662	-1.769030	2.14E-16	-9.99E-19	9.97E-17	-1.000412
0.50000	-51.277598	1.992003	-2.42E-16	-9.99E-19	1.08E-16	-1.065797
1.00000	-50.946464	5.558539	-6.74E-16	-9.99E-19	3.43E-16	-3.007189

FRAME ELEMENT INTERNAL FORCES

ELEM 11 ========== LENGTH = 1.024082

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-111.300199	-0.758196	9.18E-17	3.92E-18	1.17E-16	-1.058715
0.50000	-111.930690	6.383549	-7.73E-16	3.92E-18	2.93E-16	-2.511521
1.00000	-112.500820	13.230002	-1.60E-15	3.92E-18	9.03E-16	-7.545593

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-111.300199	-0.758196	9.18E-17	3.92E-18	1.17E-16	-1.058715
0.50000	-111.930690	6.383549	-7.73E-16	3.92E-18	2.93E-16	-2.511521
1.00000	-112.500820	13.230002	-1.60E-15	3.92E-18	9.03E-16	-7.545593

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-89.321829	5.545235	-6.72E-16	-6.28E-18	1.57E-15	-12.803750
0.50000	-90.705415	10.468436	-1.27E-15	-6.28E-18	2.07E-15	-16.912423
1.00000	-91.998768	15.184348	-1.84E-15	-6.28E-18	2.86E-15	-23.488908

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-89.321829	5.545235	-6.72E-16	-6.28E-18	1.57E-15	-12.803750
0.50000	-90.705415	10.468436	-1.27E-15	-6.28E-18	2.07E-15	-16.912423
1.00000	-91.998768	15.184348	-1.84E-15	-6.28E-18	2.86E-15	-23.488908

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-86.419618	-9.203902	1.11E-15	1.62E-17	-1.97E-15	15.913692
0.50000	-85.680729	-2.527067	3.06E-16	1.62E-17	-2.34E-15	18.905503
1.00000	-84.953282	3.878916	-4.70E-16	1.62E-17	-2.29E-15	18.547845

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-86.419618	-9.203902	1.11E-15	1.62E-17	-1.97E-15	15.913692
0.50000	-85.680729	-2.527067	3.06E-16	1.62E-17	-2.34E-15	18.905503
1.00000	-84.953282	3.878916	-4.70E-16	1.62E-17	-2.29E-15	18.547845

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-81.101713	-1.731443	2.11E-16	2.85E-17	-1.43E-15	11.532981
0.50000	-81.574581	3.624866	-4.38E-16	2.85E-17	-1.37E-15	11.038776
1.00000	-82.002178	8.759705	-1.06E-15	2.85E-17	-9.89E-16	7.858622

FRAME ELEMENT INTERNAL FORCES

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-81.101713	-1.731443	2.11E-16	2.85E-17	-1.43E-15	11.532981
0.50000	-81.574581	3.624866	-4.38E-16	2.85E-17	-1.37E-15	11.038776
1.00000	-82.002178	8.759705	-1.06E-15	2.85E-17	-9.89E-16	7.858622

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-84.273133	0.059340	-8.07E-18	-8.09E-18	9.59E-16	-8.113248
0.50000	-84.746001	5.415649	-6.57E-16	-8.09E-18	1.13E-15	-9.524407
1.00000	-85.173599	10.550488	-1.28E-15	-8.09E-18	1.63E-15	-13.621516

COMB COMB5 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-84.273133	0.059340	-8.07E-18	-8.09E-18	9.59E-16	-8.113248
0.50000	-84.746001	5.415649	-6.57E-16	-8.09E-18	1.13E-15	-9.524407
1.00000	-85.173599	10.550488	-1.28E-15	-8.09E-18	1.63E-15	-13.621516

COMB COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-67.605541	-2.076667	2.52E-16	4.85E-18	-3.16E-16	2.496380
0.50000	-67.758031	2.473618	-3.00E-16	4.85E-18	-3.03E-16	2.386766
1.00000	-67.884833	6.836738	-8.28E-16	4.85E-18	-1.35E-17	0.004986

COMB COMB6 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-67.605541	-2.076667	2.52E-16	4.85E-18	-3.16E-16	2.496380
0.50000	-67.758031	2.473618	-3.00E-16	4.85E-18	-3.03E-16	2.386766
1.00000	-67.884833	6.836738	-8.28E-16	4.85E-18	-1.35E-17	0.004986

COMB COMB7 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-49.121865	-2.332698	2.83E-16	2.07E-17	-1.25E-15	10.090296
0.50000	-49.236232	1.080016	-1.30E-16	2.07E-17	-1.29E-15	10.405019
1.00000	-49.331334	4.352356	-5.27E-16	2.07E-17	-1.12E-15	9.008231

COMB COMB7 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-49.121865	-2.332698	2.83E-16	2.07E-17	-1.25E-15	10.090296
0.50000	-49.236232	1.080016	-1.30E-16	2.07E-17	-1.29E-15	10.405019
1.00000	-49.331334	4.352356	-5.27E-16	2.07E-17	-1.12E-15	9.008231

COMB COMB8 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-51.236145	-1.138842	1.37E-16	-3.71E-18	3.44E-16	-3.007189

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
0.50000	-51.350513	2.273871	-2.76E-16	-3.71E-18	3.80E-16	-3.303770
1.00000	-51.445614	5.546212	-6.72E-16	-3.71E-18	6.23E-16	-5.311861

COMB COMB8 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-51.236145	-1.138842	1.37E-16	-3.71E-18	3.44E-16	-3.007189
0.50000	-51.350513	2.273871	-2.76E-16	-3.71E-18	3.80E-16	-3.303770
1.00000	-51.445614	5.546212	-6.72E-16	-3.71E-18	6.23E-16	-5.311861

ELEM 12 ========== LENGTH = 1.024082

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-113.265220	-1.567618	1.90E-16	2.42E-18	9.02E-16	-7.545593
0.50000	-114.645262	4.917503	-5.96E-16	2.42E-18	1.01E-15	-8.410563
1.00000	-115.965974	11.230828	-1.36E-15	2.42E-18	1.51E-15	-12.552198

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-113.265220	-1.567618	1.90E-16	2.42E-18	9.02E-16	-7.545593
0.50000	-114.645262	4.917503	-5.96E-16	2.42E-18	1.01E-15	-8.410563
1.00000	-115.965974	11.230828	-1.36E-15	2.42E-18	1.51E-15	-12.552198

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-93.193664	3.046086	-3.69E-16	-3.78E-18	2.86E-15	-23.488908
0.50000	-94.998117	7.397551	-8.96E-16	-3.78E-18	3.19E-15	-26.167679
1.00000	-96.732304	11.632185	-1.41E-15	-3.78E-18	3.78E-15	-31.044668

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-93.193664	3.046086	-3.69E-16	-3.78E-18	2.86E-15	-23.488908
0.50000	-94.998117	7.397551	-8.96E-16	-3.78E-18	3.19E-15	-26.167679
1.00000	-96.732304	11.632185	-1.41E-15	-3.78E-18	3.78E-15	-31.044668

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-84.732787	-7.242995	8.77E-16	9.90E-18	-2.30E-15	18.547845
0.50000	-84.828635	-1.013316	1.23E-16	9.90E-18	-2.55E-15	20.654682
1.00000	-84.910124	5.053514	-6.12E-16	9.90E-18	-2.42E-15	19.613359

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-84.732787	-7.242995	8.77E-16	9.90E-18	-2.30E-15	18.547845
0.50000	-84.828635	-1.013316	1.23E-16	9.90E-18	-2.55E-15	20.654682

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
1.00000	-84.910124	5.053514	-6.12E-16	9.90E-18	-2.42E-15	19.613359

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-82.444007	-2.018764	2.45E-16	2.34E-17	-9.92E-16	7.858622
0.50000	-83.479039	2.845077	-3.44E-16	2.34E-17	-9.66E-16	7.641571
1.00000	-84.469573	7.580071	-9.17E-16	2.34E-17	-6.43E-16	4.967020

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-82.444007	-2.018764	2.45E-16	2.34E-17	-9.92E-16	7.858622
0.50000	-83.479039	2.845077	-3.44E-16	2.34E-17	-9.66E-16	7.641571
1.00000	-84.469573	7.580071	-9.17E-16	2.34E-17	-6.43E-16	4.967020

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-85.822041	-0.657258	7.87E-17	-1.10E-17	1.63E-15	-13.621516
0.50000	-86.857073	4.206582	-5.10E-16	-1.10E-17	1.74E-15	-14.535714
1.00000	-87.847607	8.941576	-1.08E-15	-1.10E-17	2.15E-15	-17.907411

COMB COMB5 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-85.822041	-0.657258	7.87E-17	-1.10E-17	1.63E-15	-13.621516
0.50000	-86.857073	4.206582	-5.10E-16	-1.10E-17	1.74E-15	-14.535714
1.00000	-87.847607	8.941576	-1.08E-15	-1.10E-17	2.15E-15	-17.907411

COMB COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-68.196439	-2.082579	2.52E-16	2.98E-18	-1.40E-17	-0.004863
0.50000	-68.851669	2.080620	-2.52E-16	2.98E-18	-1.35E-17	-0.009050
1.00000	-69.476808	6.133942	-7.43E-16	2.98E-18	2.42E-16	-2.116835

COMB COMB6 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-68.196439	-2.082579	2.52E-16	2.98E-18	-1.40E-17	-0.004863
0.50000	-68.851669	2.080620	-2.52E-16	2.98E-18	-1.35E-17	-0.009050
1.00000	-69.476808	6.133942	-7.43E-16	2.98E-18	2.42E-16	-2.116835

COMB COMB7 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-49.477391	-2.123968	2.58E-16	1.66E-17	-1.12E-15	9.008231
0.50000	-49.968813	0.998432	-1.20E-16	1.66E-17	-1.16E-15	9.292874
1.00000	-50.437667	4.038423	-4.88E-16	1.66E-17	-1.00E-15	7.999820

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB7 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-49.477391	-2.123968	2.58E-16	1.66E-17	-1.12E-15	9.008231
0.50000	-49.968813	0.998432	-1.20E-16	1.66E-17	-1.16E-15	9.292874
1.00000	-50.437667	4.038423	-4.88E-16	1.66E-17	-1.00E-15	7.999820

COMB COMB8 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-51.729414	-1.216297	1.47E-16	-6.29E-18	6.24E-16	-5.311861
0.50000	-52.220836	1.906102	-2.31E-16	-6.29E-18	6.46E-16	-5.491982
1.00000	-52.689690	4.946093	-6.00E-16	-6.29E-18	8.59E-16	-7.249801

COMB COMB8 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-51.729414	-1.216297	1.47E-16	-6.29E-18	6.24E-16	-5.311861
0.50000	-52.220836	1.906102	-2.31E-16	-6.29E-18	6.46E-16	-5.491982
1.00000	-52.689690	4.946093	-6.00E-16	-6.29E-18	8.59E-16	-7.249801

ELEM 13 ========== LENGTH = 1.024083

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-116.439788	-4.001810	4.85E-16	8.88E-19	1.51E-15	-12.552198
0.50000	-118.518952	1.976459	-2.39E-16	8.88E-19	1.45E-15	-12.036002
1.00000	-120.570762	7.899988	-9.57E-16	8.88E-19	1.75E-15	-14.566912

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-116.439788	-4.001810	4.85E-16	8.88E-19	1.51E-15	-12.552198
0.50000	-118.518952	1.976459	-2.39E-16	8.88E-19	1.45E-15	-12.036002
1.00000	-120.570762	7.899988	-9.57E-16	8.88E-19	1.75E-15	-14.566912

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-97.423051	-1.093395	1.32E-16	-1.22E-18	3.78E-15	-31.044668
0.50000	-99.638382	2.807372	-3.40E-16	-1.22E-18	3.83E-15	-31.485014
1.00000	-101.825125	6.672229	-8.08E-16	-1.22E-18	4.13E-15	-33.913520

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-97.423051	-1.093395	1.32E-16	-1.22E-18	3.78E-15	-31.044668
0.50000	-99.638382	2.807372	-3.40E-16	-1.22E-18	3.83E-15	-31.485014
1.00000	-101.825125	6.672229	-8.08E-16	-1.22E-18	4.13E-15	-33.913520

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-84.843325	-6.072686	7.35E-16	3.39E-18	-2.43E-15	19.613359
0.50000	-85.692274	-0.175050	2.12E-17	3.39E-18	-2.62E-15	21.210616
1.00000	-86.529274	5.668857	-6.87E-16	3.39E-18	-2.45E-15	19.801795

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-84.843325	-6.072686	7.35E-16	3.39E-18	-2.43E-15	19.613359
0.50000	-85.692274	-0.175050	2.12E-17	3.39E-18	-2.62E-15	21.210616
1.00000	-86.529274	5.668857	-6.87E-16	3.39E-18	-2.45E-15	19.801795

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-84.736323	-3.510240	4.26E-16	1.78E-17	-6.46E-16	4.967020
0.50000	-86.295696	0.973462	-1.17E-16	1.78E-17	-7.25E-16	5.614736
1.00000	-87.834554	5.416109	-6.55E-16	1.78E-17	-5.27E-16	3.977122

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-84.736323	-3.510240	4.26E-16	1.78E-17	-6.46E-16	4.967020
0.50000	-86.295696	0.973462	-1.17E-16	1.78E-17	-7.25E-16	5.614736
1.00000	-87.834554	5.416109	-6.55E-16	1.78E-17	-5.27E-16	3.977122

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-88.263169	-2.601303	3.14E-16	-1.35E-17	2.15E-15	-17.907411
0.50000	-89.822543	1.882398	-2.29E-16	-1.35E-17	2.13E-15	-17.725108
1.00000	-91.361400	6.325045	-7.67E-16	-1.35E-17	2.38E-15	-19.828135

COMB COMB5 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-88.263169	-2.601303	3.14E-16	-1.35E-17	2.15E-15	-17.907411
0.50000	-89.822543	1.882398	-2.29E-16	-1.35E-17	2.13E-15	-17.725108
1.00000	-91.361400	6.325045	-7.67E-16	-1.35E-17	2.38E-15	-19.828135

COMB COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-69.683065	-2.987054	3.62E-16	1.05E-18	2.42E-16	-2.116835
0.50000	-70.802396	0.879813	-1.07E-16	1.05E-18	1.76E-16	-1.578847
1.00000	-71.906854	4.711324	-5.71E-16	1.05E-18	3.50E-16	-3.011802

COMB COMB6 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-69.683065	-2.987054	3.62E-16	1.05E-18	2.42E-16	-2.116835

FRAME ELEMENT INTERNAL FORCES

REL DIST	P	V2	V3	T	M2	M3
0.50000	-70.802396	0.879813	-1.07E-16	1.05E-18	1.76E-16	-1.578847
1.00000	-71.906854	4.711324	-5.71E-16	1.05E-18	3.50E-16	-3.011802

COMB COMB7 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-50.533287	-2.579545	3.13E-16	1.22E-17	-1.00E-15	7.999820
0.50000	-51.372785	0.320605	-3.82E-17	1.22E-17	-1.07E-15	8.577024
1.00000	-52.201128	3.194238	-3.86E-16	1.22E-17	-9.65E-16	7.676020

COMB COMB7 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-50.533287	-2.579545	3.13E-16	1.22E-17	-1.00E-15	7.999820
0.50000	-51.372785	0.320605	-3.82E-17	1.22E-17	-1.07E-15	8.577024
1.00000	-52.201128	3.194238	-3.86E-16	1.22E-17	-9.65E-16	7.676020

COMB COMB8 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-52.884518	-1.973587	2.38E-16	-8.68E-18	8.60E-16	-7.249801
0.50000	-53.724016	0.926562	-1.13E-16	-8.68E-18	8.28E-16	-6.982873
1.00000	-54.552359	3.800196	-4.61E-16	-8.68E-18	9.75E-16	-8.194152

COMB COMB8 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-52.884518	-1.973587	2.38E-16	-8.68E-18	8.60E-16	-7.249801
0.50000	-53.724016	0.926562	-1.13E-16	-8.68E-18	8.28E-16	-6.982873
1.00000	-54.552359	3.800196	-4.61E-16	-8.68E-18	9.75E-16	-8.194152

ELEM 14 ========== LENGTH = 1.024082

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-120.570421	-7.905198	9.57E-16	-6.64E-19	1.75E-15	-14.566912
0.50000	-118.518613	-1.981674	2.40E-16	-6.64E-19	1.45E-15	-12.033335
1.00000	-116.439451	3.996588	-4.84E-16	-6.64E-19	1.51E-15	-12.546859

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-120.570421	-7.905198	9.57E-16	-6.64E-19	1.75E-15	-14.566912
0.50000	-118.518613	-1.981674	2.40E-16	-6.64E-19	1.45E-15	-12.033335
1.00000	-116.439451	3.996588	-4.84E-16	-6.64E-19	1.51E-15	-12.546859

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-101.824899	-6.675664	8.08E-16	1.36E-18	4.13E-15	-33.913520
0.50000	-99.638160	-2.810811	3.40E-16	1.36E-18	3.83E-15	-31.483257

FRAME ELEMENT INTERNAL FORCES

REL DIST	P	V2	V3	T	M2	M3
1.00000	-97.422831	1.089953	-1.32E-16	1.36E-18	3.78E-15	-31.041150

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-101.824899	-6.675664	8.08E-16	1.36E-18	4.13E-15	-33.913520
0.50000	-99.638160	-2.810811	3.40E-16	1.36E-18	3.83E-15	-31.483257
1.00000	-97.422831	1.089953	-1.32E-16	1.36E-18	3.78E-15	-31.041150

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-86.528941	-5.673947	6.87E-16	-3.17E-18	-2.45E-15	19.801795
0.50000	-85.691942	0.169954	-2.06E-17	-3.17E-18	-2.62E-15	21.213222
1.00000	-84.842993	6.067584	-7.35E-16	-3.17E-18	-2.43E-15	19.618578

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-86.528941	-5.673947	6.87E-16	-3.17E-18	-2.45E-15	19.801795
0.50000	-85.691942	0.169954	-2.06E-17	-3.17E-18	-2.62E-15	21.213222
1.00000	-84.842993	6.067584	-7.35E-16	-3.17E-18	-2.43E-15	19.618578

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-87.790063	-6.094906	7.39E-16	1.18E-17	-5.29E-16	3.977122
0.50000	-86.251208	-1.652263	2.01E-16	1.18E-17	-7.70E-16	5.962308
1.00000	-84.691836	2.831434	-3.42E-16	1.18E-17	-7.34E-16	5.662168

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-87.790063	-6.094906	7.39E-16	1.18E-17	-5.29E-16	3.977122
0.50000	-86.251208	-1.652263	2.01E-16	1.18E-17	-7.70E-16	5.962308
1.00000	-84.691836	2.831434	-3.42E-16	1.18E-17	-7.34E-16	5.662168

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-91.405377	-5.654090	6.84E-16	-1.57E-17	2.39E-15	-19.828135
0.50000	-89.866521	-1.211447	1.46E-16	-1.57E-17	2.17E-15	-18.068666
1.00000	-88.307150	3.272250	-3.97E-16	-1.57E-17	2.24E-15	-18.594521

COMB COMB5 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-91.405377	-5.654090	6.84E-16	-1.57E-17	2.39E-15	-19.828135
0.50000	-89.866521	-1.211447	1.46E-16	-1.57E-17	2.17E-15	-18.068666
1.00000	-88.307150	3.272250	-3.97E-16	-1.57E-17	2.24E-15	-18.594521

FRAME ELEMENT INTERNAL FORCES

COMB COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-71.906633	-4.714685	5.71E-16	-9.01E-19	3.50E-16	-3.011802
0.50000	-70.802177	-0.883177	1.07E-16	-9.01E-19	1.76E-16	-1.577126
1.00000	-69.682848	2.983686	-3.61E-16	-9.01E-19	2.41E-16	-2.113391

COMB COMB6 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-71.906633	-4.714685	5.71E-16	-9.01E-19	3.50E-16	-3.011802
0.50000	-70.802177	-0.883177	1.07E-16	-9.01E-19	1.76E-16	-1.577126
1.00000	-69.682848	2.983686	-3.61E-16	-9.01E-19	2.41E-16	-2.113391

COMB COMB7 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-52.171474	-3.646685	4.42E-16	7.51E-18	-9.66E-16	7.676020
0.50000	-51.343131	-0.773055	9.42E-17	7.51E-18	-1.10E-15	8.808695
1.00000	-50.503634	2.127092	-2.57E-16	7.51E-18	-1.06E-15	8.463165

COMB COMB7 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-52.171474	-3.646685	4.42E-16	7.51E-18	-9.66E-16	7.676020
0.50000	-51.343131	-0.773055	9.42E-17	7.51E-18	-1.10E-15	8.808695
1.00000	-50.503634	2.127092	-2.57E-16	7.51E-18	-1.06E-15	8.463165

COMB COMB8 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-54.581683	-3.352808	4.05E-16	-1.08E-17	9.77E-16	-8.194152
0.50000	-53.753340	-0.479177	5.74E-17	-1.08E-17	8.58E-16	-7.211954
1.00000	-52.913843	2.420970	-2.94E-16	-1.08E-17	9.18E-16	-7.707961

COMB COMB8 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-54.581683	-3.352808	4.05E-16	-1.08E-17	9.77E-16	-8.194152
0.50000	-53.753340	-0.479177	5.74E-17	-1.08E-17	8.58E-16	-7.211954
1.00000	-52.913843	2.420970	-2.94E-16	-1.08E-17	9.18E-16	-7.707961

ELEM 15 ========== LENGTH = 1.024082

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-115.964959	-11.235953	1.36E-15	-2.21E-18	1.51E-15	-12.546859
0.50000	-114.644248	-4.922628	5.96E-16	-2.21E-18	1.01E-15	-8.402599
1.00000	-113.264205	1.562493	-1.89E-16	-2.21E-18	9.01E-16	-7.535004

FRAME ELEMENT INTERNAL FORCES

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-115.964959	-11.235953	1.36E-15	-2.21E-18	1.51E-15	-12.546859
0.50000	-114.644248	-4.922628	5.96E-16	-2.21E-18	1.01E-15	-8.402599
1.00000	-113.264205	1.562493	-1.89E-16	-2.21E-18	9.01E-16	-7.535004

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-96.731637	-11.635564	1.41E-15	3.92E-18	3.78E-15	-31.041150
0.50000	-94.997450	-7.400929	8.96E-16	3.92E-18	3.19E-15	-26.162431
1.00000	-93.192997	-3.049464	3.69E-16	3.92E-18	2.86E-15	-23.481930

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-96.731637	-11.635564	1.41E-15	3.92E-18	3.78E-15	-31.041150
0.50000	-94.997450	-7.400929	8.96E-16	3.92E-18	3.19E-15	-26.162431
1.00000	-93.192997	-3.049464	3.69E-16	3.92E-18	2.86E-15	-23.481930

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-84.909131	-5.058523	6.13E-16	-9.68E-18	-2.43E-15	19.618578
0.50000	-84.827641	1.008307	-1.22E-16	-9.68E-18	-2.55E-15	20.662465
1.00000	-84.731793	7.237986	-8.77E-16	-9.68E-18	-2.30E-15	18.558193

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-84.909131	-5.058523	6.13E-16	-9.68E-18	-2.43E-15	19.618578
0.50000	-84.827641	1.008307	-1.22E-16	-9.68E-18	-2.55E-15	20.662465
1.00000	-84.731793	7.237986	-8.77E-16	-9.68E-18	-2.30E-15	18.558193

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-84.336865	-8.247258	1.00E-15	5.43E-18	-7.35E-16	5.662168
0.50000	-83.346331	-3.512264	4.26E-16	5.43E-18	-1.10E-15	8.678345
1.00000	-82.311299	1.351577	-1.63E-16	5.43E-18	-1.17E-15	9.237024

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-84.336865	-8.247258	1.00E-15	5.43E-18	-7.35E-16	5.662168
0.50000	-83.346331	-3.512264	4.26E-16	5.43E-18	-1.10E-15	8.678345
1.00000	-82.311299	1.351577	-1.63E-16	5.43E-18	-1.17E-15	9.237024

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-87.978787	-8.282105	1.00E-15	-1.76E-17	2.24E-15	-18.594521

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
0.50000	-86.988254	-3.547111	4.29E-16	-1.76E-17	1.87E-15	-15.560500
1.00000	-85.953221	1.316730	-1.60E-16	-1.76E-17	1.80E-15	-14.983979

COMB COMB5 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-87.978787	-8.282105	1.00E-15	-1.76E-17	2.24E-15	-18.594521
0.50000	-86.988254	-3.547111	4.29E-16	-1.76E-17	1.87E-15	-15.560500
1.00000	-85.953221	1.316730	-1.60E-16	-1.76E-17	1.80E-15	-14.983979

COMB COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-69.476153	-6.137248	7.43E-16	-2.83E-18	2.41E-16	-2.113391
0.50000	-68.851014	-2.083927	2.52E-16	-2.83E-18	-1.42E-17	-0.003912
1.00000	-68.195785	2.079273	-2.52E-16	-2.83E-18	-1.49E-17	0.001968

COMB COMB6 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-69.476153	-6.137248	7.43E-16	-2.83E-18	2.41E-16	-2.113391
0.50000	-68.851014	-2.083927	2.52E-16	-2.83E-18	-1.42E-17	-0.003912
1.00000	-68.195785	2.079273	-2.52E-16	-2.83E-18	-1.49E-17	0.001968

COMB COMB7 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-50.349212	-4.483131	5.44E-16	2.60E-18	-1.06E-15	8.463165
0.50000	-49.880357	-1.443140	1.75E-16	2.60E-18	-1.25E-15	9.983929
1.00000	-49.388935	1.679259	-2.03E-16	2.60E-18	-1.24E-15	9.926994

COMB COMB7 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-50.349212	-4.483131	5.44E-16	2.60E-18	-1.06E-15	8.463165
0.50000	-49.880357	-1.443140	1.75E-16	2.60E-18	-1.25E-15	9.983929
1.00000	-49.388935	1.679259	-2.03E-16	2.60E-18	-1.24E-15	9.926994

COMB COMB8 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-52.777160	-4.506363	5.45E-16	-1.27E-17	9.20E-16	-7.707961
0.50000	-52.308306	-1.466371	1.77E-16	-1.27E-17	7.34E-16	-6.175302
1.00000	-51.816884	1.656028	-2.01E-16	-1.27E-17	7.40E-16	-6.220341

COMB COMB8 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-52.777160	-4.506363	5.45E-16	-1.27E-17	9.20E-16	-7.707961
0.50000	-52.308306	-1.466371	1.77E-16	-1.27E-17	7.34E-16	-6.175302
1.00000	-51.816884	1.656028	-2.01E-16	-1.27E-17	7.40E-16	-6.220341

F R A M E E L E M E N T I N T E R N A L F O R C E S

ELEM 16 ========== LENGTH = 1.024085

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-112.499157	-13.234845	1.60E-15	-3.71E-18	9.01E-16	-7.535004
0.50000	-111.929019	-6.388374	7.74E-16	-3.71E-18	2.91E-16	-2.498443
1.00000	-111.298520	0.753390	-9.12E-17	-3.71E-18	1.15E-16	-1.043168

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-112.499157	-13.234845	1.60E-15	-3.71E-18	9.01E-16	-7.535004
0.50000	-111.929019	-6.388374	7.74E-16	-3.71E-18	2.91E-16	-2.498443
1.00000	-111.298520	0.753390	-9.12E-17	-3.71E-18	1.15E-16	-1.043168

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-91.997680	-15.187523	1.84E-15	6.41E-18	2.86E-15	-23.481930
0.50000	-90.704319	-10.471600	1.27E-15	6.41E-18	2.07E-15	-16.903804
1.00000	-89.320724	-5.548387	6.72E-16	6.41E-18	1.57E-15	-12.793502

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-91.997680	-15.187523	1.84E-15	6.41E-18	2.86E-15	-23.481930
0.50000	-90.704319	-10.471600	1.27E-15	6.41E-18	2.07E-15	-16.903804
1.00000	-89.320724	-5.548387	6.72E-16	6.41E-18	1.57E-15	-12.793502

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-84.951647	-3.883673	4.70E-16	-1.60E-17	-2.30E-15	18.558193
0.50000	-85.679089	2.522329	-3.05E-16	-1.60E-17	-2.34E-15	18.918283
1.00000	-86.418174	9.199183	-1.11E-15	-1.60E-17	-1.98E-15	15.928885

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-84.951647	-3.883673	4.70E-16	-1.60E-17	-2.30E-15	18.558193
0.50000	-85.679089	2.522329	-3.05E-16	-1.60E-17	-2.34E-15	18.918283
1.00000	-86.418174	9.199183	-1.11E-15	-1.60E-17	-1.98E-15	15.928885

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-81.783529	-9.403785	1.14E-15	-1.13E-18	-1.17E-15	9.237024
0.50000	-81.355925	-4.268932	5.18E-16	-1.13E-18	-1.59E-15	12.746980
1.00000	-80.883051	1.087392	-1.31E-16	-1.13E-18	-1.69E-15	13.570972

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-81.783529	-9.403785	1.14E-15	-1.13E-18	-1.17E-15	9.237024
0.50000	-81.355925	-4.268932	5.18E-16	-1.13E-18	-1.59E-15	12.746980
1.00000	-80.883051	1.087392	-1.31E-16	-1.13E-18	-1.69E-15	13.570972

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-85.389745	-9.913701	1.20E-15	-1.90E-17	1.81E-15	-14.983979
0.50000	-84.962142	-4.778847	5.78E-16	-1.90E-17	1.35E-15	-11.212925
1.00000	-84.489267	0.577476	-7.08E-17	-1.90E-17	1.22E-15	-10.127834

COMB COMB5 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-85.389745	-9.913701	1.20E-15	-1.90E-17	1.81E-15	-14.983979
0.50000	-84.962142	-4.778847	5.78E-16	-1.90E-17	1.35E-15	-11.212925
1.00000	-84.489267	0.577476	-7.08E-17	-1.90E-17	1.22E-15	-10.127834

COMB COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-67.883758	-6.839867	8.28E-16	-4.72E-18	-1.44E-17	0.001968
0.50000	-67.756952	-2.476734	3.00E-16	-4.72E-18	-3.04E-16	2.395202
1.00000	-67.604457	2.073562	-2.51E-16	-4.72E-18	-3.18E-16	2.506409

COMB COMB6 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-67.883758	-6.839867	8.28E-16	-4.72E-18	-1.44E-17	0.001968
0.50000	-67.756952	-2.476734	3.00E-16	-4.72E-18	-3.04E-16	2.395202
1.00000	-67.604457	2.073562	-2.51E-16	-4.72E-18	-3.18E-16	2.506409

COMB COMB7 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-49.185592	-4.781668	5.80E-16	-2.44E-18	-1.24E-15	9.926994
0.50000	-49.090488	-1.509318	1.83E-16	-2.44E-18	-1.44E-15	11.543610
1.00000	-48.976117	1.903404	-2.30E-16	-2.44E-18	-1.43E-15	11.448705

COMB COMB7 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-49.185592	-4.781668	5.80E-16	-2.44E-18	-1.24E-15	9.926994
0.50000	-49.090488	-1.509318	1.83E-16	-2.44E-18	-1.44E-15	11.543610
1.00000	-48.976117	1.903404	-2.30E-16	-2.44E-18	-1.43E-15	11.448705

COMB COMB8 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-51.589737	-5.121612	6.20E-16	-1.43E-17	7.42E-16	-6.220341

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
0.50000	-51.494632	-1.849262	2.23E-16	-1.43E-17	5.25E-16	-4.429660
1.00000	-51.380261	1.563461	-1.90E-16	-1.43E-17	5.16E-16	-4.350499

COMB COMB8 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-51.589737	-5.121612	6.20E-16	-1.43E-17	7.42E-16	-6.220341
0.50000	-51.494632	-1.849262	2.23E-16	-1.43E-17	5.25E-16	-4.429660
1.00000	-51.380261	1.563461	-1.90E-16	-1.43E-17	5.16E-16	-4.350499

ELEM 17 ========== LENGTH = 1.024081

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-110.444670	-13.780533	1.67E-15	-5.15E-18	1.16E-16	-1.043168
0.50000	-110.726487	-6.260925	7.58E-16	-5.15E-18	-5.08E-16	4.105461
1.00000	-110.979064	1.671387	-2.02E-16	-5.15E-18	-6.52E-16	5.298086

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-110.444670	-13.780533	1.67E-15	-5.15E-18	1.16E-16	-1.043168
0.50000	-110.726487	-6.260925	7.58E-16	-5.15E-18	-5.08E-16	4.105461
1.00000	-110.979064	1.671387	-2.02E-16	-5.15E-18	-6.52E-16	5.298086

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-87.832347	-17.159698	2.08E-15	8.79E-18	1.57E-15	-12.793502
0.50000	-87.029169	-11.840238	1.43E-15	8.79E-18	6.66E-16	-5.356204
1.00000	-86.140327	-6.222492	7.54E-16	8.79E-18	1.05E-16	-0.719052

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-87.832347	-17.159698	2.08E-15	8.79E-18	1.57E-15	-12.793502
0.50000	-87.029169	-11.840238	1.43E-15	8.79E-18	6.66E-16	-5.356204
1.00000	-86.140327	-6.222492	7.54E-16	8.79E-18	1.05E-16	-0.719052

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-86.879587	-2.159436	2.62E-16	-2.21E-17	-1.97E-15	15.928885
0.50000	-88.539488	4.680576	-5.67E-16	-2.21E-17	-1.90E-15	15.299062
1.00000	-90.263764	11.887124	-1.44E-15	-2.21E-17	-1.39E-15	11.073036

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-86.879587	-2.159436	2.62E-16	-2.21E-17	-1.97E-15	15.928885
0.50000	-88.539488	4.680576	-5.67E-16	-2.21E-17	-1.90E-15	15.299062

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
1.00000	-90.263764	11.887124	-1.44E-15	-2.21E-17	-1.39E-15	11.073036

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-80.333009	-9.479345	1.15E-15	-7.80E-18	-1.69E-15	13.570972
0.50000	-80.544372	-3.839639	4.66E-16	-7.80E-18	-2.11E-15	16.994108
1.00000	-80.733805	2.109595	-2.55E-16	-7.80E-18	-2.16E-15	17.450242

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-80.333009	-9.479345	1.15E-15	-7.80E-18	-1.69E-15	13.570972
0.50000	-80.544372	-3.839639	4.66E-16	-7.80E-18	-2.11E-15	16.994108
1.00000	-80.733805	2.109595	-2.55E-16	-7.80E-18	-2.16E-15	17.450242

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-83.841816	-10.455607	1.27E-15	-1.99E-17	1.22E-15	-10.127834
0.50000	-84.053179	-4.815901	5.82E-16	-1.99E-17	7.46E-16	-6.204811
1.00000	-84.242611	1.133333	-1.38E-16	-1.99E-17	6.30E-16	-5.248792

COMB COMB5 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-83.841816	-10.455607	1.27E-15	-1.99E-17	1.22E-15	-10.127834
0.50000	-84.053179	-4.815901	5.82E-16	-1.99E-17	7.46E-16	-6.204811
1.00000	-84.242611	1.133333	-1.38E-16	-1.99E-17	6.30E-16	-5.248792

COMB COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-67.296740	-6.768394	8.20E-16	-6.52E-18	-3.17E-16	2.506409
0.50000	-67.738253	-2.013017	2.44E-16	-6.52E-18	-5.91E-16	4.765693
1.00000	-68.178340	3.001688	-3.64E-16	-6.52E-18	-5.61E-16	4.523639

COMB COMB6 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-67.296740	-6.768394	8.20E-16	-6.52E-18	-3.17E-16	2.506409
0.50000	-67.738253	-2.013017	2.44E-16	-6.52E-18	-5.91E-16	4.765693
1.00000	-68.178340	3.001688	-3.64E-16	-6.52E-18	-5.61E-16	4.523639

COMB COMB7 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-48.805559	-4.505592	5.46E-16	-7.52E-18	-1.42E-15	11.448705
0.50000	-49.136694	-0.939060	1.14E-16	-7.52E-18	-1.60E-15	12.850945
1.00000	-49.466760	2.821969	-3.41E-16	-7.52E-18	-1.54E-15	12.377181

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB7 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-48.805559	-4.505592	5.46E-16	-7.52E-18	-1.42E-15	11.448705
0.50000	-49.136694	-0.939060	1.14E-16	-7.52E-18	-1.60E-15	12.850945
1.00000	-49.466760	2.821969	-3.41E-16	-7.52E-18	-1.54E-15	12.377181

COMB COMB8 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-51.144764	-5.156434	6.24E-16	-1.56E-17	5.18E-16	-4.350499
0.50000	-51.475899	-1.589901	1.92E-16	-1.56E-17	3.08E-16	-2.615001
1.00000	-51.805964	2.171128	-2.64E-16	-1.56E-17	3.26E-16	-2.755508

COMB COMB8 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-51.144764	-5.156434	6.24E-16	-1.56E-17	5.18E-16	-4.350499
0.50000	-51.475899	-1.589901	1.92E-16	-1.56E-17	3.08E-16	-2.615001
1.00000	-51.805964	2.171128	-2.64E-16	-1.56E-17	3.26E-16	-2.755508

ELEM 18 ========== LENGTH = 1.024080

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-110.247764	-12.828747	1.55E-15	-6.51E-18	-6.52E-16	5.296086
0.50000	-111.561629	-4.531411	5.49E-16	-6.51E-18	-1.19E-15	9.764767
1.00000	-112.906745	4.284668	-5.19E-16	-6.51E-18	-1.20E-15	9.850073

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-110.247764	-12.828747	1.55E-15	-6.51E-18	-6.52E-16	5.296086
0.50000	-111.561629	-4.531411	5.49E-16	-6.51E-18	-1.19E-15	9.764767
1.00000	-112.906745	4.284668	-5.19E-16	-6.51E-18	-1.20E-15	9.850073

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-84.591161	-17.412950	2.11E-15	1.10E-17	1.03E-16	-0.719052
0.50000	-84.391307	-11.381045	1.38E-15	1.10E-17	-7.91E-16	6.669234
1.00000	-84.133676	-4.963633	6.01E-16	1.10E-17	-1.30E-15	10.870247

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-84.591161	-17.412950	2.11E-15	1.10E-17	1.03E-16	-0.719052
0.50000	-84.391307	-11.381045	1.38E-15	1.10E-17	-7.91E-16	6.669234
1.00000	-84.133676	-4.963633	6.01E-16	1.10E-17	-1.30E-15	10.870247

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-91.043126	0.003510	-4.18E-19	-2.78E-17	-1.38E-15	11.073036
0.50000	-93.819266	7.323782	-8.87E-16	-2.78E-17	-1.16E-15	9.216129
1.00000	-96.735668	15.089956	-1.83E-15	-2.78E-17	-4.65E-16	3.496792

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-91.043126	0.003510	-4.18E-19	-2.78E-17	-1.38E-15	11.073036
0.50000	-93.819266	7.323782	-8.87E-16	-2.78E-17	-1.16E-15	9.216129
1.00000	-96.735668	15.089956	-1.83E-15	-2.78E-17	-4.65E-16	3.496792

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-80.318461	-8.446446	1.02E-15	-1.45E-17	-2.16E-15	17.450242
0.50000	-81.303860	-2.223444	2.70E-16	-1.45E-17	-2.50E-15	20.198548
1.00000	-82.312697	4.388616	-5.31E-16	-1.45E-17	-2.43E-15	19.660822

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-80.318461	-8.446446	1.02E-15	-1.45E-17	-2.16E-15	17.450242
0.50000	-81.303860	-2.223444	2.70E-16	-1.45E-17	-2.50E-15	20.198548
1.00000	-82.312697	4.388616	-5.31E-16	-1.45E-17	-2.43E-15	19.660822

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-83.669819	-9.872352	1.19E-15	-2.04E-17	6.33E-16	-5.248792
0.50000	-84.655218	-3.649350	4.41E-16	-2.04E-17	2.12E-16	-1.770365
1.00000	-85.664055	2.962709	-3.60E-16	-2.04E-17	1.89E-16	-1.577970

COMB COMB5 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-83.669819	-9.872352	1.19E-15	-2.04E-17	6.33E-16	-5.248792
0.50000	-84.655218	-3.649350	4.41E-16	-2.04E-17	2.12E-16	-1.770365
1.00000	-85.664055	2.962709	-3.60E-16	-2.04E-17	1.89E-16	-1.577970

COMB COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-67.986855	-5.923150	7.17E-16	-8.22E-18	-5.60E-16	4.523639
0.50000	-69.114323	-0.718557	8.70E-17	-8.22E-18	-7.68E-16	6.237839
1.00000	-70.282533	4.809218	-5.82E-16	-8.22E-18	-6.43E-16	5.204338

COMB COMB6 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-67.986855	-5.923150	7.17E-16	-8.22E-18	-5.60E-16	4.523639

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
0.50000	-69.114323	-0.718557	8.70E-17	-8.22E-18	-7.68E-16	6.237839
1.00000	-70.282533	4.809218	-5.82E-16	-8.22E-18	-6.43E-16	5.204338

COMB COMB7 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-49.411900	-3.658953	4.44E-16	-1.25E-17	-1.54E-15	12.377181
0.50000	-50.257501	0.244492	-2.90E-17	-1.25E-17	-1.64E-15	13.261694
1.00000	-51.133658	4.390323	-5.31E-16	-1.25E-17	-1.50E-15	12.085432

COMB COMB7 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-49.411900	-3.658953	4.44E-16	-1.25E-17	-1.54E-15	12.377181
0.50000	-50.257501	0.244492	-2.90E-17	-1.25E-17	-1.64E-15	13.261694
1.00000	-51.133658	4.390323	-5.31E-16	-1.25E-17	-1.50E-15	12.085432

COMB COMB8 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-51.646139	-4.609557	5.58E-16	-1.65E-17	3.28E-16	-2.755508
0.50000	-52.491740	-0.706112	8.49E-17	-1.65E-17	1.62E-16	-1.384248
1.00000	-53.367897	3.439719	-4.17E-16	-1.65E-17	2.46E-16	-2.073763

COMB COMB8 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-51.646139	-4.609557	5.58E-16	-1.65E-17	3.28E-16	-2.755508
0.50000	-52.491740	-0.706112	8.49E-17	-1.65E-17	1.62E-16	-1.384248
1.00000	-53.367897	3.439719	-4.17E-16	-1.65E-17	2.46E-16	-2.073763

ELEM 19 ========== LENGTH = 1.024085

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-112.500126	-10.488708	1.27E-15	-7.75E-18	-1.20E-15	9.850073
0.50000	-115.092316	-1.365811	1.65E-16	-7.75E-18	-1.57E-15	12.910910
1.00000	-117.801581	8.362367	-1.01E-15	-7.75E-18	-1.36E-15	11.145470

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-112.500126	-10.488708	1.27E-15	-7.75E-18	-1.20E-15	9.850073
0.50000	-115.092316	-1.365811	1.65E-16	-7.75E-18	-1.57E-15	12.910910
1.00000	-117.801581	8.362367	-1.01E-15	-7.75E-18	-1.36E-15	11.145470

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-82.766097	-15.902400	1.93E-15	1.31E-17	-1.30E-15	10.870247
0.50000	-83.340668	-9.080170	1.10E-15	1.31E-17	-2.08E-15	17.286046

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
1.00000	-83.906975	-1.795582	2.17E-16	1.31E-17	-2.42E-15	20.090200

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-82.766097	-15.902400	1.93E-15	1.31E-17	-1.30E-15	10.870247
0.50000	-83.340668	-9.080170	1.10E-15	1.31E-17	-2.08E-15	17.286046
1.00000	-83.906975	-1.795582	2.17E-16	1.31E-17	-2.42E-15	20.090200

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-97.877703	2.334815	-2.83E-16	-3.30E-17	-4.61E-16	3.496792
0.50000	-101.998465	10.117198	-1.23E-15	-3.30E-17	-7.78E-17	0.330263
1.00000	-106.353239	18.402312	-2.23E-15	-3.30E-17	8.04E-16	-6.949887

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-97.877703	2.334815	-2.83E-16	-3.30E-17	-4.61E-16	3.496792
0.50000	-101.998465	10.117198	-1.23E-15	-3.30E-17	-7.78E-17	0.330263
1.00000	-106.353239	18.402312	-2.23E-15	-3.30E-17	8.04E-16	-6.949887

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-82.181362	-6.392478	7.75E-16	-2.10E-17	-2.43E-15	19.660822
0.50000	-84.125504	0.449695	-5.36E-17	-2.10E-17	-2.62E-15	21.201671
1.00000	-86.157453	7.745828	-9.37E-16	-2.10E-17	-2.37E-15	19.122813

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-82.181362	-6.392478	7.75E-16	-2.10E-17	-2.43E-15	19.660822
0.50000	-84.125504	0.449695	-5.36E-17	-2.10E-17	-2.62E-15	21.201671
1.00000	-86.157453	7.745828	-9.37E-16	-2.10E-17	-2.37E-15	19.122813

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-85.317940	-8.243610	9.97E-16	-2.05E-17	1.92E-16	-1.577970
0.50000	-87.262082	-1.401437	1.69E-16	-2.05E-17	-1.09E-16	0.910738
1.00000	-89.294031	5.894696	-7.15E-16	-2.05E-17	2.86E-17	-0.220262

COMB COMB5 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-85.317940	-8.243610	9.97E-16	-2.05E-17	1.92E-16	-1.577970
0.50000	-87.262082	-1.401437	1.69E-16	-2.05E-17	-1.09E-16	0.910738
1.00000	-89.294031	5.894696	-7.15E-16	-2.05E-17	2.86E-17	-0.220262

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-70.309007	-4.405282	5.34E-16	-9.77E-18	-6.42E-16	5.204338
0.50000	-72.278992	1.267210	-1.53E-16	-9.77E-18	-7.41E-16	6.023702
1.00000	-74.346936	7.313503	-8.86E-16	-9.77E-18	-4.77E-16	3.842807

COMB COMB6 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-70.309007	-4.405282	5.34E-16	-9.77E-18	-6.42E-16	5.204338
0.50000	-72.278992	1.267210	-1.53E-16	-9.77E-18	-7.41E-16	6.023702
1.00000	-74.346936	7.313503	-8.86E-16	-9.77E-18	-4.77E-16	3.842807

COMB COMB7 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-51.269267	-2.321260	2.82E-16	-1.74E-17	-1.50E-15	12.085432
0.50000	-52.746755	1.933109	-2.34E-16	-1.74E-17	-1.51E-15	12.196769
1.00000	-54.297714	6.467830	-7.83E-16	-1.74E-17	-1.26E-15	10.057912

COMB COMB7 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-51.269267	-2.321260	2.82E-16	-1.74E-17	-1.50E-15	12.085432
0.50000	-52.746755	1.933109	-2.34E-16	-1.74E-17	-1.51E-15	12.196769
1.00000	-54.297714	6.467830	-7.83E-16	-1.74E-17	-1.26E-15	10.057912

COMB COMB8 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-53.360319	-3.555348	4.30E-16	-1.71E-17	2.48E-16	-2.073763
0.50000	-54.837808	0.699021	-8.52E-17	-1.71E-17	1.58E-16	-1.330520
1.00000	-56.388766	5.233742	-6.34E-16	-1.71E-17	3.41E-16	-2.837471

COMB COMB8 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-53.360319	-3.555348	4.30E-16	-1.71E-17	2.48E-16	-2.073763
0.50000	-54.837808	0.699021	-8.52E-17	-1.71E-17	1.58E-16	-1.330520
1.00000	-56.388766	5.233742	-6.34E-16	-1.71E-17	3.41E-16	-2.837471

ELEM 20 ========== LENGTH = 1.024080

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-117.885235	-7.086106	8.58E-16	-8.86E-18	-1.36E-15	11.145470
0.50000	-122.049950	2.831110	-3.43E-16	-8.86E-18	-1.49E-15	12.263300
1.00000	-126.437202	13.415450	-1.62E-15	-8.86E-18	-9.93E-16	8.132323

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-117.885235	-7.086106	8.58E-16	-8.86E-18	-1.36E-15	11.145470
0.50000	-122.049950	2.831110	-3.43E-16	-8.86E-18	-1.49E-15	12.263300
1.00000	-126.437202	13.415450	-1.62E-15	-8.86E-18	-9.93E-16	8.132323

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-82.954689	-12.732800	1.54E-15	1.49E-17	-2.42E-15	20.090200
0.50000	-84.522848	-5.092686	6.17E-16	1.49E-17	-2.98E-15	24.676244
1.00000	-86.150509	3.071573	-3.72E-16	1.49E-17	-3.04E-15	25.216054

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-82.954689	-12.732800	1.54E-15	1.49E-17	-2.42E-15	20.090200
0.50000	-84.522848	-5.092686	6.17E-16	1.49E-17	-2.98E-15	24.676244
1.00000	-86.150509	3.071573	-3.72E-16	1.49E-17	-3.04E-15	25.216054

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-107.845383	4.362318	-5.28E-16	-3.77E-17	8.08E-16	-6.949887
0.50000	-113.562918	12.508870	-1.51E-15	-3.77E-17	1.33E-15	-11.246472
1.00000	-119.619972	21.189153	-2.57E-15	-3.77E-17	2.37E-15	-19.851061

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-107.845383	4.362318	-5.28E-16	-3.77E-17	8.08E-16	-6.949887
0.50000	-113.562918	12.508870	-1.51E-15	-3.77E-17	1.33E-15	-11.246472
1.00000	-119.619972	21.189153	-2.57E-15	-3.77E-17	2.37E-15	-19.851061

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-86.431375	-3.566785	4.33E-16	-2.73E-17	-2.36E-15	19.122813
0.50000	-89.554911	3.871127	-4.68E-16	-2.73E-17	-2.36E-15	19.066246
1.00000	-92.845350	11.809382	-1.43E-15	-2.73E-17	-1.87E-15	15.073073

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-86.431375	-3.566785	4.33E-16	-2.73E-17	-2.36E-15	19.122813
0.50000	-89.554911	3.871127	-4.68E-16	-2.73E-17	-2.36E-15	19.066246
1.00000	-92.845350	11.809382	-1.43E-15	-2.73E-17	-1.87E-15	15.073073

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-89.299484	-5.811504	7.03E-16	-2.00E-17	3.13E-17	-0.220262

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
0.50000	-92.423020	1.626408	-1.98E-16	-2.00E-17	-1.01E-16	0.872556
1.00000	-95.713459	9.564663	-1.16E-15	-2.00E-17	2.44E-16	-1.971231

COMB COMB5 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-89.299484	-5.811504	7.03E-16	-2.00E-17	3.13E-17	-0.220262
0.50000	-92.423020	1.626408	-1.98E-16	-2.00E-17	-1.01E-16	0.872556
1.00000	-95.713459	9.564663	-1.16E-15	-2.00E-17	2.44E-16	-1.971231

COMB COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-74.665476	-2.453756	2.97E-16	-1.12E-17	-4.75E-16	3.842807
0.50000	-77.661130	3.653836	-4.42E-16	-1.12E-17	-4.40E-16	3.552979
1.00000	-80.823234	10.169602	-1.23E-15	-1.12E-17	-1.37E-17	0.031321

COMB COMB6 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-74.665476	-2.453756	2.97E-16	-1.12E-17	-4.75E-16	3.842807
0.50000	-77.661130	3.653836	-4.42E-16	-1.12E-17	-4.40E-16	3.552979
1.00000	-80.823234	10.169602	-1.23E-15	-1.12E-17	-1.37E-17	0.031321

COMB COMB7 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-54.677406	-0.675121	8.24E-17	-2.21E-17	-1.25E-15	10.057912
0.50000	-56.924147	3.905573	-4.72E-16	-2.21E-17	-1.15E-15	9.243915
1.00000	-59.295724	8.792397	-1.06E-15	-2.21E-17	-7.62E-16	6.006045

COMB COMB7 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-54.677406	-0.675121	8.24E-17	-2.21E-17	-1.25E-15	10.057912
0.50000	-56.924147	3.905573	-4.72E-16	-2.21E-17	-1.15E-15	9.243915
1.00000	-59.295724	8.792397	-1.06E-15	-2.21E-17	-7.62E-16	6.006045

COMB COMB8 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-56.589479	-2.171600	2.62E-16	-1.73E-17	3.43E-16	-2.837471
0.50000	-58.836219	2.409094	-2.92E-16	-1.73E-17	3.49E-16	-2.885212
1.00000	-61.207797	7.295918	-8.84E-16	-1.73E-17	6.49E-16	-5.356825

COMB COMB8 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-56.589479	-2.171600	2.62E-16	-1.73E-17	3.43E-16	-2.837471
0.50000	-58.836219	2.409094	-2.92E-16	-1.73E-17	3.49E-16	-2.885212
1.00000	-61.207797	7.295918	-8.84E-16	-1.73E-17	6.49E-16	-5.356825

F R A M E E L E M E N T I N T E R N A L F O R C E S

ELEM 21 ========== LENGTH = 1.024082

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-127.106594	-3.202207	3.88E-16	-9.83E-18	-9.92E-16	8.132323
0.50000	-133.161718	7.384613	-8.94E-16	-9.83E-18	-8.66E-16	7.091363
1.00000	-139.556919	18.670328	-2.26E-15	-9.83E-18	-6.13E-17	0.450585

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-127.106594	-3.202207	3.88E-16	-9.83E-18	-9.92E-16	8.132323
0.50000	-133.161718	7.384613	-8.94E-16	-9.83E-18	-8.66E-16	7.091363
1.00000	-139.556919	18.670328	-2.26E-15	-9.83E-18	-6.13E-17	0.450585

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-85.814431	-8.199278	9.93E-16	1.64E-17	-3.04E-15	25.216054
0.50000	-88.627900	0.221536	-2.68E-17	1.64E-17	-3.29E-15	27.282661
1.00000	-91.582177	9.208096	-1.12E-15	1.64E-17	-3.00E-15	24.892621

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-85.814431	-8.199278	9.93E-16	1.64E-17	-3.04E-15	25.216054
0.50000	-88.627900	0.221536	-2.68E-17	1.64E-17	-3.29E-15	27.282661
1.00000	-91.582177	9.208096	-1.12E-15	1.64E-17	-3.00E-15	24.892621

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-121.362326	5.394796	-6.53E-16	-4.17E-17	2.38E-15	-19.851061
0.50000	-128.928204	13.720615	-1.66E-15	-4.17E-17	2.97E-15	-24.722134
1.00000	-136.943099	22.582289	-2.73E-15	-4.17E-17	4.09E-15	-33.993559

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-121.362326	5.394796	-6.53E-16	-4.17E-17	2.38E-15	-19.851061
0.50000	-128.928204	13.720615	-1.66E-15	-4.17E-17	2.97E-15	-24.722134
1.00000	-136.943099	22.582289	-2.73E-15	-4.17E-17	4.09E-15	-33.993559

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-93.592480	-0.410045	5.06E-17	-3.32E-17	-1.87E-15	15.073073
0.50000	-98.133823	7.530070	-9.11E-16	-3.32E-17	-1.65E-15	13.272567
1.00000	-102.930224	15.994356	-1.94E-15	-3.32E-17	-9.25E-16	7.272197

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-93.592480	-0.410045	5.06E-17	-3.32E-17	-1.87E-15	15.073073
0.50000	-98.133823	7.530070	-9.11E-16	-3.32E-17	-1.65E-15	13.272567
1.00000	-102.930224	15.994356	-1.94E-15	-3.32E-17	-9.25E-16	7.272197

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-96.143067	-3.009914	3.64E-16	-1.92E-17	2.47E-16	-1.971231
0.50000	-100.684410	4.930201	-5.98E-16	-1.92E-17	3.04E-16	-2.440498
1.00000	-105.480811	13.394488	-1.62E-15	-1.92E-17	8.70E-16	-7.109629

COMB COMB5 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-96.143067	-3.009914	3.64E-16	-1.92E-17	2.47E-16	-1.971231
0.50000	-100.684410	4.930201	-5.98E-16	-1.92E-17	3.04E-16	-2.440498
1.00000	-105.480811	13.394488	-1.62E-15	-1.92E-17	8.70E-16	-7.109629

COMB COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-81.459181	-0.466642	5.65E-17	-1.24E-17	-1.22E-17	0.031321
0.50000	-85.674482	5.983775	-7.25E-16	-1.24E-17	1.57E-16	-1.363119
1.00000	-90.131049	12.857435	-1.56E-15	-1.24E-17	7.39E-16	-6.168796

COMB COMB6 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-81.459181	-0.466642	5.65E-17	-1.24E-17	-1.22E-17	0.031321
0.50000	-85.674482	5.983775	-7.25E-16	-1.24E-17	1.57E-16	-1.363119
1.00000	-90.131049	12.857435	-1.56E-15	-1.24E-17	7.39E-16	-6.168796

COMB COMB7 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-59.936076	0.977759	-1.18E-16	-2.65E-17	-7.59E-16	6.006045
0.50000	-63.097551	5.815571	-7.04E-16	-2.65E-17	-5.50E-16	4.280357
1.00000	-66.439977	10.970816	-1.33E-15	-2.65E-17	-3.19E-17	-0.003758

COMB COMB7 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-59.936076	0.977759	-1.18E-16	-2.65E-17	-7.59E-16	6.006045
0.50000	-63.097551	5.815571	-7.04E-16	-2.65E-17	-5.50E-16	4.280357
1.00000	-66.439977	10.970816	-1.33E-15	-2.65E-17	-3.19E-17	-0.003758

COMB COMB8 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-61.636467	-0.755487	9.09E-17	-1.71E-17	6.51E-16	-5.356825

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
0.50000	-64.797943	4.082325	-4.95E-16	-1.71E-17	7.53E-16	-6.195019
1.00000	-68.140368	9.237571	-1.12E-15	-1.71E-17	1.16E-15	-9.591642

COMB COMB8 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-61.636467	-0.755487	9.09E-17	-1.71E-17	6.51E-16	-5.356825
0.50000	-64.797943	4.082325	-4.95E-16	-1.71E-17	7.53E-16	-6.195019
1.00000	-68.140368	9.237571	-1.12E-15	-1.71E-17	1.16E-15	-9.591642

ELEM 22 ========== LENGTH = 1.034682

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-140.772894	-2.776213	3.36E-16	-1.07E-17	-5.97E-17	0.450585
0.50000	-149.363497	8.189358	-9.92E-16	-1.07E-17	1.06E-16	-0.918955
1.00000	-158.446815	19.866577	-2.41E-15	-1.07E-17	9.81E-16	-8.145516

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-140.772894	-2.776213	3.36E-16	-1.07E-17	-5.97E-17	0.450585
0.50000	-149.363497	8.189358	-9.92E-16	-1.07E-17	1.06E-16	-0.918955
1.00000	-158.446815	19.866577	-2.41E-15	-1.07E-17	9.81E-16	-8.145516

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-91.917087	-4.830455	5.85E-16	1.79E-17	-3.01E-15	24.892621
0.50000	-96.487573	4.260480	-5.16E-16	1.79E-17	-3.03E-15	25.065875
1.00000	-101.308884	13.950268	-1.69E-15	1.79E-17	-2.46E-15	20.381110

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-91.917087	-4.830455	5.85E-16	1.79E-17	-3.01E-15	24.892621
0.50000	-96.487573	4.260480	-5.16E-16	1.79E-17	-3.03E-15	25.065875
1.00000	-101.308884	13.950268	-1.69E-15	1.79E-17	-2.46E-15	20.381110

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-138.784576	1.487833	-1.80E-16	-4.55E-17	4.10E-15	-33.993559
0.50000	-148.708042	9.595107	-1.16E-15	-4.55E-17	4.44E-15	-36.838240
1.00000	-159.216510	18.216122	-2.21E-15	-4.55E-17	5.31E-15	-44.010035

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-138.784576	1.487833	-1.80E-16	-4.55E-17	4.10E-15	-33.993559
0.50000	-148.708042	9.595107	-1.16E-15	-4.55E-17	4.44E-15	-36.838240

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
1.00000	-159.216510	18.216122	-2.21E-15	-4.55E-17	5.31E-15	-44.010035

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-104.165387	0.150574	-1.73E-17	-3.95E-17	-9.19E-16	7.272197
0.50000	-110.608339	8.374752	-1.01E-15	-3.95E-17	-6.56E-16	5.089958
1.00000	-117.420828	17.132666	-2.07E-15	-3.95E-17	1.40E-16	-1.485047

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-104.165387	0.150574	-1.73E-17	-3.95E-17	-9.19E-16	7.272197
0.50000	-110.608339	8.374752	-1.01E-15	-3.95E-17	-6.56E-16	5.089958
1.00000	-117.420828	17.132666	-2.07E-15	-3.95E-17	1.40E-16	-1.485047

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-106.290801	-2.807031	3.39E-16	-1.76E-17	8.73E-16	-7.109629
0.50000	-112.733754	5.417147	-6.57E-16	-1.76E-17	9.52E-16	-7.761778
1.00000	-119.546242	14.175062	-1.72E-15	-1.76E-17	1.56E-15	-12.806693

COMB COMB5 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-106.290801	-2.807031	3.39E-16	-1.76E-17	8.73E-16	-7.109629
0.50000	-112.733754	5.417147	-6.57E-16	-1.76E-17	9.52E-16	-7.761778
1.00000	-119.546242	14.175062	-1.72E-15	-1.76E-17	1.56E-15	-12.806693

COMB COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-91.037981	-1.002842	1.21E-16	-1.35E-17	7.41E-16	-6.168796
0.50000	-96.866327	5.581470	-6.76E-16	-1.35E-17	8.82E-16	-7.334830
1.00000	-103.031929	12.590765	-1.52E-15	-1.35E-17	1.45E-15	-12.017128

COMB COMB6 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-91.037981	-1.002842	1.21E-16	-1.35E-17	7.41E-16	-6.168796
0.50000	-96.866327	5.581470	-6.76E-16	-1.35E-17	8.82E-16	-7.334830
1.00000	-103.031929	12.590765	-1.52E-15	-1.35E-17	1.45E-15	-12.017128

COMB COMB7 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-67.335630	0.736357	-8.86E-17	-3.11E-17	-2.75E-17	-0.003758
0.50000	-71.706889	5.674591	-6.87E-16	-3.11E-17	1.71E-16	-1.648339
1.00000	-76.331091	10.931563	-1.32E-15	-3.11E-17	6.90E-16	-5.930119

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB7 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-67.335630	0.736357	-8.86E-17	-3.11E-17	-2.75E-17	-0.003758
0.50000	-71.706889	5.674591	-6.87E-16	-3.11E-17	1.71E-16	-1.648339
1.00000	-76.331091	10.931563	-1.32E-15	-3.11E-17	6.90E-16	-5.930119

COMB COMB8 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-68.752573	-1.235379	1.49E-16	-1.65E-17	1.17E-15	-9.591642
0.50000	-73.123832	3.702855	-4.49E-16	-1.65E-17	1.24E-15	-10.216163
1.00000	-77.748034	8.959827	-1.09E-15	-1.65E-17	1.64E-15	-13.477883

COMB COMB8 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-68.752573	-1.235379	1.49E-16	-1.65E-17	1.17E-15	-9.591642
0.50000	-73.123832	3.702855	-4.49E-16	-1.65E-17	1.24E-15	-10.216163
1.00000	-77.748034	8.959827	-1.09E-15	-1.65E-17	1.64E-15	-13.477883

ELEM 23 ========== LENGTH = 1.034679

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-159.489372	-7.950745	9.63E-16	-1.15E-17	9.83E-16	-8.145516
0.50000	-171.091087	2.606913	-3.16E-16	-1.15E-17	8.12E-16	-6.734978
1.00000	-183.341205	13.819854	-1.67E-15	-1.15E-17	1.32E-15	-10.955834

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-159.489372	-7.950745	9.63E-16	-1.15E-17	9.83E-16	-8.145516
0.50000	-171.091087	2.606913	-3.16E-16	-1.15E-17	8.12E-16	-6.734978
1.00000	-183.341205	13.819854	-1.67E-15	-1.15E-17	1.32E-15	-10.955834

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-102.192177	-3.854735	4.67E-16	1.91E-17	-2.46E-15	20.381110
0.50000	-108.985340	5.414499	-6.56E-16	1.91E-17	-2.42E-15	20.002725
1.00000	-116.152338	15.265447	-1.85E-15	1.91E-17	-1.77E-15	14.678530

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-102.192177	-3.854735	4.67E-16	1.91E-17	-2.46E-15	20.381110
0.50000	-108.985340	5.414499	-6.56E-16	1.91E-17	-2.42E-15	20.002725
1.00000	-116.152338	15.265447	-1.85E-15	1.91E-17	-1.77E-15	14.678530

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-159.960758	-9.709787	1.18E-15	-4.85E-17	5.32E-15	-44.010035
0.50000	-172.493590	-2.627164	3.18E-16	-4.85E-17	4.93E-15	-40.800274
1.00000	-185.735016	4.886097	-5.92E-16	-4.85E-17	5.00E-15	-41.366026

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-159.960758	-9.709787	1.18E-15	-4.85E-17	5.32E-15	-44.010035
0.50000	-172.493590	-2.627164	3.18E-16	-4.85E-17	4.93E-15	-40.800274
1.00000	-185.735016	4.886097	-5.92E-16	-4.85E-17	5.00E-15	-41.366026

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-118.611965	-3.518648	4.27E-16	-4.58E-17	1.48E-16	-1.485047
0.50000	-127.313251	4.399595	-5.32E-16	-4.58E-17	1.72E-16	-1.691734
1.00000	-136.500840	12.809301	-1.55E-15	-4.58E-17	7.08E-16	-6.121965

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-118.611965	-3.518648	4.27E-16	-4.58E-17	1.48E-16	-1.485047
0.50000	-127.313251	4.399595	-5.32E-16	-4.58E-17	1.72E-16	-1.691734
1.00000	-136.500840	12.809301	-1.55E-15	-4.58E-17	7.08E-16	-6.121965

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-120.191476	-6.800410	8.23E-16	-1.51E-17	1.57E-15	-12.806693
0.50000	-128.892763	1.117834	-1.36E-16	-1.51E-17	1.39E-15	-11.315595
1.00000	-138.080351	9.527540	-1.15E-15	-1.51E-17	1.72E-15	-14.048043

COMB COMB5 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-120.191476	-6.800410	8.23E-16	-1.51E-17	1.57E-15	-12.806693
0.50000	-128.892763	1.117834	-1.36E-16	-1.51E-17	1.39E-15	-11.315595
1.00000	-138.080351	9.527540	-1.15E-15	-1.51E-17	1.72E-15	-14.048043

COMB COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-103.652954	-5.492800	6.65E-16	-1.44E-17	1.45E-15	-12.017128
0.50000	-111.361204	0.710939	-8.61E-17	-1.44E-17	1.30E-15	-10.763678
1.00000	-119.501786	7.298046	-8.84E-16	-1.44E-17	1.55E-15	-12.818832

COMB COMB6 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-103.652954	-5.492800	6.65E-16	-1.44E-17	1.45E-15	-12.017128

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
0.50000	-111.361204	0.710939	-8.61E-17	-1.44E-17	1.30E-15	-10.763678
1.00000	-119.501786	7.298046	-8.84E-16	-1.44E-17	1.55E-15	-12.818832

COMB COMB7 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-77.069673	-2.489993	3.02E-16	-3.56E-17	6.95E-16	-5.930119
0.50000	-82.850861	2.162811	-2.61E-16	-3.56E-17	6.83E-16	-5.833092
1.00000	-88.956297	7.103141	-8.60E-16	-3.56E-17	9.72E-16	-8.217517

COMB COMB7 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-77.069673	-2.489993	3.02E-16	-3.56E-17	6.95E-16	-5.930119
0.50000	-82.850861	2.162811	-2.61E-16	-3.56E-17	6.83E-16	-5.833092
1.00000	-88.956297	7.103141	-8.60E-16	-3.56E-17	9.72E-16	-8.217517

COMB COMB8 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-78.122681	-4.677834	5.66E-16	-1.51E-17	1.64E-15	-13.477883
0.50000	-83.903868	-0.025029	2.44E-18	-1.51E-17	1.49E-15	-12.248999
1.00000	-90.009304	4.915301	-5.96E-16	-1.51E-17	1.64E-15	-13.501569

COMB COMB8 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-78.122681	-4.677834	5.66E-16	-1.51E-17	1.64E-15	-13.477883
0.50000	-83.903868	-0.025029	2.44E-18	-1.51E-17	1.49E-15	-12.248999
1.00000	-90.009304	4.915301	-5.96E-16	-1.51E-17	1.64E-15	-13.501569

ELEM 24 ========== LENGTH = 1.034680

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-182.955744	-18.225843	2.21E-15	-1.19E-17	1.33E-15	-10.955834
0.50000	-197.731219	-8.769089	1.06E-15	-1.19E-17	4.77E-16	-3.949349
1.00000	-213.283131	1.237470	-1.50E-16	-1.19E-17	2.38E-16	-1.977442

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-182.955744	-18.225843	2.21E-15	-1.19E-17	1.33E-15	-10.955834
0.50000	-197.731219	-8.769089	1.06E-15	-1.19E-17	4.77E-16	-3.949349
1.00000	-213.283131	1.237470	-1.50E-16	-1.19E-17	2.38E-16	-1.977442

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-117.038572	-5.135393	6.22E-16	1.96E-17	-1.78E-15	14.678530
0.50000	-126.283931	3.837530	-4.65E-16	1.96E-17	-1.82E-15	15.036848

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
1.00000	-136.013486	13.334689	-1.61E-15	1.96E-17	-1.28E-15	10.617509

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-117.038572	-5.135393	6.22E-16	1.96E-17	-1.78E-15	14.678530
0.50000	-126.283931	3.837530	-4.65E-16	1.96E-17	-1.82E-15	15.036848
1.00000	-136.013486	13.334689	-1.61E-15	1.96E-17	-1.28E-15	10.617509

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-183.761914	-27.439552	3.32E-15	-5.00E-17	5.01E-15	-41.366026
0.50000	-198.891813	-22.033811	2.67E-15	-5.00E-17	3.45E-15	-28.555352
1.00000	-214.819069	-16.317372	1.98E-15	-5.00E-17	2.25E-15	-18.621652

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-183.761914	-27.439552	3.32E-15	-5.00E-17	5.01E-15	-41.366026
0.50000	-198.891813	-22.033811	2.67E-15	-5.00E-17	3.45E-15	-28.555352
1.00000	-214.819069	-16.317372	1.98E-15	-5.00E-17	2.25E-15	-18.621652

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-136.651465	-11.087584	1.34E-15	-5.08E-17	7.17E-16	-6.121965
0.50000	-147.733071	-3.995018	4.85E-16	-5.08E-17	2.42E-16	-2.202770
1.00000	-159.397005	3.509901	-4.24E-16	-5.08E-17	2.24E-16	-2.059507

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-136.651465	-11.087584	1.34E-15	-5.08E-17	7.17E-16	-6.121965
0.50000	-147.733071	-3.995018	4.85E-16	-5.08E-17	2.42E-16	-2.202770
1.00000	-159.397005	3.509901	-4.24E-16	-5.08E-17	2.24E-16	-2.059507

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-137.637129	-14.593761	1.77E-15	-1.20E-17	1.72E-15	-14.048043
0.50000	-148.718736	-7.501195	9.08E-16	-1.20E-17	1.03E-15	-8.314961
1.00000	-160.382670	0.003724	-1.33E-18	-1.20E-17	7.90E-16	-6.357812

COMB COMB5 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-137.637129	-14.593761	1.77E-15	-1.20E-17	1.72E-15	-14.048043
0.50000	-148.718736	-7.501195	9.08E-16	-1.20E-17	1.03E-15	-8.314961
1.00000	-160.382670	0.003724	-1.33E-18	-1.20E-17	7.90E-16	-6.357812

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-118.953661	-13.563365	1.64E-15	-1.49E-17	1.55E-15	-12.818832
0.50000	-128.614612	-8.182545	9.91E-16	-1.49E-17	8.68E-16	-7.180357
1.00000	-138.783666	-2.489564	3.02E-16	-1.49E-17	5.32E-16	-4.406344

COMB COMB6 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-118.953661	-13.563365	1.64E-15	-1.49E-17	1.55E-15	-12.818832
0.50000	-128.614612	-8.182545	9.91E-16	-1.49E-17	8.68E-16	-7.180357
1.00000	-138.783666	-2.489564	3.02E-16	-1.49E-17	5.32E-16	-4.406344

COMB COMB7 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-88.838350	-8.451324	1.02E-15	-3.91E-17	9.78E-16	-8.217517
0.50000	-96.084063	-4.415710	5.35E-16	-3.91E-17	5.74E-16	-4.879106
1.00000	-103.710854	-0.145974	1.83E-17	-3.91E-17	4.29E-16	-3.689042

COMB COMB7 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-88.838350	-8.451324	1.02E-15	-3.91E-17	9.78E-16	-8.217517
0.50000	-96.084063	-4.415710	5.35E-16	-3.91E-17	5.74E-16	-4.879106
1.00000	-103.710854	-0.145974	1.83E-17	-3.91E-17	4.29E-16	-3.689042

COMB COMB8 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-89.495460	-10.788776	1.31E-15	-1.32E-17	1.65E-15	-13.501569
0.50000	-96.741173	-6.753161	8.17E-16	-1.32E-17	1.10E-15	-8.953900
1.00000	-104.367964	-2.483426	3.00E-16	-1.32E-17	8.07E-16	-6.554578

COMB COMB8 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-89.495460	-10.788776	1.31E-15	-1.32E-17	1.65E-15	-13.501569
0.50000	-96.741173	-6.753161	8.17E-16	-1.32E-17	1.10E-15	-8.953900
1.00000	-104.367964	-2.483426	3.00E-16	-1.32E-17	8.07E-16	-6.554578

ELEM 25 ========== LENGTH = 1.200000

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-212.579349	-17.356431	7.09E-21	-1.19E-17	-1.61E-19	-1.977442
0.50000	-214.466364	-6.764871	7.09E-21	-1.19E-17	-1.65E-19	5.291349
1.00000	-216.353378	4.474689	7.09E-21	-1.19E-17	-1.70E-19	6.010803

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-212.579349	-17.356431	7.09E-21	-1.19E-17	-1.61E-19	-1.977442
0.50000	-214.466364	-6.764871	7.09E-21	-1.19E-17	-1.65E-19	5.291349
1.00000	-216.353378	4.474689	7.09E-21	-1.19E-17	-1.70E-19	6.010803

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-136.658111	1.429370	4.75E-21	1.97E-17	-1.06E-19	10.617509
0.50000	-137.871192	12.020930	4.75E-21	1.97E-17	-1.09E-19	6.614819
1.00000	-139.084272	23.260490	4.75E-21	1.97E-17	-1.12E-19	-3.937207

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-136.658111	1.429370	4.75E-21	1.97E-17	-1.06E-19	10.617509
0.50000	-137.871192	12.020930	4.75E-21	1.97E-17	-1.09E-19	6.614819
1.00000	-139.084272	23.260490	4.75E-21	1.97E-17	-1.12E-19	-3.937207

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-212.579408	-34.978337	6.82E-21	-5.02E-17	-1.58E-19	-18.621652
0.50000	-214.466423	-29.682557	6.82E-21	-5.02E-17	-1.62E-19	0.792816
1.00000	-216.353437	-24.062777	6.82E-21	-5.02E-17	-1.66E-19	16.932617

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-212.579408	-34.978337	6.82E-21	-5.02E-17	-1.58E-19	-18.621652
0.50000	-214.466423	-29.682557	6.82E-21	-5.02E-17	-1.62E-19	0.792816
1.00000	-216.353437	-24.062777	6.82E-21	-5.02E-17	-1.66E-19	16.932617

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-159.096343	-10.396076	8.93E-19	-5.29E-17	-2.10E-17	-2.059507
0.50000	-160.511604	-2.452406	8.93E-19	-5.29E-17	-2.15E-17	1.819338
1.00000	-161.926864	5.977264	8.93E-19	-5.29E-17	-2.20E-17	0.786180

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-159.096343	-10.396076	8.93E-19	-5.29E-17	-2.10E-17	-2.059507
0.50000	-160.511604	-2.452406	8.93E-19	-5.29E-17	-2.15E-17	1.819338
1.00000	-161.926864	5.977264	8.93E-19	-5.29E-17	-2.20E-17	0.786180

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-159.772667	-13.974818	-8.82E-19	-1.02E-17	2.07E-17	-6.357812

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
0.50000	-161.187928	-6.031148	-8.82E-19	-1.02E-17	2.13E-17	-0.331722
1.00000	-162.603189	2.398522	-8.82E-19	-1.02E-17	2.18E-17	0.782366

COMB COMB5 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-159.772667	-13.974818	-8.82E-19	-1.02E-17	2.07E-17	-6.357812
0.50000	-161.187928	-6.031148	-8.82E-19	-1.02E-17	2.13E-17	-0.331722
1.00000	-162.603189	2.398522	-8.82E-19	-1.02E-17	2.18E-17	0.782366

COMB COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-138.038549	-14.576106	4.56E-21	-1.49E-17	-1.04E-19	-4.406344
0.50000	-139.263884	-8.691906	4.56E-21	-1.49E-17	-1.07E-19	2.592060
1.00000	-140.489218	-2.447706	4.56E-21	-1.49E-17	-1.09E-19	5.951944

COMB COMB6 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-138.038549	-14.576106	4.56E-21	-1.49E-17	-1.04E-19	-4.406344
0.50000	-139.263884	-8.691906	4.56E-21	-1.49E-17	-1.07E-19	2.592060
1.00000	-140.489218	-2.447706	4.56E-21	-1.49E-17	-1.09E-19	5.951944

COMB COMB7 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-103.303466	-9.184582	5.95E-19	-4.05E-17	-1.40E-17	-3.689042
0.50000	-104.222467	-4.771432	5.95E-19	-4.05E-17	-1.43E-17	0.511262
1.00000	-105.141467	-0.088282	5.95E-19	-4.05E-17	-1.47E-17	1.982676

COMB COMB7 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-103.303466	-9.184582	5.95E-19	-4.05E-17	-1.40E-17	-3.689042
0.50000	-104.222467	-4.771432	5.95E-19	-4.05E-17	-1.43E-17	0.511262
1.00000	-105.141467	-0.088282	5.95E-19	-4.05E-17	-1.47E-17	1.982676

COMB COMB8 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-103.754349	-11.570410	-5.88E-19	-1.21E-17	1.38E-17	-6.554578
0.50000	-104.673350	-7.157260	-5.88E-19	-1.21E-17	1.42E-17	-0.922777
1.00000	-105.592350	-2.474110	-5.88E-19	-1.21E-17	1.45E-17	1.980134

COMB COMB8 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-103.754349	-11.570410	-5.88E-19	-1.21E-17	1.38E-17	-6.554578
0.50000	-104.673350	-7.157260	-5.88E-19	-1.21E-17	1.42E-17	-0.922777
1.00000	-105.592350	-2.474110	-5.88E-19	-1.21E-17	1.45E-17	1.980134

F R A M E E L E M E N T I N T E R N A L F O R C E S

ELEM 26 ========== LENGTH = 1.687847

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-216.353378	4.474689	7.09E-21	-1.39E-16	-1.70E-19	6.010803
0.50000	-219.475919	21.380333	7.09E-21	-1.39E-16	-1.76E-19	-4.808862
1.00000	-222.598461	39.568066	7.09E-21	-1.39E-16	-1.82E-19	-30.436590

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-216.353378	4.474689	7.09E-21	-1.39E-16	-1.70E-19	6.010803
0.50000	-219.475919	21.380333	7.09E-21	-1.39E-16	-1.76E-19	-4.808862
1.00000	-222.598461	39.568066	7.09E-21	-1.39E-16	-1.82E-19	-30.436590

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-139.084272	23.260490	4.75E-21	-5.15E-15	-1.12E-19	-3.937207
0.50000	-141.091620	40.166135	4.75E-21	-5.15E-15	-1.16E-19	-30.610651
1.00000	-143.098968	58.353868	4.75E-21	-5.15E-15	-1.20E-19	-72.092159

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-139.084272	23.260490	4.75E-21	-5.15E-15	-1.12E-19	-3.937207
0.50000	-141.091620	40.166135	4.75E-21	-5.15E-15	-1.16E-19	-30.610651
1.00000	-143.098968	58.353868	4.75E-21	-5.15E-15	-1.20E-19	-72.092159

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-216.353437	-24.062777	6.82E-21	6.95E-15	-1.66E-19	16.932617
0.50000	-219.475978	-15.609955	6.82E-21	6.95E-15	-1.72E-19	33.718075
1.00000	-222.598520	-6.516089	6.82E-21	6.95E-15	-1.77E-19	43.099502

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-216.353437	-24.062777	6.82E-21	6.95E-15	-1.66E-19	16.932617
0.50000	-219.475978	-15.609955	6.82E-21	6.95E-15	-1.72E-19	33.718075
1.00000	-222.598520	-6.516089	6.82E-21	6.95E-15	-1.77E-19	43.099502

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-161.926864	5.977264	8.93E-19	2.17E-16	-2.20E-17	0.786180
0.50000	-164.268770	18.656497	8.93E-19	2.17E-16	-2.28E-17	-9.540701
1.00000	-166.610676	32.297297	8.93E-19	2.17E-16	-2.36E-17	-30.973629

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-161.926864	5.977264	8.93E-19	2.17E-16	-2.20E-17	0.786180
0.50000	-164.268770	18.656497	8.93E-19	2.17E-16	-2.28E-17	-9.540701
1.00000	-166.610676	32.297297	8.93E-19	2.17E-16	-2.36E-17	-30.973629

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-162.603189	2.398522	-8.82E-19	-1.47E-15	2.18E-17	0.782366
0.50000	-164.945095	15.077755	-8.82E-19	-1.47E-15	2.25E-17	-6.524330
1.00000	-167.287001	28.718555	-8.82E-19	-1.47E-15	2.33E-17	-24.937074

COMB COMB5 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-162.603189	2.398522	-8.82E-19	-1.47E-15	2.18E-17	0.782366
0.50000	-164.945095	15.077755	-8.82E-19	-1.47E-15	2.25E-17	-6.524330
1.00000	-167.287001	28.718555	-8.82E-19	-1.47E-15	2.33E-17	-24.937074

COMB COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-140.489218	-2.447706	4.56E-21	1.24E-15	-1.09E-19	5.951944
0.50000	-142.516842	6.944318	4.56E-21	1.24E-15	-1.13E-19	4.104638
1.00000	-144.544466	17.048614	4.56E-21	1.24E-15	-1.17E-19	-5.969370

COMB COMB6 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-140.489218	-2.447706	4.56E-21	1.24E-15	-1.09E-19	5.951944
0.50000	-142.516842	6.944318	4.56E-21	1.24E-15	-1.13E-19	4.104638
1.00000	-144.544466	17.048614	4.56E-21	1.24E-15	-1.17E-19	-5.969370

COMB COMB7 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-105.141467	-0.088282	5.95E-19	1.14E-15	-1.47E-17	1.982676
0.50000	-106.662185	6.955737	5.95E-19	1.14E-15	-1.52E-17	-0.877558
1.00000	-108.182903	14.533959	5.95E-19	1.14E-15	-1.57E-17	-9.907819

COMB COMB7 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-105.141467	-0.088282	5.95E-19	1.14E-15	-1.47E-17	1.982676
0.50000	-106.662185	6.955737	5.95E-19	1.14E-15	-1.52E-17	-0.877558
1.00000	-108.182903	14.533959	5.95E-19	1.14E-15	-1.57E-17	-9.907819

COMB COMB8 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-105.592350	-2.474110	-5.88E-19	2.24E-17	1.45E-17	1.980134

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
0.50000	-107.113068	4.569909	-5.88E-19	2.24E-17	1.50E-17	1.133356
1.00000	-108.633786	12.148131	-5.88E-19	2.24E-17	1.55E-17	-5.883449

COMB COMB8 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-105.592350	-2.474110	-5.88E-19	2.24E-17	1.45E-17	1.980134
0.50000	-107.113068	4.569909	-5.88E-19	2.24E-17	1.50E-17	1.133356
1.00000	-108.633786	12.148131	-5.88E-19	2.24E-17	1.55E-17	-5.883449

ELEM 27 ========== LENGTH = 1.075000

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-39.568060	35.232072	-4.27E-15	-1.82E-19	-3.66E-15	30.321227
0.25000	-39.568060	36.226455	-4.39E-15	-1.82E-19	-2.50E-15	20.718987
0.50000	-39.568060	37.220837	-4.51E-15	-1.82E-19	-1.30E-15	10.849507
0.75000	-39.568060	38.215220	-4.63E-15	-1.82E-19	-7.45E-17	0.712787
1.00000	-39.568060	39.209603	-4.75E-15	-1.82E-19	1.19E-15	-9.691173

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-39.568060	35.232072	-4.27E-15	-1.82E-19	-3.66E-15	30.321227
0.25000	-39.568060	36.226455	-4.39E-15	-1.82E-19	-2.50E-15	20.718987
0.50000	-39.568060	37.220837	-4.51E-15	-1.82E-19	-1.30E-15	10.849507
0.75000	-39.568060	38.215220	-4.63E-15	-1.82E-19	-7.45E-17	0.712787
1.00000	-39.568060	39.209603	-4.75E-15	-1.82E-19	1.19E-15	-9.691173

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-58.353862	61.609135	-7.46E-15	-1.20E-19	-8.74E-15	72.018631
0.25000	-58.353862	62.248381	-7.54E-15	-1.20E-19	-6.73E-15	55.375277
0.50000	-58.353862	62.887627	-7.62E-15	-1.20E-19	-4.69E-15	38.560126
0.75000	-58.353862	63.526873	-7.69E-15	-1.20E-19	-2.63E-15	21.573178
1.00000	-58.353862	64.166119	-7.77E-15	-1.20E-19	-5.54E-16	4.414432

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-58.353862	61.609135	-7.46E-15	-1.20E-19	-8.74E-15	72.018631
0.25000	-58.353862	62.248381	-7.54E-15	-1.20E-19	-6.73E-15	55.375277
0.50000	-58.353862	62.887627	-7.62E-15	-1.20E-19	-4.69E-15	38.560126
0.75000	-58.353862	63.526873	-7.69E-15	-1.20E-19	-2.63E-15	21.573178
1.00000	-58.353862	64.166119	-7.77E-15	-1.20E-19	-5.54E-16	4.414432

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	6.516092	-19.311852	2.34E-15	-1.77E-19	5.28E-15	-43.215753

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
0.25000	6.516092	-18.317470	2.22E-15	-1.77E-19	4.67E-15	-38.159313
0.50000	6.516092	-17.323087	2.10E-15	-1.77E-19	4.09E-15	-33.370113
0.75000	6.516092	-16.328704	1.98E-15	-1.77E-19	3.54E-15	-28.848153
1.00000	6.516092	-15.334322	1.86E-15	-1.77E-19	3.03E-15	-24.593434

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	6.516092	-19.311852	2.34E-15	-1.77E-19	5.28E-15	-43.215753
0.25000	6.516092	-18.317470	2.22E-15	-1.77E-19	4.67E-15	-38.159313
0.50000	6.516092	-17.323087	2.10E-15	-1.77E-19	4.09E-15	-33.370113
0.75000	6.516092	-16.328704	1.98E-15	-1.77E-19	3.54E-15	-28.848153
1.00000	6.516092	-15.334322	1.86E-15	-1.77E-19	3.03E-15	-24.593434

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-32.297293	28.300676	-3.43E-15	-2.36E-17	-4.32E-15	36.010371
0.25000	-32.297293	29.046463	-3.52E-15	-2.36E-17	-3.39E-15	28.304349
0.50000	-32.297293	29.792250	-3.61E-15	-2.36E-17	-2.43E-15	20.397897
0.75000	-32.297293	30.538037	-3.70E-15	-2.36E-17	-1.45E-15	12.291015
1.00000	-32.297293	31.283824	-3.79E-15	-2.36E-17	-4.42E-16	3.983702

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-32.297293	28.300676	-3.43E-15	-2.36E-17	-4.32E-15	36.010371
0.25000	-32.297293	29.046463	-3.52E-15	-2.36E-17	-3.39E-15	28.304349
0.50000	-32.297293	29.792250	-3.61E-15	-2.36E-17	-2.43E-15	20.397897
0.75000	-32.297293	30.538037	-3.70E-15	-2.36E-17	-1.45E-15	12.291015
1.00000	-32.297293	31.283824	-3.79E-15	-2.36E-17	-4.42E-16	3.983702

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-28.718550	32.154545	-3.89E-15	2.33E-17	-2.37E-15	19.727499
0.25000	-28.718550	32.900332	-3.98E-15	2.33E-17	-1.31E-15	10.985750
0.50000	-28.718550	33.646119	-4.07E-15	2.33E-17	-2.24E-16	2.043570
0.75000	-28.718550	34.391906	-4.16E-15	2.33E-17	8.83E-16	-7.099039
1.00000	-28.718550	35.137693	-4.25E-15	2.33E-17	2.01E-15	-16.442079

COMB COMB5 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-28.718550	32.154545	-3.89E-15	2.33E-17	-2.37E-15	19.727499
0.25000	-28.718550	32.900332	-3.98E-15	2.33E-17	-1.31E-15	10.985750
0.50000	-28.718550	33.646119	-4.07E-15	2.33E-17	-2.24E-16	2.043570
0.75000	-28.718550	34.391906	-4.16E-15	2.33E-17	8.83E-16	-7.099039
1.00000	-28.718550	35.137693	-4.25E-15	2.33E-17	2.01E-15	-16.442079

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-17.048611	12.646064	-1.53E-15	-1.17E-19	-6.99E-16	5.894293
0.25000	-17.048611	13.291767	-1.61E-15	-1.17E-19	-2.77E-16	2.408897
0.50000	-17.048611	13.937470	-1.69E-15	-1.17E-19	1.66E-16	-1.250032
0.75000	-17.048611	14.583173	-1.77E-15	-1.17E-19	6.30E-16	-5.082494
1.00000	-17.048611	15.228876	-1.84E-15	-1.17E-19	1.12E-15	-9.088488

COMB COMB6 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-17.048611	12.646064	-1.53E-15	-1.17E-19	-6.99E-16	5.894293
0.25000	-17.048611	13.291767	-1.61E-15	-1.17E-19	-2.77E-16	2.408897
0.50000	-17.048611	13.937470	-1.69E-15	-1.17E-19	1.66E-16	-1.250032
0.75000	-17.048611	14.583173	-1.77E-15	-1.17E-19	6.30E-16	-5.082494
1.00000	-17.048611	15.228876	-1.84E-15	-1.17E-19	1.12E-15	-9.088488

COMB COMB7 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-14.533956	10.735629	-1.30E-15	-1.57E-17	-1.58E-15	13.267020
0.25000	-14.533956	11.219906	-1.36E-15	-1.57E-17	-1.22E-15	10.316745
0.50000	-14.533956	11.704184	-1.42E-15	-1.57E-17	-8.45E-16	7.236320
0.75000	-14.533956	12.188461	-1.48E-15	-1.57E-17	-4.66E-16	4.025746
1.00000	-14.533956	12.672738	-1.54E-15	-1.57E-17	-5.09E-17	0.685022

COMB COMB7 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-14.533956	10.735629	-1.30E-15	-1.57E-17	-1.58E-15	13.267020
0.25000	-14.533956	11.219906	-1.36E-15	-1.57E-17	-1.22E-15	10.316745
0.50000	-14.533956	11.704184	-1.42E-15	-1.57E-17	-8.45E-16	7.236320
0.75000	-14.533956	12.188461	-1.48E-15	-1.57E-17	-4.66E-16	4.025746
1.00000	-14.533956	12.672738	-1.54E-15	-1.57E-17	-5.09E-17	0.685022

COMB COMB8 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-12.148128	13.304875	-1.61E-15	1.55E-17	-2.71E-16	2.411772
0.25000	-12.148128	13.789153	-1.67E-15	1.55E-17	1.70E-16	-1.228988
0.50000	-12.148128	14.273430	-1.73E-15	1.55E-17	6.26E-16	-4.999898
0.75000	-12.148128	14.757707	-1.79E-15	1.55E-17	1.10E-15	-8.900957
1.00000	-12.148128	15.241985	-1.85E-15	1.55E-17	1.59E-15	-12.932165

COMB COMB8 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-12.148128	13.304875	-1.61E-15	1.55E-17	-2.71E-16	2.411772
0.25000	-12.148128	13.789153	-1.67E-15	1.55E-17	1.70E-16	-1.228988
0.50000	-12.148128	14.273430	-1.73E-15	1.55E-17	6.26E-16	-4.999898
0.75000	-12.148128	14.757707	-1.79E-15	1.55E-17	1.10E-15	-8.900957
1.00000	-12.148128	15.241985	-1.85E-15	1.55E-17	1.59E-15	-12.932165

F R A M E E L E M E N T I N T E R N A L F O R C E S

ELEM 28 ========== LENGTH = 1.000000

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-39.568060	-7.572778	9.17E-16	-1.82E-19	1.19E-15	-9.691173
0.25000	-39.568060	-6.647770	8.05E-16	-1.82E-19	9.70E-16	-7.913605
0.50000	-39.568060	-5.722763	6.93E-16	-1.82E-19	7.83E-16	-6.367288
0.75000	-39.568060	-4.797756	5.81E-16	-1.82E-19	6.24E-16	-5.052223
1.00000	-39.568060	-3.872749	4.69E-16	-1.82E-19	4.92E-16	-3.968410

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-39.568060	-7.572778	9.17E-16	-1.82E-19	1.19E-15	-9.691173
0.25000	-39.568060	-6.647770	8.05E-16	-1.82E-19	9.70E-16	-7.913605
0.50000	-39.568060	-5.722763	6.93E-16	-1.82E-19	7.83E-16	-6.367288
0.75000	-39.568060	-4.797756	5.81E-16	-1.82E-19	6.24E-16	-5.052223
1.00000	-39.568060	-3.872749	4.69E-16	-1.82E-19	4.92E-16	-3.968410

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-58.353862	5.852407	-7.09E-16	-1.20E-19	-5.54E-16	4.414432
0.25000	-58.353862	6.447055	-7.81E-16	-1.20E-19	-3.68E-16	2.876999
0.50000	-58.353862	7.041702	-8.53E-16	-1.20E-19	-1.64E-16	1.190905
0.75000	-58.353862	7.636350	-9.25E-16	-1.20E-19	5.82E-17	-0.643852
1.00000	-58.353862	8.230997	-9.97E-16	-1.20E-19	2.98E-16	-2.627270

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-58.353862	5.852407	-7.09E-16	-1.20E-19	-5.54E-16	4.414432
0.25000	-58.353862	6.447055	-7.81E-16	-1.20E-19	-3.68E-16	2.876999
0.50000	-58.353862	7.041702	-8.53E-16	-1.20E-19	-1.64E-16	1.190905
0.75000	-58.353862	7.636350	-9.25E-16	-1.20E-19	5.82E-17	-0.643852
1.00000	-58.353862	8.230997	-9.97E-16	-1.20E-19	2.98E-16	-2.627270

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	6.516092	-22.581647	2.73E-15	-1.77E-19	3.03E-15	-24.593434
0.25000	6.516092	-21.656640	2.62E-15	-1.77E-19	2.36E-15	-19.063648
0.50000	6.516092	-20.731633	2.51E-15	-1.77E-19	1.72E-15	-13.765114
0.75000	6.516092	-19.806626	2.40E-15	-1.77E-19	1.10E-15	-8.697832
1.00000	6.516092	-18.881619	2.29E-15	-1.77E-19	5.18E-16	-3.861801

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	6.516092	-22.581647	2.73E-15	-1.77E-19	3.03E-15	-24.593434
0.25000	6.516092	-21.656640	2.62E-15	-1.77E-19	2.36E-15	-19.063648
0.50000	6.516092	-20.731633	2.51E-15	-1.77E-19	1.72E-15	-13.765114

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
0.75000	6.516092	-19.806626	2.40E-15	-1.77E-19	1.10E-15	-8.697832
1.00000	6.516092	-18.881619	2.29E-15	-1.77E-19	5.18E-16	-3.861801

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-32.297293	-2.177698	2.63E-16	-2.36E-17	-4.42E-16	3.983702
0.25000	-32.297293	-1.483943	1.79E-16	-2.36E-17	-4.97E-16	4.441407
0.50000	-32.297293	-0.790187	9.48E-17	-2.36E-17	-5.32E-16	4.725673
0.75000	-32.297293	-0.096432	1.08E-17	-2.36E-17	-5.45E-16	4.836501
1.00000	-32.297293	0.597323	-7.32E-17	-2.36E-17	-5.37E-16	4.773889

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-32.297293	-2.177698	2.63E-16	-2.36E-17	-4.42E-16	3.983702
0.25000	-32.297293	-1.483943	1.79E-16	-2.36E-17	-4.97E-16	4.441407
0.50000	-32.297293	-0.790187	9.48E-17	-2.36E-17	-5.32E-16	4.725673
0.75000	-32.297293	-0.096432	1.08E-17	-2.36E-17	-5.45E-16	4.836501
1.00000	-32.297293	0.597323	-7.32E-17	-2.36E-17	-5.37E-16	4.773889

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-28.718550	-7.088217	8.59E-16	2.33E-17	2.01E-15	-16.442079
0.25000	-28.718550	-6.394461	7.75E-16	2.33E-17	1.81E-15	-14.756745
0.50000	-28.718550	-5.700706	6.91E-16	2.33E-17	1.63E-15	-13.244849
0.75000	-28.718550	-5.006951	6.07E-16	2.33E-17	1.46E-15	-11.906391
1.00000	-28.718550	-4.313195	5.23E-16	2.33E-17	1.32E-15	-10.741373

COMB COMB5 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-28.718550	-7.088217	8.59E-16	2.33E-17	2.01E-15	-16.442079
0.25000	-28.718550	-6.394461	7.75E-16	2.33E-17	1.81E-15	-14.756745
0.50000	-28.718550	-5.700706	6.91E-16	2.33E-17	1.63E-15	-13.244849
0.75000	-28.718550	-5.006951	6.07E-16	2.33E-17	1.46E-15	-11.906391
1.00000	-28.718550	-4.313195	5.23E-16	2.33E-17	1.32E-15	-10.741373

COMB COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-17.048611	-7.732905	9.37E-16	-1.17E-19	1.12E-15	-9.088488
0.25000	-17.048611	-7.132251	8.64E-16	-1.17E-19	8.91E-16	-7.230343
0.50000	-17.048611	-6.531597	7.91E-16	-1.17E-19	6.84E-16	-5.522362
0.75000	-17.048611	-5.930943	7.18E-16	-1.17E-19	4.95E-16	-3.964545
1.00000	-17.048611	-5.330289	6.46E-16	-1.17E-19	3.25E-16	-2.556891

COMB COMB6 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-17.048611	-7.732905	9.37E-16	-1.17E-19	1.12E-15	-9.088488

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
0.25000	-17.048611	-7.132251	8.64E-16	-1.17E-19	8.91E-16	-7.230343
0.50000	-17.048611	-6.531597	7.91E-16	-1.17E-19	6.84E-16	-5.522362
0.75000	-17.048611	-5.930943	7.18E-16	-1.17E-19	4.95E-16	-3.964545
1.00000	-17.048611	-5.330289	6.46E-16	-1.17E-19	3.25E-16	-2.556891

COMB COMB7 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-14.533956	-3.465089	4.19E-16	-1.57E-17	-5.09E-17	0.685022
0.25000	-14.533956	-3.014598	3.64E-16	-1.57E-17	-1.49E-16	1.494983
0.50000	-14.533956	-2.564108	3.10E-16	-1.57E-17	-2.33E-16	2.192321
0.75000	-14.533956	-2.113617	2.55E-16	-1.57E-17	-3.04E-16	2.777037
1.00000	-14.533956	-1.663127	2.01E-16	-1.57E-17	-3.61E-16	3.249130

COMB COMB7 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-14.533956	-3.465089	4.19E-16	-1.57E-17	-5.09E-17	0.685022
0.25000	-14.533956	-3.014598	3.64E-16	-1.57E-17	-1.49E-16	1.494983
0.50000	-14.533956	-2.564108	3.10E-16	-1.57E-17	-2.33E-16	2.192321
0.75000	-14.533956	-2.113617	2.55E-16	-1.57E-17	-3.04E-16	2.777037
1.00000	-14.533956	-1.663127	2.01E-16	-1.57E-17	-3.61E-16	3.249130

COMB COMB8 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-12.148128	-6.738768	8.17E-16	1.55E-17	1.59E-15	-12.932165
0.25000	-12.148128	-6.288277	7.62E-16	1.55E-17	1.39E-15	-11.303785
0.50000	-12.148128	-5.837787	7.08E-16	1.55E-17	1.21E-15	-9.788027
0.75000	-12.148128	-5.387296	6.53E-16	1.55E-17	1.04E-15	-8.384891
1.00000	-12.148128	-4.936806	5.98E-16	1.55E-17	8.79E-16	-7.094379

COMB COMB8 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-12.148128	-6.738768	8.17E-16	1.55E-17	1.59E-15	-12.932165
0.25000	-12.148128	-6.288277	7.62E-16	1.55E-17	1.39E-15	-11.303785
0.50000	-12.148128	-5.837787	7.08E-16	1.55E-17	1.21E-15	-9.788027
0.75000	-12.148128	-5.387296	6.53E-16	1.55E-17	1.04E-15	-8.384891
1.00000	-12.148128	-4.936806	5.98E-16	1.55E-17	8.79E-16	-7.094379

ELEM 29 ========== LENGTH = 1.000000

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-39.568060	-4.986856	6.04E-16	-1.82E-19	4.92E-16	-3.968410
0.25000	-39.568060	-4.274600	5.18E-16	-1.82E-19	3.52E-16	-2.810728
0.50000	-39.568060	-3.562345	4.31E-16	-1.82E-19	2.34E-16	-1.831110
0.75000	-39.568060	-2.850089	3.45E-16	-1.82E-19	1.37E-16	-1.029556
1.00000	-39.568060	-2.137834	2.59E-16	-1.82E-19	6.10E-17	-0.406066

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-39.568060	-4.986856	6.04E-16	-1.82E-19	4.92E-16	-3.968410
0.25000	-39.568060	-4.274600	5.18E-16	-1.82E-19	3.52E-16	-2.810728
0.50000	-39.568060	-3.562345	4.31E-16	-1.82E-19	2.34E-16	-1.831110
0.75000	-39.568060	-2.850089	3.45E-16	-1.82E-19	1.37E-16	-1.029556
1.00000	-39.568060	-2.137834	2.59E-16	-1.82E-19	6.10E-17	-0.406066

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-58.353862	-2.788343	3.38E-16	-1.20E-19	2.98E-16	-2.627270
0.25000	-58.353862	-2.330464	2.82E-16	-1.20E-19	2.21E-16	-1.987419
0.50000	-58.353862	-1.872586	2.27E-16	-1.20E-19	1.57E-16	-1.462038
0.75000	-58.353862	-1.414707	1.71E-16	-1.20E-19	1.08E-16	-1.051127
1.00000	-58.353862	-0.956828	1.16E-16	-1.20E-19	7.16E-17	-0.754685

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-58.353862	-2.788343	3.38E-16	-1.20E-19	2.98E-16	-2.627270
0.25000	-58.353862	-2.330464	2.82E-16	-1.20E-19	2.21E-16	-1.987419
0.50000	-58.353862	-1.872586	2.27E-16	-1.20E-19	1.57E-16	-1.462038
0.75000	-58.353862	-1.414707	1.71E-16	-1.20E-19	1.08E-16	-1.051127
1.00000	-58.353862	-0.956828	1.16E-16	-1.20E-19	7.16E-17	-0.754685

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	6.516092	-5.571346	6.75E-16	-1.77E-19	5.18E-16	-3.861801
0.25000	6.516092	-4.859090	5.88E-16	-1.77E-19	3.60E-16	-2.557997
0.50000	6.516092	-4.146835	5.02E-16	-1.77E-19	2.24E-16	-1.432256
0.75000	6.516092	-3.434579	4.16E-16	-1.77E-19	1.09E-16	-0.484579
1.00000	6.516092	-2.722324	3.30E-16	-1.77E-19	1.56E-17	0.285034

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	6.516092	-5.571346	6.75E-16	-1.77E-19	5.18E-16	-3.861801
0.25000	6.516092	-4.859090	5.88E-16	-1.77E-19	3.60E-16	-2.557997
0.50000	6.516092	-4.146835	5.02E-16	-1.77E-19	2.24E-16	-1.432256
0.75000	6.516092	-3.434579	4.16E-16	-1.77E-19	1.09E-16	-0.484579
1.00000	6.516092	-2.722324	3.30E-16	-1.77E-19	1.56E-17	0.285034

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-32.297293	-1.455115	1.75E-16	-2.36E-17	-5.37E-16	4.773889
0.25000	-32.297293	-0.920924	1.11E-16	-2.36E-17	-5.73E-16	5.070894
0.50000	-32.297293	-0.386732	4.59E-17	-2.36E-17	-5.92E-16	5.234351
0.75000	-32.297293	0.147460	-1.88E-17	-2.36E-17	-5.96E-16	5.264260
1.00000	-32.297293	0.681651	-8.34E-17	-2.36E-17	-5.83E-16	5.160621

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-32.297293	-1.455115	1.75E-16	-2.36E-17	-5.37E-16	4.773889
0.25000	-32.297293	-0.920924	1.11E-16	-2.36E-17	-5.73E-16	5.070894
0.50000	-32.297293	-0.386732	4.59E-17	-2.36E-17	-5.92E-16	5.234351
0.75000	-32.297293	0.147460	-1.88E-17	-2.36E-17	-5.96E-16	5.264260
1.00000	-32.297293	0.681651	-8.34E-17	-2.36E-17	-5.83E-16	5.160621

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-28.718550	-5.943651	7.21E-16	2.33E-17	1.32E-15	-10.741373
0.25000	-28.718550	-5.409459	6.56E-16	2.33E-17	1.15E-15	-9.322235
0.50000	-28.718550	-4.875268	5.91E-16	2.33E-17	9.95E-16	-8.036644
0.75000	-28.718550	-4.341076	5.27E-16	2.33E-17	8.55E-16	-6.884601
1.00000	-28.718550	-3.806884	4.62E-16	2.33E-17	7.31E-16	-5.866106

COMB COMB5 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-28.718550	-5.943651	7.21E-16	2.33E-17	1.32E-15	-10.741373
0.25000	-28.718550	-5.409459	6.56E-16	2.33E-17	1.15E-15	-9.322235
0.50000	-28.718550	-4.875268	5.91E-16	2.33E-17	9.95E-16	-8.036644
0.75000	-28.718550	-4.341076	5.27E-16	2.33E-17	8.55E-16	-6.884601
1.00000	-28.718550	-3.806884	4.62E-16	2.33E-17	7.31E-16	-5.866106

COMB COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-17.048611	-3.347863	4.05E-16	-1.17E-19	3.25E-16	-2.556891
0.25000	-17.048611	-2.885359	3.49E-16	-1.17E-19	2.30E-16	-1.777738
0.50000	-17.048611	-2.422855	2.93E-16	-1.17E-19	1.50E-16	-1.114211
0.75000	-17.048611	-1.960352	2.37E-16	-1.17E-19	8.35E-17	-0.566311
1.00000	-17.048611	-1.497848	1.81E-16	-1.17E-19	3.11E-17	-0.134035

COMB COMB6 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-17.048611	-3.347863	4.05E-16	-1.17E-19	3.25E-16	-2.556891
0.25000	-17.048611	-2.885359	3.49E-16	-1.17E-19	2.30E-16	-1.777738
0.50000	-17.048611	-2.422855	2.93E-16	-1.17E-19	1.50E-16	-1.114211
0.75000	-17.048611	-1.960352	2.37E-16	-1.17E-19	8.35E-17	-0.566311
1.00000	-17.048611	-1.497848	1.81E-16	-1.17E-19	3.11E-17	-0.134035

COMB COMB7 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-14.533956	-0.987546	1.19E-16	-1.57E-17	-3.61E-16	3.249130
0.25000	-14.533956	-0.640668	7.70E-17	-1.57E-17	-3.85E-16	3.452657
0.50000	-14.533956	-0.293791	3.50E-17	-1.57E-17	-3.99E-16	3.569464
0.75000	-14.533956	0.053087	-7.02E-18	-1.57E-17	-4.03E-16	3.599552
1.00000	-14.533956	0.399965	-4.90E-17	-1.57E-17	-3.96E-16	3.542920

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB7 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-14.533956	-0.987546	1.19E-16	-1.57E-17	-3.61E-16	3.249130
0.25000	-14.533956	-0.640668	7.70E-17	-1.57E-17	-3.85E-16	3.452657
0.50000	-14.533956	-0.293791	3.50E-17	-1.57E-17	-3.99E-16	3.569464
0.75000	-14.533956	0.053087	-7.02E-18	-1.57E-17	-4.03E-16	3.599552
1.00000	-14.533956	0.399965	-4.90E-17	-1.57E-17	-3.96E-16	3.542920

COMB COMB8 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-12.148128	-3.979903	4.83E-16	1.55E-17	8.79E-16	-7.094379
0.25000	-12.148128	-3.633025	4.41E-16	1.55E-17	7.64E-16	-6.142763
0.50000	-12.148128	-3.286148	3.99E-16	1.55E-17	6.59E-16	-5.277866
0.75000	-12.148128	-2.939270	3.57E-16	1.55E-17	5.64E-16	-4.499689
1.00000	-12.148128	-2.592392	3.15E-16	1.55E-17	4.80E-16	-3.808231

COMB COMB8 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-12.148128	-3.979903	4.83E-16	1.55E-17	8.79E-16	-7.094379
0.25000	-12.148128	-3.633025	4.41E-16	1.55E-17	7.64E-16	-6.142763
0.50000	-12.148128	-3.286148	3.99E-16	1.55E-17	6.59E-16	-5.277866
0.75000	-12.148128	-2.939270	3.57E-16	1.55E-17	5.64E-16	-4.499689
1.00000	-12.148128	-2.592392	3.15E-16	1.55E-17	4.80E-16	-3.808231

ELEM 30 ========== LENGTH = 1.000000

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-39.568060	-1.735958	2.10E-16	-1.82E-19	6.10E-17	-0.406066
0.25000	-39.568060	-1.023702	1.24E-16	-1.82E-19	1.92E-17	-0.061108
0.50000	-39.568060	-0.311447	3.77E-17	-1.82E-19	-9.76E-19	0.105786
0.75000	-39.568060	0.400809	-4.85E-17	-1.82E-19	3.79E-19	0.094615
1.00000	-39.568060	1.113064	-1.35E-16	-1.82E-19	2.33E-17	-0.094619

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-39.568060	-1.735958	2.10E-16	-1.82E-19	6.10E-17	-0.406066
0.25000	-39.568060	-1.023702	1.24E-16	-1.82E-19	1.92E-17	-0.061108
0.50000	-39.568060	-0.311447	3.77E-17	-1.82E-19	-9.76E-19	0.105786
0.75000	-39.568060	0.400809	-4.85E-17	-1.82E-19	3.79E-19	0.094615
1.00000	-39.568060	1.113064	-1.35E-16	-1.82E-19	2.33E-17	-0.094619

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-58.353862	-1.536677	1.86E-16	-1.20E-19	7.16E-17	-0.754685
0.25000	-58.353862	-1.078799	1.31E-16	-1.20E-19	3.20E-17	-0.427750
0.50000	-58.353862	-0.620920	7.52E-17	-1.20E-19	6.32E-18	-0.215285

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
0.75000	-58.353862	-0.163042	1.97E-17	-1.20E-19	-5.55E-18	-0.117290
1.00000	-58.353862	0.294837	-3.57E-17	-1.20E-19	-3.55E-18	-0.133764

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-58.353862	-1.536677	1.86E-16	-1.20E-19	7.16E-17	-0.754685
0.25000	-58.353862	-1.078799	1.31E-16	-1.20E-19	3.20E-17	-0.427750
0.50000	-58.353862	-0.620920	7.52E-17	-1.20E-19	6.32E-18	-0.215285
0.75000	-58.353862	-0.163042	1.97E-17	-1.20E-19	-5.55E-18	-0.117290
1.00000	-58.353862	0.294837	-3.57E-17	-1.20E-19	-3.55E-18	-0.133764

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	6.516092	-1.146972	1.39E-16	-1.77E-19	1.56E-17	0.285034
0.25000	6.516092	-0.434716	5.26E-17	-1.77E-19	-8.32E-18	0.482745
0.50000	6.516092	0.277539	-3.36E-17	-1.77E-19	-1.07E-17	0.502392
0.75000	6.516092	0.989795	-1.20E-16	-1.77E-19	8.49E-18	0.343975
1.00000	6.516092	1.702050	-2.06E-16	-1.77E-19	4.92E-17	0.007495

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	6.516092	-1.146972	1.39E-16	-1.77E-19	1.56E-17	0.285034
0.25000	6.516092	-0.434716	5.26E-17	-1.77E-19	-8.32E-18	0.482745
0.50000	6.516092	0.277539	-3.36E-17	-1.77E-19	-1.07E-17	0.502392
0.75000	6.516092	0.989795	-1.20E-16	-1.77E-19	8.49E-18	0.343975
1.00000	6.516092	1.702050	-2.06E-16	-1.77E-19	4.92E-17	0.007495

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-32.297293	-1.106903	1.33E-16	-2.36E-17	-5.83E-16	5.160621
0.25000	-32.297293	-0.572711	6.85E-17	-2.36E-17	-6.08E-16	5.370573
0.50000	-32.297293	-0.038520	3.77E-16	-2.36E-17	-6.17E-16	5.446977
0.75000	-32.297293	0.495672	-6.09E-17	-2.36E-17	-6.10E-16	5.389833
1.00000	-32.297293	1.029864	-1.26E-16	-2.36E-17	-5.87E-16	5.199141

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-32.297293	-1.106903	1.33E-16	-2.36E-17	-5.83E-16	5.160621
0.25000	-32.297293	-0.572711	6.85E-17	-2.36E-17	-6.08E-16	5.370573
0.50000	-32.297293	-0.038520	3.77E-16	-2.36E-17	-6.17E-16	5.446977
0.75000	-32.297293	0.495672	-6.09E-17	-2.36E-17	-6.10E-16	5.389833
1.00000	-32.297293	1.029864	-1.26E-16	-2.36E-17	-5.87E-16	5.199141

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-28.718550	-1.579179	1.92E-16	2.33E-17	7.31E-16	-5.866106

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
0.25000	-28.718550	-1.044987	1.27E-16	2.33E-17	6.91E-16	-5.538085
0.50000	-28.718550	-0.510795	6.27E-17	2.33E-17	6.68E-16	-5.343612
0.75000	-28.718550	0.023396	-1.95E-18	2.33E-17	6.60E-16	-5.282687
1.00000	-28.718550	0.557588	-6.66E-17	2.33E-17	6.69E-16	-5.355310

COMB COMB5 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-28.718550	-1.579179	1.92E-16	2.33E-17	7.31E-16	-5.866106
0.25000	-28.718550	-1.044987	1.27E-16	2.33E-17	6.91E-16	-5.538085
0.50000	-28.718550	-0.510795	6.27E-17	2.33E-17	6.68E-16	-5.343612
0.75000	-28.718550	0.023396	-1.95E-18	2.33E-17	6.60E-16	-5.282687
1.00000	-28.718550	0.557588	-6.66E-17	2.33E-17	6.69E-16	-5.355310

COMB COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-17.048611	-1.016757	1.23E-16	-1.17E-19	3.11E-17	-0.134035
0.25000	-17.048611	-0.554254	6.71E-17	-1.17E-19	7.32E-18	0.062341
0.50000	-17.048611	-0.091750	1.11E-17	-1.17E-19	-2.46E-18	0.143091
0.75000	-17.048611	0.370753	-4.49E-17	-1.17E-19	1.77E-18	0.108216
1.00000	-17.048611	0.833257	-1.01E-16	-1.17E-19	2.00E-17	-0.042285

COMB COMB6 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-17.048611	-1.016757	1.23E-16	-1.17E-19	3.11E-17	-0.134035
0.25000	-17.048611	-0.554254	6.71E-17	-1.17E-19	7.32E-18	0.062341
0.50000	-17.048611	-0.091750	1.11E-17	-1.17E-19	-2.46E-18	0.143091
0.75000	-17.048611	0.370753	-4.49E-17	-1.17E-19	1.77E-18	0.108216
1.00000	-17.048611	0.833257	-1.01E-16	-1.17E-19	2.00E-17	-0.042285

COMB COMB7 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-14.533956	-0.632524	7.60E-17	-1.57E-17	-3.96E-16	3.542920
0.25000	-14.533956	-0.285647	3.40E-17	-1.57E-17	-4.10E-16	3.657692
0.50000	-14.533956	0.061231	-8.01E-18	-1.57E-17	-4.13E-16	3.685744
0.75000	-14.533956	0.408109	-5.00E-17	-1.57E-17	-4.06E-16	3.627076
1.00000	-14.533956	0.754986	-9.20E-17	-1.57E-17	-3.88E-16	3.481689

COMB COMB7 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-14.533956	-0.632524	7.60E-17	-1.57E-17	-3.96E-16	3.542920
0.25000	-14.533956	-0.285647	3.40E-17	-1.57E-17	-4.10E-16	3.657692
0.50000	-14.533956	0.061231	-8.01E-18	-1.57E-17	-4.13E-16	3.685744
0.75000	-14.533956	0.408109	-5.00E-17	-1.57E-17	-4.06E-16	3.627076
1.00000	-14.533956	0.754986	-9.20E-17	-1.57E-17	-3.88E-16	3.481689

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB8 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-12.148128	-0.947375	1.15E-16	1.55E-17	4.80E-16	-3.808231
0.25000	-12.148128	-0.600497	7.33E-17	1.55E-17	4.57E-16	-3.614747
0.50000	-12.148128	-0.253619	3.13E-17	1.55E-17	4.44E-16	-3.507982
0.75000	-12.148128	0.093258	-1.07E-17	1.55E-17	4.41E-16	-3.487937
1.00000	-12.148128	0.440136	-5.27E-17	1.55E-17	4.49E-16	-3.554611

COMB COMB8 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-12.148128	-0.947375	1.15E-16	1.55E-17	4.80E-16	-3.808231
0.25000	-12.148128	-0.600497	7.33E-17	1.55E-17	4.57E-16	-3.614747
0.50000	-12.148128	-0.253619	3.13E-17	1.55E-17	4.44E-16	-3.507982
0.75000	-12.148128	0.093258	-1.07E-17	1.55E-17	4.41E-16	-3.487937
1.00000	-12.148128	0.440136	-5.27E-17	1.55E-17	4.49E-16	-3.554611

ELEM 31 ========== LENGTH = 1.000000

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-39.568060	-1.311458	1.59E-16	-1.82E-19	2.33E-17	-0.094619
0.25000	-39.568060	-0.599202	7.26E-17	-1.82E-19	-5.62E-18	0.144214
0.50000	-39.568060	0.113053	-1.37E-17	-1.82E-19	-1.30E-17	0.204982
0.75000	-39.568060	0.825309	-1.00E-16	-1.82E-19	1.22E-18	0.087687
1.00000	-39.568060	1.537564	-1.86E-16	-1.82E-19	3.70E-17	-0.207672

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-39.568060	-1.311458	1.59E-16	-1.82E-19	2.33E-17	-0.094619
0.25000	-39.568060	-0.599202	7.26E-17	-1.82E-19	-5.62E-18	0.144214
0.50000	-39.568060	0.113053	-1.37E-17	-1.82E-19	-1.30E-17	0.204982
0.75000	-39.568060	0.825309	-1.00E-16	-1.82E-19	1.22E-18	0.087687
1.00000	-39.568060	1.537564	-1.86E-16	-1.82E-19	3.70E-17	-0.207672

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-58.353862	-0.927080	1.12E-16	-1.20E-19	-3.55E-18	-0.133764
0.25000	-58.353862	-0.469201	5.68E-17	-1.20E-19	-2.47E-17	0.040771
0.50000	-58.353862	-0.011322	1.37E-18	-1.20E-19	-3.20E-17	0.100836
0.75000	-58.353862	0.446556	-5.41E-17	-1.20E-19	-2.54E-17	0.046432
1.00000	-58.353862	0.904435	-1.10E-16	-1.20E-19	-4.92E-18	-0.122442

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-58.353862	-0.927080	1.12E-16	-1.20E-19	-3.55E-18	-0.133764
0.25000	-58.353862	-0.469201	5.68E-17	-1.20E-19	-2.47E-17	0.040771
0.50000	-58.353862	-0.011322	1.37E-18	-1.20E-19	-3.20E-17	0.100836

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
0.75000	-58.353862	0.446556	-5.41E-17	-1.20E-19	-2.54E-17	0.046432
1.00000	-58.353862	0.904435	-1.10E-16	-1.20E-19	-4.92E-18	-0.122442

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	6.516092	-1.193858	1.45E-16	-1.77E-19	4.92E-17	0.007495
0.25000	6.516092	-0.481603	5.83E-17	-1.77E-19	2.39E-17	0.216927
0.50000	6.516092	0.230653	-2.79E-17	-1.77E-19	2.01E-17	0.248296
0.75000	6.516092	0.942908	-1.14E-16	-1.77E-19	3.79E-17	0.101601
1.00000	6.516092	1.655164	-2.00E-16	-1.77E-19	7.72E-17	-0.223158

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	6.516092	-1.193858	1.45E-16	-1.77E-19	4.92E-17	0.007495
0.25000	6.516092	-0.481603	5.83E-17	-1.77E-19	2.39E-17	0.216927
0.50000	6.516092	0.230653	-2.79E-17	-1.77E-19	2.01E-17	0.248296
0.75000	6.516092	0.942908	-1.14E-16	-1.77E-19	3.79E-17	0.101601
1.00000	6.516092	1.655164	-2.00E-16	-1.77E-19	7.72E-17	-0.223158

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-32.297293	-1.056839	1.27E-16	-2.36E-17	-5.87E-16	5.199141
0.25000	-32.297293	-0.522647	6.24E-17	-2.36E-17	-6.10E-16	5.396577
0.50000	-32.297293	0.011545	-2.29E-18	-2.36E-17	-6.18E-16	5.460464
0.75000	-32.297293	0.545736	-6.70E-17	-2.36E-17	-6.09E-16	5.390804
1.00000	-32.297293	1.079928	-1.32E-16	-2.36E-17	-5.84E-16	5.187596

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-32.297293	-1.056839	1.27E-16	-2.36E-17	-5.87E-16	5.199141
0.25000	-32.297293	-0.522647	6.24E-17	-2.36E-17	-6.10E-16	5.396577
0.50000	-32.297293	0.011545	-2.29E-18	-2.36E-17	-6.18E-16	5.460464
0.75000	-32.297293	0.545736	-6.70E-17	-2.36E-17	-6.09E-16	5.390804
1.00000	-32.297293	1.079928	-1.32E-16	-2.36E-17	-5.84E-16	5.187596

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-28.718550	-0.926749	1.13E-16	2.33E-17	6.69E-16	-5.355310
0.25000	-28.718550	-0.392558	4.84E-17	2.33E-17	6.48E-16	-5.190397
0.50000	-28.718550	0.141634	-1.63E-17	2.33E-17	6.44E-16	-5.159032
0.75000	-28.718550	0.675826	-8.10E-17	2.33E-17	6.57E-16	-5.261214
1.00000	-28.718550	1.210017	-1.46E-16	2.33E-17	6.85E-16	-5.496944

COMB COMB5 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-28.718550	-0.926749	1.13E-16	2.33E-17	6.69E-16	-5.355310

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
0.25000	-28.718550	-0.392558	4.84E-17	2.33E-17	6.48E-16	-5.190397
0.50000	-28.718550	0.141634	-1.63E-17	2.33E-17	6.44E-16	-5.159032
0.75000	-28.718550	0.675826	-8.10E-17	2.33E-17	6.57E-16	-5.261214
1.00000	-28.718550	1.210017	-1.46E-16	2.33E-17	6.85E-16	-5.496944

COMB COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-17.048611	-0.829535	1.00E-16	-1.17E-19	2.00E-17	-0.042285
0.25000	-17.048611	-0.367032	4.44E-17	-1.17E-19	1.88E-18	0.107286
0.50000	-17.048611	0.095472	-1.16E-17	-1.17E-19	-2.23E-18	0.141231
0.75000	-17.048611	0.557975	-6.76E-17	-1.17E-19	7.67E-18	0.059550
1.00000	-17.048611	1.020479	-1.24E-16	-1.17E-19	3.16E-17	-0.137757

COMB COMB6 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-17.048611	-0.829535	1.00E-16	-1.17E-19	2.00E-17	-0.042285
0.25000	-17.048611	-0.367032	4.44E-17	-1.17E-19	1.88E-18	0.107286
0.50000	-17.048611	0.095472	-1.16E-17	-1.17E-19	-2.23E-18	0.141231
0.75000	-17.048611	0.557975	-6.76E-17	-1.17E-19	7.67E-18	0.059550
1.00000	-17.048611	1.020479	-1.24E-16	-1.17E-19	3.16E-17	-0.137757

COMB COMB7 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-14.533956	-0.670982	8.07E-17	-1.57E-17	-3.88E-16	3.481689
0.25000	-14.533956	-0.324104	3.87E-17	-1.57E-17	-4.03E-16	3.606075
0.50000	-14.533956	0.022774	-3.35E-18	-1.57E-17	-4.07E-16	3.643741
0.75000	-14.533956	0.369651	-4.54E-17	-1.57E-17	-4.01E-16	3.594688
1.00000	-14.533956	0.716529	-8.74E-17	-1.57E-17	-3.84E-16	3.458916

COMB COMB7 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-14.533956	-0.670982	8.07E-17	-1.57E-17	-3.88E-16	3.481689
0.25000	-14.533956	-0.324104	3.87E-17	-1.57E-17	-4.03E-16	3.606075
0.50000	-14.533956	0.022774	-3.35E-18	-1.57E-17	-4.07E-16	3.643741
0.75000	-14.533956	0.369651	-4.54E-17	-1.57E-17	-4.01E-16	3.594688
1.00000	-14.533956	0.716529	-8.74E-17	-1.57E-17	-3.84E-16	3.458916

COMB COMB8 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-12.148128	-0.584256	7.13E-17	1.55E-17	4.49E-16	-3.554611
0.25000	-12.148128	-0.237378	2.93E-17	1.55E-17	4.36E-16	-3.451907
0.50000	-12.148128	0.109500	-1.27E-17	1.55E-17	4.34E-16	-3.435923
0.75000	-12.148128	0.456378	-5.47E-17	1.55E-17	4.43E-16	-3.506657
1.00000	-12.148128	0.803255	-9.67E-17	1.55E-17	4.62E-16	-3.664111

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB8 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-12.148128	-0.584256	7.13E-17	1.55E-17	4.49E-16	-3.554611
0.25000	-12.148128	-0.237378	2.93E-17	1.55E-17	4.36E-16	-3.451907
0.50000	-12.148128	0.109500	-1.27E-17	1.55E-17	4.34E-16	-3.435923
0.75000	-12.148128	0.456378	-5.47E-17	1.55E-17	4.43E-16	-3.506657
1.00000	-12.148128	0.803255	-9.67E-17	1.55E-17	4.62E-16	-3.664111

ELEM 32 ========== LENGTH = 1.000000

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-39.568060	-1.392949	1.69E-16	-1.82E-19	3.70E-17	-0.207672
0.25000	-39.568060	-0.680693	8.24E-17	-1.82E-19	5.61E-18	0.051533
0.50000	-39.568060	0.031562	-3.83E-18	-1.82E-19	-4.22E-18	0.132675
0.75000	-39.568060	0.743818	-9.01E-17	-1.82E-19	7.52E-18	0.035752
1.00000	-39.568060	1.456073	-1.76E-16	-1.82E-19	4.08E-17	-0.239234

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-39.568060	-1.392949	1.69E-16	-1.82E-19	3.70E-17	-0.207672
0.25000	-39.568060	-0.680693	8.24E-17	-1.82E-19	5.61E-18	0.051533
0.50000	-39.568060	0.031562	-3.83E-18	-1.82E-19	-4.22E-18	0.132675
0.75000	-39.568060	0.743818	-9.01E-17	-1.82E-19	7.52E-18	0.035752
1.00000	-39.568060	1.456073	-1.76E-16	-1.82E-19	4.08E-17	-0.239234

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-58.353862	-0.889378	1.08E-16	-1.20E-19	-4.92E-18	-0.122442
0.25000	-58.353862	-0.431499	5.23E-17	-1.20E-19	-2.49E-17	0.042668
0.50000	-58.353862	0.026379	-3.20E-18	-1.20E-19	-3.10E-17	0.093308
0.75000	-58.353862	0.484258	-5.87E-17	-1.20E-19	-2.33E-17	0.029478
1.00000	-58.353862	0.942136	-1.14E-16	-1.20E-19	-1.72E-18	-0.148821

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-58.353862	-0.889378	1.08E-16	-1.20E-19	-4.92E-18	-0.122442
0.25000	-58.353862	-0.431499	5.23E-17	-1.20E-19	-2.49E-17	0.042668
0.50000	-58.353862	0.026379	-3.20E-18	-1.20E-19	-3.10E-17	0.093308
0.75000	-58.353862	0.484258	-5.87E-17	-1.20E-19	-2.33E-17	0.029478
1.00000	-58.353862	0.942136	-1.14E-16	-1.20E-19	-1.72E-18	-0.148821

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	6.516092	-1.401474	1.70E-16	-1.77E-19	7.72E-17	-0.223158
0.25000	6.516092	-0.689218	8.35E-17	-1.77E-19	4.55E-17	0.038178
0.50000	6.516092	0.023037	-2.80E-18	-1.77E-19	3.55E-17	0.121451

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
0.75000	6.516092	0.735293	-8.91E-17	-1.77E-19	4.69E-17	0.026660
1.00000	6.516092	1.447548	-1.75E-16	-1.77E-19	8.00E-17	-0.246196

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	6.516092	-1.401474	1.70E-16	-1.77E-19	7.72E-17	-0.223158
0.25000	6.516092	-0.689218	8.35E-17	-1.77E-19	4.55E-17	0.038178
0.50000	6.516092	0.023037	-2.80E-18	-1.77E-19	3.55E-17	0.121451
0.75000	6.516092	0.735293	-8.91E-17	-1.77E-19	4.69E-17	0.026660
1.00000	6.516092	1.447548	-1.75E-16	-1.77E-19	8.00E-17	-0.246196

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-32.297293	-1.064860	1.28E-16	-2.36E-17	-5.84E-16	5.187596
0.25000	-32.297293	-0.530668	6.34E-17	-2.36E-17	-6.08E-16	5.387037
0.50000	-32.297293	0.003523	-1.32E-18	-2.36E-17	-6.16E-16	5.452930
0.75000	-32.297293	0.537715	-6.60E-17	-2.36E-17	-6.08E-16	5.385276
1.00000	-32.297293	1.071907	-1.31E-16	-2.36E-17	-5.83E-16	5.184073

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-32.297293	-1.064860	1.28E-16	-2.36E-17	-5.84E-16	5.187596
0.25000	-32.297293	-0.530668	6.34E-17	-2.36E-17	-6.08E-16	5.387037
0.50000	-32.297293	0.003523	-1.32E-18	-2.36E-17	-6.16E-16	5.452930
0.75000	-32.297293	0.537715	-6.60E-17	-2.36E-17	-6.08E-16	5.385276
1.00000	-32.297293	1.071907	-1.31E-16	-2.36E-17	-5.83E-16	5.184073

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-28.718550	-1.023374	1.25E-16	2.33E-17	6.85E-16	-5.496944
0.25000	-28.718550	-0.489182	6.01E-17	2.33E-17	6.62E-16	-5.307875
0.50000	-28.718550	0.045009	-4.57E-18	2.33E-17	6.55E-16	-5.252353
0.75000	-28.718550	0.579201	-6.93E-17	2.33E-17	6.64E-16	-5.330379
1.00000	-28.718550	1.113392	-1.34E-16	2.33E-17	6.89E-16	-5.541954

COMB COMB5 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-28.718550	-1.023374	1.25E-16	2.33E-17	6.85E-16	-5.496944
0.25000	-28.718550	-0.489182	6.01E-17	2.33E-17	6.62E-16	-5.307875
0.50000	-28.718550	0.045009	-4.57E-18	2.33E-17	6.55E-16	-5.252353
0.75000	-28.718550	0.579201	-6.93E-17	2.33E-17	6.64E-16	-5.330379
1.00000	-28.718550	1.113392	-1.34E-16	2.33E-17	6.89E-16	-5.541954

COMB COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-17.048611	-0.906111	1.10E-16	-1.17E-19	3.16E-17	-0.137757

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
0.25000	-17.048611	-0.443608	5.37E-17	-1.17E-19	1.11E-17	0.030958
0.50000	-17.048611	0.018896	-2.29E-18	-1.17E-19	4.70E-18	0.084047
0.75000	-17.048611	0.481399	-5.83E-17	-1.17E-19	1.23E-17	0.021510
1.00000	-17.048611	0.943903	-1.14E-16	-1.17E-19	3.39E-17	-0.156653

COMB COMB6 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-17.048611	-0.906111	1.10E-16	-1.17E-19	3.16E-17	-0.137757
0.25000	-17.048611	-0.443608	5.37E-17	-1.17E-19	1.11E-17	0.030958
0.50000	-17.048611	0.018896	-2.29E-18	-1.17E-19	4.70E-18	0.084047
0.75000	-17.048611	0.481399	-5.83E-17	-1.17E-19	1.23E-17	0.021510
1.00000	-17.048611	0.943903	-1.14E-16	-1.17E-19	3.39E-17	-0.156653

COMB COMB7 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-14.533956	-0.693016	8.33E-17	-1.57E-17	-3.84E-16	3.458916
0.25000	-14.533956	-0.346138	4.13E-17	-1.57E-17	-4.00E-16	3.588810
0.50000	-14.533956	0.000740	-6.85E-19	-1.57E-17	-4.05E-16	3.631985
0.75000	-14.533956	0.347617	-4.27E-17	-1.57E-17	-4.00E-16	3.588440
1.00000	-14.533956	0.694495	-8.47E-17	-1.57E-17	-3.84E-16	3.458176

COMB COMB7 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-14.533956	-0.693016	8.33E-17	-1.57E-17	-3.84E-16	3.458916
0.25000	-14.533956	-0.346138	4.13E-17	-1.57E-17	-4.00E-16	3.588810
0.50000	-14.533956	0.000740	-6.85E-19	-1.57E-17	-4.05E-16	3.631985
0.75000	-14.533956	0.347617	-4.27E-17	-1.57E-17	-4.00E-16	3.588440
1.00000	-14.533956	0.694495	-8.47E-17	-1.57E-17	-3.84E-16	3.458176

COMB COMB8 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-12.148128	-0.665359	8.12E-17	1.55E-17	4.62E-16	-3.664111
0.25000	-12.148128	-0.318481	3.92E-17	1.55E-17	4.47E-16	-3.541131
0.50000	-12.148128	0.028397	-2.85E-18	1.55E-17	4.42E-16	-3.504871
0.75000	-12.148128	0.375274	-4.49E-17	1.55E-17	4.48E-16	-3.555330
1.00000	-12.148128	0.722152	-8.69E-17	1.55E-17	4.65E-16	-3.692508

COMB COMB8 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-12.148128	-0.665359	8.12E-17	1.55E-17	4.62E-16	-3.664111
0.25000	-12.148128	-0.318481	3.92E-17	1.55E-17	4.47E-16	-3.541131
0.50000	-12.148128	0.028397	-2.85E-18	1.55E-17	4.42E-16	-3.504871
0.75000	-12.148128	0.375274	-4.49E-17	1.55E-17	4.48E-16	-3.555330
1.00000	-12.148128	0.722152	-8.69E-17	1.55E-17	4.65E-16	-3.692508

F R A M E E L E M E N T I N T E R N A L F O R C E S

ELEM 33 ========== LENGTH = 1.000000

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-39.568060	-1.424524	1.73E-16	-1.82E-19	4.08E-17	-0.239234
0.25000	-39.568060	-0.712268	8.63E-17	-1.82E-19	8.48E-18	0.027865
0.50000	-39.568060	-1.26E-05	-5.57E-21	-1.82E-19	-2.30E-18	0.116900
0.75000	-39.568060	0.712243	-8.63E-17	-1.82E-19	8.48E-18	0.027871
1.00000	-39.568060	1.424498	-1.73E-16	-1.82E-19	4.08E-17	-0.239222

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-39.568060	-1.424524	1.73E-16	-1.82E-19	4.08E-17	-0.239234
0.25000	-39.568060	-0.712268	8.63E-17	-1.82E-19	8.48E-18	0.027865
0.50000	-39.568060	-1.26E-05	-5.57E-21	-1.82E-19	-2.30E-18	0.116900
0.75000	-39.568060	0.712243	-8.63E-17	-1.82E-19	8.48E-18	0.027871
1.00000	-39.568060	1.424498	-1.73E-16	-1.82E-19	4.08E-17	-0.239222

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-58.353862	-0.910884	1.10E-16	-1.20E-19	-1.72E-18	-0.148821
0.25000	-58.353862	-0.453005	5.49E-17	-1.20E-19	-2.24E-17	0.021665
0.50000	-58.353862	0.004873	-5.95E-19	-1.20E-19	-2.91E-17	0.077681
0.75000	-58.353862	0.462752	-5.60E-17	-1.20E-19	-2.21E-17	0.019228
1.00000	-58.353862	0.920631	-1.11E-16	-1.20E-19	-1.13E-18	-0.153695

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-58.353862	-0.910884	1.10E-16	-1.20E-19	-1.72E-18	-0.148821
0.25000	-58.353862	-0.453005	5.49E-17	-1.20E-19	-2.24E-17	0.021665
0.50000	-58.353862	0.004873	-5.95E-19	-1.20E-19	-2.91E-17	0.077681
0.75000	-58.353862	0.462752	-5.60E-17	-1.20E-19	-2.21E-17	0.019228
1.00000	-58.353862	0.920631	-1.11E-16	-1.20E-19	-1.13E-18	-0.153695

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	6.516092	-1.431358	1.73E-16	-1.77E-19	8.00E-17	-0.246196
0.25000	6.516092	-0.719102	8.71E-17	-1.77E-19	4.74E-17	0.022612
0.50000	6.516092	-0.006847	8.22E-19	-1.77E-19	3.64E-17	0.113356
0.75000	6.516092	0.705409	-8.54E-17	-1.77E-19	4.70E-17	0.026035
1.00000	6.516092	1.417664	-1.72E-16	-1.77E-19	7.92E-17	-0.239349

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	6.516092	-1.431358	1.73E-16	-1.77E-19	8.00E-17	-0.246196
0.25000	6.516092	-0.719102	8.71E-17	-1.77E-19	4.74E-17	0.022612
0.50000	6.516092	-0.006847	8.22E-19	-1.77E-19	3.64E-17	0.113356

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
0.75000	6.516092	0.705409	-8.54E-17	-1.77E-19	4.70E-17	0.026035
1.00000	6.516092	1.417664	-1.72E-16	-1.77E-19	7.92E-17	-0.239349

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-32.297293	-1.068349	1.28E-16	-2.36E-17	-5.83E-16	5.184073
0.25000	-32.297293	-0.534157	6.38E-17	-2.36E-17	-6.07E-16	5.384386
0.50000	-32.297293	3.47E-05	-8.97E-19	-2.36E-17	-6.15E-16	5.451151
0.75000	-32.297293	0.534226	-6.56E-17	-2.36E-17	-6.07E-16	5.384369
1.00000	-32.297293	1.068418	-1.30E-16	-2.36E-17	-5.82E-16	5.184038

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-32.297293	-1.068349	1.28E-16	-2.36E-17	-5.83E-16	5.184073
0.25000	-32.297293	-0.534157	6.38E-17	-2.36E-17	-6.07E-16	5.384386
0.50000	-32.297293	3.47E-05	-8.97E-19	-2.36E-17	-6.15E-16	5.451151
0.75000	-32.297293	0.534226	-6.56E-17	-2.36E-17	-6.07E-16	5.384369
1.00000	-32.297293	1.068418	-1.30E-16	-2.36E-17	-5.82E-16	5.184038

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-28.718550	-1.067484	1.30E-16	2.33E-17	6.89E-16	-5.541954
0.25000	-28.718550	-0.533292	6.55E-17	2.33E-17	6.65E-16	-5.341857
0.50000	-28.718550	0.000900	7.73E-19	2.33E-17	6.57E-16	-5.275307
0.75000	-28.718550	0.535091	-6.39E-17	2.33E-17	6.65E-16	-5.342306
1.00000	-28.718550	1.069283	-1.29E-16	2.33E-17	6.89E-16	-5.542853

COMB COMB5 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-28.718550	-1.067484	1.30E-16	2.33E-17	6.89E-16	-5.541954
0.25000	-28.718550	-0.533292	6.55E-17	2.33E-17	6.65E-16	-5.341857
0.50000	-28.718550	0.000900	7.73E-19	2.33E-17	6.57E-16	-5.275307
0.75000	-28.718550	0.535091	-6.39E-17	2.33E-17	6.65E-16	-5.342306
1.00000	-28.718550	1.069283	-1.29E-16	2.33E-17	6.89E-16	-5.542853

COMB COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-17.048611	-0.926297	1.12E-16	-1.17E-19	3.39E-17	-0.156653
0.25000	-17.048611	-0.463794	5.62E-17	-1.17E-19	1.28E-17	0.017109
0.50000	-17.048611	-0.001290	1.52E-19	-1.17E-19	5.77E-18	0.075244
0.75000	-17.048611	0.461213	-5.59E-17	-1.17E-19	1.27E-17	0.017754
1.00000	-17.048611	0.923717	-1.12E-16	-1.17E-19	3.37E-17	-0.155363

COMB COMB6 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-17.048611	-0.926297	1.12E-16	-1.17E-19	3.39E-17	-0.156653

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
0.25000	-17.048611	-0.463794	5.62E-17	-1.17E-19	1.28E-17	0.017109
0.50000	-17.048611	-0.001290	1.52E-19	-1.17E-19	5.77E-18	0.075244
0.75000	-17.048611	0.461213	-5.59E-17	-1.17E-19	1.27E-17	0.017754
1.00000	-17.048611	0.923717	-1.12E-16	-1.17E-19	3.37E-17	-0.155363

COMB COMB7 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-14.533956	-0.694694	8.35E-17	-1.57E-17	-3.84E-16	3.458176
0.25000	-14.533956	-0.347816	4.15E-17	-1.57E-17	-3.99E-16	3.588490
0.50000	-14.533956	-0.000938	-4.82E-19	-1.57E-17	-4.04E-16	3.632084
0.75000	-14.533956	0.345939	-4.25E-17	-1.57E-17	-3.99E-16	3.588959
1.00000	-14.533956	0.692817	-8.45E-17	-1.57E-17	-3.83E-16	3.459114

COMB COMB7 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-14.533956	-0.694694	8.35E-17	-1.57E-17	-3.84E-16	3.458176
0.25000	-14.533956	-0.347816	4.15E-17	-1.57E-17	-3.99E-16	3.588490
0.50000	-14.533956	-0.000938	-4.82E-19	-1.57E-17	-4.04E-16	3.632084
0.75000	-14.533956	0.345939	-4.25E-17	-1.57E-17	-3.99E-16	3.588959
1.00000	-14.533956	0.692817	-8.45E-17	-1.57E-17	-3.83E-16	3.459114

COMB COMB8 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-12.148128	-0.694117	8.47E-17	1.55E-17	4.65E-16	-3.692508
0.25000	-12.148128	-0.347239	4.26E-17	1.55E-17	4.49E-16	-3.562339
0.50000	-12.148128	-0.000362	6.32E-19	1.55E-17	4.43E-16	-3.518888
0.75000	-12.148128	0.346516	-4.14E-17	1.55E-17	4.48E-16	-3.562158
1.00000	-12.148128	0.693394	-8.34E-17	1.55E-17	4.64E-16	-3.692146

COMB COMB8 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-12.148128	-0.694117	8.47E-17	1.55E-17	4.65E-16	-3.692508
0.25000	-12.148128	-0.347239	4.26E-17	1.55E-17	4.49E-16	-3.562339
0.50000	-12.148128	-0.000362	6.32E-19	1.55E-17	4.43E-16	-3.518888
0.75000	-12.148128	0.346516	-4.14E-17	1.55E-17	4.48E-16	-3.562158
1.00000	-12.148128	0.693394	-8.34E-17	1.55E-17	4.64E-16	-3.692146

ELEM 34 ========== LENGTH = 1.000000

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-39.568060	-1.424512	1.73E-16	-1.82E-19	4.08E-17	-0.239222
0.25000	-39.568060	-0.712257	8.63E-17	-1.82E-19	8.49E-18	0.027874
0.50000	-39.568060	-1.05E-06	-6.97E-21	-1.82E-19	-2.29E-18	0.116907
0.75000	-39.568060	0.712254	-8.63E-17	-1.82E-19	8.49E-18	0.027875
1.00000	-39.568060	1.424510	-1.73E-16	-1.82E-19	4.08E-17	-0.239221

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-39.568060	-1.424512	1.73E-16	-1.82E-19	4.08E-17	-0.239222
0.25000	-39.568060	-0.712257	8.63E-17	-1.82E-19	8.49E-18	0.027874
0.50000	-39.568060	-1.05E-06	-6.97E-21	-1.82E-19	-2.29E-18	0.116907
0.75000	-39.568060	0.712254	-8.63E-17	-1.82E-19	8.49E-18	0.027875
1.00000	-39.568060	1.424510	-1.73E-16	-1.82E-19	4.08E-17	-0.239221

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-58.353862	-0.915758	1.11E-16	-1.20E-19	-1.13E-18	-0.153695
0.25000	-58.353862	-0.457879	5.54E-17	-1.20E-19	-2.19E-17	0.018010
0.50000	-58.353862	-6.70E-07	-4.67E-21	-1.20E-19	-2.88E-17	0.075245
0.75000	-58.353862	0.457878	-5.55E-17	-1.20E-19	-2.19E-17	0.018010
1.00000	-58.353862	0.915756	-1.11E-16	-1.20E-19	-1.12E-18	-0.153694

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-58.353862	-0.915758	1.11E-16	-1.20E-19	-1.13E-18	-0.153695
0.25000	-58.353862	-0.457879	5.54E-17	-1.20E-19	-2.19E-17	0.018010
0.50000	-58.353862	-6.70E-07	-4.67E-21	-1.20E-19	-2.88E-17	0.075245
0.75000	-58.353862	0.457878	-5.55E-17	-1.20E-19	-2.19E-17	0.018010
1.00000	-58.353862	0.915756	-1.11E-16	-1.20E-19	-1.12E-18	-0.153694

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	6.516092	-1.424512	1.73E-16	-1.77E-19	7.92E-17	-0.239349
0.25000	6.516092	-0.712257	8.63E-17	-1.77E-19	4.68E-17	0.027747
0.50000	6.516092	-1.06E-06	-6.69E-21	-1.77E-19	3.60E-17	0.116780
0.75000	6.516092	0.712254	-8.63E-17	-1.77E-19	4.68E-17	0.027748
1.00000	6.516092	1.424510	-1.73E-16	-1.77E-19	7.92E-17	-0.239348

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	6.516092	-1.424512	1.73E-16	-1.77E-19	7.92E-17	-0.239349
0.25000	6.516092	-0.712257	8.63E-17	-1.77E-19	4.68E-17	0.027747
0.50000	6.516092	-1.06E-06	-6.69E-21	-1.77E-19	3.60E-17	0.116780
0.75000	6.516092	0.712254	-8.63E-17	-1.77E-19	4.68E-17	0.027748
1.00000	6.516092	1.424510	-1.73E-16	-1.77E-19	7.92E-17	-0.239348

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-32.297293	-1.068345	1.28E-16	-2.36E-17	-5.82E-16	5.184038
0.25000	-32.297293	-0.534153	6.38E-17	-2.36E-17	-6.06E-16	5.384350
0.50000	-32.297293	3.87E-05	-8.98E-19	-2.36E-17	-6.14E-16	5.451115
0.75000	-32.297293	0.534230	-6.56E-17	-2.36E-17	-6.06E-16	5.384331
1.00000	-32.297293	1.068422	-1.30E-16	-2.36E-17	-5.81E-16	5.184000

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-32.297293	-1.068345	1.28E-16	-2.36E-17	-5.82E-16	5.184038
0.25000	-32.297293	-0.534153	6.38E-17	-2.36E-17	-6.06E-16	5.384350
0.50000	-32.297293	3.87E-05	-8.98E-19	-2.36E-17	-6.14E-16	5.451115
0.75000	-32.297293	0.534230	-6.56E-17	-2.36E-17	-6.06E-16	5.384331
1.00000	-32.297293	1.068422	-1.30E-16	-2.36E-17	-5.81E-16	5.184000

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-28.718550	-1.068424	1.30E-16	2.33E-17	6.89E-16	-5.542853
0.25000	-28.718550	-0.534232	6.56E-17	2.33E-17	6.64E-16	-5.342521
0.50000	-28.718550	-4.03E-05	8.87E-19	2.33E-17	6.56E-16	-5.275737
0.75000	-28.718550	0.534151	-6.38E-17	2.33E-17	6.64E-16	-5.342501
1.00000	-28.718550	1.068343	-1.29E-16	2.33E-17	6.88E-16	-5.542813

COMB COMB5 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-28.718550	-1.068424	1.30E-16	2.33E-17	6.89E-16	-5.542853
0.25000	-28.718550	-0.534232	6.56E-17	2.33E-17	6.64E-16	-5.342521
0.50000	-28.718550	-4.03E-05	8.87E-19	2.33E-17	6.56E-16	-5.275737
0.75000	-28.718550	0.534151	-6.38E-17	2.33E-17	6.64E-16	-5.342501
1.00000	-28.718550	1.068343	-1.29E-16	2.33E-17	6.88E-16	-5.542813

COMB COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-17.048611	-0.925008	1.12E-16	-1.17E-19	3.37E-17	-0.155363
0.25000	-17.048611	-0.462504	5.60E-17	-1.17E-19	1.27E-17	0.018076
0.50000	-17.048611	-6.83E-07	-4.47E-21	-1.17E-19	5.70E-18	0.075890
0.75000	-17.048611	0.462503	-5.60E-17	-1.17E-19	1.27E-17	0.018077
1.00000	-17.048611	0.925006	-1.12E-16	-1.17E-19	3.37E-17	-0.155362

COMB COMB6 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-17.048611	-0.925008	1.12E-16	-1.17E-19	3.37E-17	-0.155363
0.25000	-17.048611	-0.462504	5.60E-17	-1.17E-19	1.27E-17	0.018076
0.50000	-17.048611	-6.83E-07	-4.47E-21	-1.17E-19	5.70E-18	0.075890
0.75000	-17.048611	0.462503	-5.60E-17	-1.17E-19	1.27E-17	0.018077
1.00000	-17.048611	0.925006	-1.12E-16	-1.17E-19	3.37E-17	-0.155362

COMB COMB7 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-14.533956	-0.693730	8.34E-17	-1.57E-17	-3.83E-16	3.459114
0.25000	-14.533956	-0.346852	4.14E-17	-1.57E-17	-3.99E-16	3.589187
0.50000	-14.533956	2.58E-05	-5.98E-19	-1.57E-17	-4.04E-16	3.632540
0.75000	-14.533956	0.346903	-4.26E-17	-1.57E-17	-3.99E-16	3.589174
1.00000	-14.533956	0.693781	-8.46E-17	-1.57E-17	-3.83E-16	3.459089

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB7 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-14.533956	-0.693730	8.34E-17	-1.57E-17	-3.83E-16	3.459114
0.25000	-14.533956	-0.346852	4.14E-17	-1.57E-17	-3.99E-16	3.589187
0.50000	-14.533956	2.58E-05	-5.98E-19	-1.57E-17	-4.04E-16	3.632540
0.75000	-14.533956	0.346903	-4.26E-17	-1.57E-17	-3.99E-16	3.589174
1.00000	-14.533956	0.693781	-8.46E-17	-1.57E-17	-3.83E-16	3.459089

COMB COMB8 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-12.148128	-0.693782	8.46E-17	1.55E-17	4.64E-16	-3.692146
0.25000	-12.148128	-0.346905	4.26E-17	1.55E-17	4.48E-16	-3.562061
0.50000	-12.148128	-2.68E-05	5.92E-19	1.55E-17	4.43E-16	-3.518694
0.75000	-12.148128	0.346851	-4.14E-17	1.55E-17	4.48E-16	-3.562047
1.00000	-12.148128	0.693729	-8.34E-17	1.55E-17	4.63E-16	-3.692120

COMB COMB8 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-12.148128	-0.693782	8.46E-17	1.55E-17	4.64E-16	-3.692146
0.25000	-12.148128	-0.346905	4.26E-17	1.55E-17	4.48E-16	-3.562061
0.50000	-12.148128	-2.68E-05	5.92E-19	1.55E-17	4.43E-16	-3.518694
0.75000	-12.148128	0.346851	-4.14E-17	1.55E-17	4.48E-16	-3.562047
1.00000	-12.148128	0.693729	-8.34E-17	1.55E-17	4.63E-16	-3.692120

ELEM 35 ========== LENGTH = 1.000000

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-39.568060	-1.424509	1.73E-16	-1.82E-19	4.08E-17	-0.239221
0.25000	-39.568060	-0.712253	8.63E-17	-1.82E-19	8.49E-18	0.027875
0.50000	-39.568060	2.42E-06	-7.39E-21	-1.82E-19	-2.29E-18	0.116906
0.75000	-39.568060	0.712258	-8.63E-17	-1.82E-19	8.50E-18	0.027873
1.00000	-39.568060	1.424513	-1.73E-16	-1.82E-19	4.08E-17	-0.239223

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-39.568060	-1.424509	1.73E-16	-1.82E-19	4.08E-17	-0.239221
0.25000	-39.568060	-0.712253	8.63E-17	-1.82E-19	8.49E-18	0.027875
0.50000	-39.568060	2.42E-06	-7.39E-21	-1.82E-19	-2.29E-18	0.116906
0.75000	-39.568060	0.712258	-8.63E-17	-1.82E-19	8.50E-18	0.027873
1.00000	-39.568060	1.424513	-1.73E-16	-1.82E-19	4.08E-17	-0.239223

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-58.353862	-0.920637	1.11E-16	-1.20E-19	-1.12E-18	-0.153694
0.25000	-58.353862	-0.462758	5.60E-17	-1.20E-19	-2.21E-17	0.019230
0.50000	-58.353862	-0.004880	5.86E-19	-1.20E-19	-2.91E-17	0.077685

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
0.75000	-58.353862	0.452999	-5.49E-17	-1.20E-19	-2.24E-17	0.021670
1.00000	-58.353862	0.910877	-1.10E-16	-1.20E-19	-1.71E-18	-0.148814

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-58.353862	-0.920637	1.11E-16	-1.20E-19	-1.12E-18	-0.153694
0.25000	-58.353862	-0.462758	5.60E-17	-1.20E-19	-2.21E-17	0.019230
0.50000	-58.353862	-0.004880	5.86E-19	-1.20E-19	-2.91E-17	0.077685
0.75000	-58.353862	0.452999	-5.49E-17	-1.20E-19	-2.24E-17	0.021670
1.00000	-58.353862	0.910877	-1.10E-16	-1.20E-19	-1.71E-18	-0.148814

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	6.516092	-1.417675	1.72E-16	-1.77E-19	7.92E-17	-0.239348
0.25000	6.516092	-0.705419	8.54E-17	-1.77E-19	4.70E-17	0.026039
0.50000	6.516092	0.006836	-8.35E-19	-1.77E-19	3.65E-17	0.113362
0.75000	6.516092	0.719092	-8.71E-17	-1.77E-19	4.74E-17	0.022621
1.00000	6.516092	1.431348	-1.73E-16	-1.77E-19	8.00E-17	-0.246184

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	6.516092	-1.417675	1.72E-16	-1.77E-19	7.92E-17	-0.239348
0.25000	6.516092	-0.705419	8.54E-17	-1.77E-19	4.70E-17	0.026039
0.50000	6.516092	0.006836	-8.35E-19	-1.77E-19	3.65E-17	0.113362
0.75000	6.516092	0.719092	-8.71E-17	-1.77E-19	4.74E-17	0.022621
1.00000	6.516092	1.431348	-1.73E-16	-1.77E-19	8.00E-17	-0.246184

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-32.297293	-1.067988	1.28E-16	-2.36E-17	-5.81E-16	5.184000
0.25000	-32.297293	-0.533796	6.38E-17	-2.36E-17	-6.05E-16	5.384222
0.50000	-32.297293	0.000396	-9.41E-19	-2.36E-17	-6.13E-16	5.450897
0.75000	-32.297293	0.534587	-6.56E-17	-2.36E-17	-6.05E-16	5.384025
1.00000	-32.297293	1.068779	-1.30E-16	-2.36E-17	-5.80E-16	5.183604

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-32.297293	-1.067988	1.28E-16	-2.36E-17	-5.81E-16	5.184000
0.25000	-32.297293	-0.533796	6.38E-17	-2.36E-17	-6.05E-16	5.384222
0.50000	-32.297293	0.000396	-9.41E-19	-2.36E-17	-6.13E-16	5.450897
0.75000	-32.297293	0.534587	-6.56E-17	-2.36E-17	-6.05E-16	5.384025
1.00000	-32.297293	1.068779	-1.30E-16	-2.36E-17	-5.80E-16	5.183604

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-28.718550	-1.069728	1.30E-16	2.33E-17	6.88E-16	-5.542813

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
0.25000	-28.718550	-0.535537	6.57E-17	2.33E-17	6.63E-16	-5.342155
0.50000	-28.718550	-0.001345	1.05E-18	2.33E-17	6.55E-16	-5.275044
0.75000	-28.718550	0.532846	-6.36E-17	2.33E-17	6.63E-16	-5.341482
1.00000	-28.718550	1.067038	-1.28E-16	2.33E-17	6.87E-16	-5.541468

COMB COMB5 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-28.718550	-1.069728	1.30E-16	2.33E-17	6.88E-16	-5.542813
0.25000	-28.718550	-0.535537	6.57E-17	2.33E-17	6.63E-16	-5.342155
0.50000	-28.718550	-0.001345	1.05E-18	2.33E-17	6.55E-16	-5.275044
0.75000	-28.718550	0.532846	-6.36E-17	2.33E-17	6.63E-16	-5.341482
1.00000	-28.718550	1.067038	-1.28E-16	2.33E-17	6.87E-16	-5.541468

COMB COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-17.048611	-0.923724	1.12E-16	-1.17E-19	3.37E-17	-0.155362
0.25000	-17.048611	-0.461220	5.59E-17	-1.17E-19	1.27E-17	0.017756
0.50000	-17.048611	0.001284	-1.60E-19	-1.17E-19	5.78E-18	0.075248
0.75000	-17.048611	0.463787	-5.62E-17	-1.17E-19	1.28E-17	0.017114
1.00000	-17.048611	0.926291	-1.12E-16	-1.17E-19	3.39E-17	-0.156646

COMB COMB6 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-17.048611	-0.923724	1.12E-16	-1.17E-19	3.37E-17	-0.155362
0.25000	-17.048611	-0.461220	5.59E-17	-1.17E-19	1.27E-17	0.017756
0.50000	-17.048611	0.001284	-1.60E-19	-1.17E-19	5.78E-18	0.075248
0.75000	-17.048611	0.463787	-5.62E-17	-1.17E-19	1.28E-17	0.017114
1.00000	-17.048611	0.926291	-1.12E-16	-1.17E-19	3.39E-17	-0.156646

COMB COMB7 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-14.533956	-0.692530	8.33E-17	-1.57E-17	-3.83E-16	3.459089
0.25000	-14.533956	-0.345652	4.13E-17	-1.57E-17	-3.96E-16	3.588861
0.50000	-14.533956	0.001225	-7.44E-19	-1.57E-17	-4.03E-16	3.631915
0.75000	-14.533956	0.348103	-4.28E-17	-1.57E-17	-3.96E-16	3.588249
1.00000	-14.533956	0.694981	-8.48E-17	-1.57E-17	-3.82E-16	3.457863

COMB COMB7 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-14.533956	-0.692530	8.33E-17	-1.57E-17	-3.83E-16	3.459089
0.25000	-14.533956	-0.345652	4.13E-17	-1.57E-17	-3.96E-16	3.588861
0.50000	-14.533956	0.001225	-7.44E-19	-1.57E-17	-4.03E-16	3.631915
0.75000	-14.533956	0.348103	-4.28E-17	-1.57E-17	-3.96E-16	3.588249
1.00000	-14.533956	0.694981	-8.48E-17	-1.57E-17	-3.82E-16	3.457863

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB8 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-12.148128	-0.693691	8.46E-17	1.55E-17	4.63E-16	-3.692120
0.25000	-12.148128	-0.346813	4.26E-17	1.55E-17	4.47E-16	-3.562057
0.50000	-12.148128	6.47E-05	5.81E-19	1.55E-17	4.42E-16	-3.518713
0.75000	-12.148128	0.346942	-4.14E-17	1.55E-17	4.47E-16	-3.562089
1.00000	-12.148128	0.693820	-8.34E-17	1.55E-17	4.63E-16	-3.692184

COMB COMB8 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-12.148128	-0.693691	8.46E-17	1.55E-17	4.63E-16	-3.692120
0.25000	-12.148128	-0.346813	4.26E-17	1.55E-17	4.47E-16	-3.562057
0.50000	-12.148128	6.47E-05	5.81E-19	1.55E-17	4.42E-16	-3.518713
0.75000	-12.148128	0.346942	-4.14E-17	1.55E-17	4.47E-16	-3.562089
1.00000	-12.148128	0.693820	-8.34E-17	1.55E-17	4.63E-16	-3.692184

ELEM 36 ========== LENGTH = 1.000000

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-39.568060	-1.456086	1.76E-16	-1.82E-19	4.08E-17	-0.239223
0.25000	-39.568060	-0.743830	9.01E-17	-1.82E-19	7.54E-18	0.035766
0.50000	-39.568060	-0.031575	3.82E-18	-1.82E-19	-4.19E-18	0.132692
0.75000	-39.568060	0.680681	-8.24E-17	-1.82E-19	5.64E-18	0.051554
1.00000	-39.568060	1.392936	-1.69E-16	-1.82E-19	3.70E-17	-0.207648

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-39.568060	-1.456086	1.76E-16	-1.82E-19	4.08E-17	-0.239223
0.25000	-39.568060	-0.743830	9.01E-17	-1.82E-19	7.54E-18	0.035766
0.50000	-39.568060	-0.031575	3.82E-18	-1.82E-19	-4.19E-18	0.132692
0.75000	-39.568060	0.680681	-8.24E-17	-1.82E-19	5.64E-18	0.051554
1.00000	-39.568060	1.392936	-1.69E-16	-1.82E-19	3.70E-17	-0.207648

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-58.353862	-0.942144	1.14E-16	-1.20E-19	-1.71E-18	-0.148814
0.25000	-58.353862	-0.484266	5.86E-17	-1.20E-19	-2.33E-17	0.029487
0.50000	-58.353862	-0.026387	3.19E-18	-1.20E-19	-3.10E-17	0.093319
0.75000	-58.353862	0.431491	-5.23E-17	-1.20E-19	-2.49E-17	0.042681
1.00000	-58.353862	0.889370	-1.08E-16	-1.20E-19	-4.90E-18	-0.122427

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-58.353862	-0.942144	1.14E-16	-1.20E-19	-1.71E-18	-0.148814
0.25000	-58.353862	-0.484266	5.86E-17	-1.20E-19	-2.33E-17	0.029487
0.50000	-58.353862	-0.026387	3.19E-18	-1.20E-19	-3.10E-17	0.093319

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
0.75000	-58.353862	0.431491	-5.23E-17	-1.20E-19	-2.49E-17	0.042681
1.00000	-58.353862	0.889370	-1.08E-16	-1.20E-19	-4.90E-18	-0.122427

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	6.516092	-1.447561	1.75E-16	-1.77E-19	8.00E-17	-0.246184
0.25000	6.516092	-0.735306	8.90E-17	-1.77E-19	4.70E-17	0.026674
0.50000	6.516092	-0.023050	2.78E-18	-1.77E-19	3.55E-17	0.121469
0.75000	6.516092	0.689205	-8.35E-17	-1.77E-19	4.56E-17	0.038199
1.00000	6.516092	1.401461	-1.70E-16	-1.77E-19	7.72E-17	-0.223134

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	6.516092	-1.447561	1.75E-16	-1.77E-19	8.00E-17	-0.246184
0.25000	6.516092	-0.735306	8.90E-17	-1.77E-19	4.70E-17	0.026674
0.50000	6.516092	-0.023050	2.78E-18	-1.77E-19	3.55E-17	0.121469
0.75000	6.516092	0.689205	-8.35E-17	-1.77E-19	4.56E-17	0.038199
1.00000	6.516092	1.401461	-1.70E-16	-1.77E-19	7.72E-17	-0.223134

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-32.297293	-1.071246	1.29E-16	-2.36E-17	-5.80E-16	5.183604
0.25000	-32.297293	-0.537054	6.41E-17	-2.36E-17	-6.04E-16	5.384641
0.50000	-32.297293	-0.002862	-5.46E-19	-2.36E-17	-6.12E-16	5.452131
0.75000	-32.297293	0.531329	-6.52E-17	-2.36E-17	-6.04E-16	5.386073
1.00000	-32.297293	1.065521	-1.30E-16	-2.36E-17	-5.80E-16	5.186466

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-32.297293	-1.071246	1.29E-16	-2.36E-17	-5.80E-16	5.183604
0.25000	-32.297293	-0.537054	6.41E-17	-2.36E-17	-6.04E-16	5.384641
0.50000	-32.297293	-0.002862	-5.46E-19	-2.36E-17	-6.12E-16	5.452131
0.75000	-32.297293	0.531329	-6.52E-17	-2.36E-17	-6.04E-16	5.386073
1.00000	-32.297293	1.065521	-1.30E-16	-2.36E-17	-5.80E-16	5.186466

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-28.718550	-1.114072	1.36E-16	2.33E-17	6.87E-16	-5.541468
0.25000	-28.718550	-0.579880	7.11E-17	2.33E-17	6.61E-16	-5.329724
0.50000	-28.718550	-0.045689	6.42E-18	2.33E-17	6.51E-16	-5.251527
0.75000	-28.718550	0.488503	-5.83E-17	2.33E-17	6.58E-16	-5.306879
1.00000	-28.718550	1.022694	-1.23E-16	2.33E-17	6.80E-16	-5.495779

COMB COMB5 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-28.718550	-1.114072	1.36E-16	2.33E-17	6.87E-16	-5.541468

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
0.25000	-28.718550	-0.579880	7.11E-17	2.33E-17	6.61E-16	-5.329724
0.50000	-28.718550	-0.045689	6.42E-18	2.33E-17	6.51E-16	-5.251527
0.75000	-28.718550	0.488503	-5.83E-17	2.33E-17	6.58E-16	-5.306879
1.00000	-28.718550	1.022694	-1.23E-16	2.33E-17	6.80E-16	-5.495779

COMB COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-17.048611	-0.943911	1.14E-16	-1.17E-19	3.39E-17	-0.156646
0.25000	-17.048611	-0.481408	5.83E-17	-1.17E-19	1.23E-17	0.021519
0.50000	-17.048611	-0.018904	2.28E-18	-1.17E-19	4.72E-18	0.084058
0.75000	-17.048611	0.443600	-5.37E-17	-1.17E-19	1.11E-17	0.030971
1.00000	-17.048611	0.906103	-1.10E-16	-1.17E-19	3.16E-17	-0.137742

COMB COMB6 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-17.048611	-0.943911	1.14E-16	-1.17E-19	3.39E-17	-0.156646
0.25000	-17.048611	-0.481408	5.83E-17	-1.17E-19	1.23E-17	0.021519
0.50000	-17.048611	-0.018904	2.28E-18	-1.17E-19	4.72E-18	0.084058
0.75000	-17.048611	0.443600	-5.37E-17	-1.17E-19	1.11E-17	0.030971
1.00000	-17.048611	0.906103	-1.10E-16	-1.17E-19	3.16E-17	-0.137742

COMB COMB7 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-14.533956	-0.694054	8.35E-17	-1.57E-17	-3.82E-16	3.457863
0.25000	-14.533956	-0.347177	4.15E-17	-1.57E-17	-3.98E-16	3.588017
0.50000	-14.533956	-0.000299	-5.59E-19	-1.57E-17	-4.03E-16	3.631452
0.75000	-14.533956	0.346579	-4.26E-17	-1.57E-17	-3.97E-16	3.588167
1.00000	-14.533956	0.693457	-8.46E-17	-1.57E-17	-3.81E-16	3.458162

COMB COMB7 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-14.533956	-0.694054	8.35E-17	-1.57E-17	-3.82E-16	3.457863
0.25000	-14.533956	-0.347177	4.15E-17	-1.57E-17	-3.98E-16	3.588017
0.50000	-14.533956	-0.000299	-5.59E-19	-1.57E-17	-4.03E-16	3.631452
0.75000	-14.533956	0.346579	-4.26E-17	-1.57E-17	-3.97E-16	3.588167
1.00000	-14.533956	0.693457	-8.46E-17	-1.57E-17	-3.81E-16	3.458162

COMB COMB8 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-12.148128	-0.722605	8.81E-17	1.55E-17	4.63E-16	-3.692184
0.25000	-12.148128	-0.375727	4.61E-17	1.55E-17	4.46E-16	-3.554893
0.50000	-12.148128	-0.028850	4.08E-18	1.55E-17	4.40E-16	-3.504321
0.75000	-12.148128	0.318028	-3.79E-17	1.55E-17	4.44E-16	-3.540468
1.00000	-12.148128	0.664906	-7.99E-17	1.55E-17	4.59E-16	-3.663335

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB8 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-12.148128	-0.722605	8.81E-17	1.55E-17	4.63E-16	-3.692184
0.25000	-12.148128	-0.375727	4.61E-17	1.55E-17	4.46E-16	-3.554893
0.50000	-12.148128	-0.028850	4.08E-18	1.55E-17	4.40E-16	-3.504321
0.75000	-12.148128	0.318028	-3.79E-17	1.55E-17	4.44E-16	-3.540468
1.00000	-12.148128	0.664906	-7.99E-17	1.55E-17	4.59E-16	-3.663335

ELEM 37 ========== LENGTH = 1.000000

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-39.568060	-1.537376	1.86E-16	-1.82E-19	3.70E-17	-0.207648
0.25000	-39.568060	-0.825120	9.99E-17	-1.82E-19	1.27E-18	0.087664
0.50000	-39.568060	-0.112865	1.37E-17	-1.82E-19	-1.29E-17	0.204912
0.75000	-39.568060	0.599391	-7.26E-17	-1.82E-19	-5.56E-18	0.144096
1.00000	-39.568060	1.311646	-1.59E-16	-1.82E-19	2.34E-17	-0.094783

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-39.568060	-1.537376	1.86E-16	-1.82E-19	3.70E-17	-0.207648
0.25000	-39.568060	-0.825120	9.99E-17	-1.82E-19	1.27E-18	0.087664
0.50000	-39.568060	-0.112865	1.37E-17	-1.82E-19	-1.29E-17	0.204912
0.75000	-39.568060	0.599391	-7.26E-17	-1.82E-19	-5.56E-18	0.144096
1.00000	-39.568060	1.311646	-1.59E-16	-1.82E-19	2.34E-17	-0.094783

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-58.353862	-0.904314	1.10E-16	-1.20E-19	-4.90E-18	-0.122427
0.25000	-58.353862	-0.446436	5.41E-17	-1.20E-19	-2.53E-17	0.046417
0.50000	-58.353862	0.011443	-1.39E-18	-1.20E-19	-3.19E-17	0.100791
0.75000	-58.353862	0.469321	-5.68E-17	-1.20E-19	-2.47E-17	0.040696
1.00000	-58.353862	0.927200	-1.12E-16	-1.20E-19	-3.51E-18	-0.133869

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-58.353862	-0.904314	1.10E-16	-1.20E-19	-4.90E-18	-0.122427
0.25000	-58.353862	-0.446436	5.41E-17	-1.20E-19	-2.53E-17	0.046417
0.50000	-58.353862	0.011443	-1.39E-18	-1.20E-19	-3.19E-17	0.100791
0.75000	-58.353862	0.469321	-5.68E-17	-1.20E-19	-2.47E-17	0.040696
1.00000	-58.353862	0.927200	-1.12E-16	-1.20E-19	-3.51E-18	-0.133869

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	6.516092	-1.654974	2.00E-16	-1.77E-19	7.72E-17	-0.223134
0.25000	6.516092	-0.942718	1.14E-16	-1.77E-19	3.79E-17	0.101577
0.50000	6.516092	-0.230463	2.79E-17	-1.77E-19	2.01E-17	0.248225

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
0.75000	6.516092	0.481793	-5.84E-17	-1.77E-19	2.39E-17	0.216809
1.00000	6.516092	1.194048	-1.45E-16	-1.77E-19	4.93E-17	0.007329

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	6.516092	-1.654974	2.00E-16	-1.77E-19	7.72E-17	-0.223134
0.25000	6.516092	-0.942718	1.14E-16	-1.77E-19	3.79E-17	0.101577
0.50000	6.516092	-0.230463	2.79E-17	-1.77E-19	2.01E-17	0.248225
0.75000	6.516092	0.481793	-5.84E-17	-1.77E-19	2.39E-17	0.216809
1.00000	6.516092	1.194048	-1.45E-16	-1.77E-19	4.93E-17	0.007329

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-32.297293	-1.087475	1.31E-16	-2.36E-17	-5.80E-16	5.186466
0.25000	-32.297293	-0.553284	6.61E-17	-2.36E-17	-6.04E-16	5.391561
0.50000	-32.297293	-0.019092	1.42E-18	-2.36E-17	-6.13E-16	5.463108
0.75000	-32.297293	0.515100	-6.33E-17	-2.36E-17	-6.05E-16	5.401107
1.00000	-32.297293	1.049291	-1.28E-16	-2.36E-17	-5.81E-16	5.205558

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-32.297293	-1.087475	1.31E-16	-2.36E-17	-5.80E-16	5.186466
0.25000	-32.297293	-0.553284	6.61E-17	-2.36E-17	-6.04E-16	5.391561
0.50000	-32.297293	-0.019092	1.42E-18	-2.36E-17	-6.13E-16	5.463108
0.75000	-32.297293	0.515100	-6.33E-17	-2.36E-17	-6.05E-16	5.401107
1.00000	-32.297293	1.049291	-1.28E-16	-2.36E-17	-5.81E-16	5.205558

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-28.718550	-1.202188	1.46E-16	2.33E-17	6.80E-16	-5.495779
0.25000	-28.718550	-0.667996	8.18E-17	2.33E-17	6.52E-16	-5.262006
0.50000	-28.718550	-0.133804	1.71E-17	2.33E-17	6.39E-16	-5.161781
0.75000	-28.718550	0.400387	-4.76E-17	2.33E-17	6.43E-16	-5.195104
1.00000	-28.718550	0.934579	-1.12E-16	2.33E-17	6.63E-16	-5.361975

COMB COMB5 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-28.718550	-1.202188	1.46E-16	2.33E-17	6.80E-16	-5.495779
0.25000	-28.718550	-0.667996	8.18E-17	2.33E-17	6.52E-16	-5.262006
0.50000	-28.718550	-0.133804	1.71E-17	2.33E-17	6.39E-16	-5.161781
0.75000	-28.718550	0.400387	-4.76E-17	2.33E-17	6.43E-16	-5.195104
1.00000	-28.718550	0.934579	-1.12E-16	2.33E-17	6.63E-16	-5.361975

COMB COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-17.048611	-1.020356	1.24E-16	-1.17E-19	3.16E-17	-0.137742

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
0.25000	-17.048611	-0.557853	6.76E-17	-1.17E-19	7.69E-18	0.059535
0.50000	-17.048611	-0.095349	1.15E-17	-1.17E-19	-2.19E-18	0.141185
0.75000	-17.048611	0.367154	-4.45E-17	-1.17E-19	1.92E-18	0.107209
1.00000	-17.048611	0.829658	-1.00E-16	-1.17E-19	2.00E-17	-0.042392

COMB COMB6 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-17.048611	-1.020356	1.24E-16	-1.17E-19	3.16E-17	-0.137742
0.25000	-17.048611	-0.557853	6.76E-17	-1.17E-19	7.69E-18	0.059535
0.50000	-17.048611	-0.095349	1.15E-17	-1.17E-19	-2.19E-18	0.141185
0.75000	-17.048611	0.367154	-4.45E-17	-1.17E-19	1.92E-18	0.107209
1.00000	-17.048611	0.829658	-1.00E-16	-1.17E-19	2.00E-17	-0.042392

COMB COMB7 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-14.533956	-0.721563	8.68E-17	-1.57E-17	-3.81E-16	3.458162
0.25000	-14.533956	-0.374685	4.48E-17	-1.57E-17	-3.98E-16	3.595193
0.50000	-14.533956	-0.027807	2.77E-18	-1.57E-17	-4.04E-16	3.645505
0.75000	-14.533956	0.319070	-3.92E-17	-1.57E-17	-3.99E-16	3.609097
1.00000	-14.533956	0.665948	-8.12E-17	-1.57E-17	-3.84E-16	3.485970

COMB COMB7 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-14.533956	-0.721563	8.68E-17	-1.57E-17	-3.81E-16	3.458162
0.25000	-14.533956	-0.374685	4.48E-17	-1.57E-17	-3.98E-16	3.595193
0.50000	-14.533956	-0.027807	2.77E-18	-1.57E-17	-4.04E-16	3.645505
0.75000	-14.533956	0.319070	-3.92E-17	-1.57E-17	-3.99E-16	3.609097
1.00000	-14.533956	0.665948	-8.12E-17	-1.57E-17	-3.84E-16	3.485970

COMB COMB8 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-12.148128	-0.798038	9.72E-17	1.55E-17	4.59E-16	-3.663335
0.25000	-12.148128	-0.451160	5.52E-17	1.55E-17	4.40E-16	-3.507185
0.50000	-12.148128	-0.104282	1.32E-17	1.55E-17	4.31E-16	-3.437755
0.75000	-12.148128	0.242595	-2.88E-17	1.55E-17	4.33E-16	-3.455044
1.00000	-12.148128	0.589473	-7.08E-17	1.55E-17	4.45E-16	-3.559052

COMB COMB8 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-12.148128	-0.798038	9.72E-17	1.55E-17	4.59E-16	-3.663335
0.25000	-12.148128	-0.451160	5.52E-17	1.55E-17	4.40E-16	-3.507185
0.50000	-12.148128	-0.104282	1.32E-17	1.55E-17	4.31E-16	-3.437755
0.75000	-12.148128	0.242595	-2.88E-17	1.55E-17	4.33E-16	-3.455044
1.00000	-12.148128	0.589473	-7.08E-17	1.55E-17	4.45E-16	-3.559052

F R A M E E L E M E N T I N T E R N A L F O R C E S

ELEM 38 ========== LENGTH = 1.000000

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-39.568060	-1.112141	1.35E-16	-1.82E-19	2.34E-17	-0.094783
0.25000	-39.568060	-0.399886	4.84E-17	-1.82E-19	4.80E-19	0.094220
0.50000	-39.568060	0.312370	-3.78E-17	-1.82E-19	-8.43E-19	0.105160
0.75000	-39.568060	1.024625	-1.24E-16	-1.82E-19	1.94E-17	-0.061965
1.00000	-39.568060	1.736881	-2.10E-16	-1.82E-19	6.12E-17	-0.407153

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-39.568060	-1.112141	1.35E-16	-1.82E-19	2.34E-17	-0.094783
0.25000	-39.568060	-0.399886	4.84E-17	-1.82E-19	4.80E-19	0.094220
0.50000	-39.568060	0.312370	-3.78E-17	-1.82E-19	-8.43E-19	0.105160
0.75000	-39.568060	1.024625	-1.24E-16	-1.82E-19	1.94E-17	-0.061965
1.00000	-39.568060	1.736881	-2.10E-16	-1.82E-19	6.12E-17	-0.407153

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-58.353862	-0.294249	3.56E-17	-1.20E-19	-3.51E-18	-0.133869
0.25000	-58.353862	0.163630	-1.98E-17	-1.20E-19	-5.48E-18	-0.117542
0.50000	-58.353862	0.621508	-7.53E-17	-1.20E-19	6.40E-18	-0.215684
0.75000	-58.353862	1.079387	-1.31E-16	-1.20E-19	3.22E-17	-0.428296
1.00000	-58.353862	1.537266	-1.86E-16	-1.20E-19	7.18E-17	-0.755378

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-58.353862	-0.294249	3.56E-17	-1.20E-19	-3.51E-18	-0.133869
0.25000	-58.353862	0.163630	-1.98E-17	-1.20E-19	-5.48E-18	-0.117542
0.50000	-58.353862	0.621508	-7.53E-17	-1.20E-19	6.40E-18	-0.215684
0.75000	-58.353862	1.079387	-1.31E-16	-1.20E-19	3.22E-17	-0.428296
1.00000	-58.353862	1.537266	-1.86E-16	-1.20E-19	7.18E-17	-0.755378

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	6.516092	-1.701120	2.06E-16	-1.77E-19	4.93E-17	0.007329
0.25000	6.516092	-0.988865	1.20E-16	-1.77E-19	8.59E-18	0.343577
0.50000	6.516092	-0.276609	3.35E-17	-1.77E-19	-1.06E-17	0.501761
0.75000	6.516092	0.435646	-5.28E-17	-1.77E-19	-8.16E-18	0.481882
1.00000	6.516092	1.147902	-1.39E-16	-1.77E-19	1.58E-17	0.283938

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	6.516092	-1.701120	2.06E-16	-1.77E-19	4.93E-17	0.007329
0.25000	6.516092	-0.988865	1.20E-16	-1.77E-19	8.59E-18	0.343577
0.50000	6.516092	-0.276609	3.35E-17	-1.77E-19	-1.06E-17	0.501761

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
0.75000	6.516092	0.435646	-5.28E-17	-1.77E-19	-8.16E-18	0.481882
1.00000	6.516092	1.147902	-1.39E-16	-1.77E-19	1.58E-17	0.283938

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-32.297293	-1.070349	1.29E-16	-2.36E-17	-5.81E-16	5.205558
0.25000	-32.297293	-0.536158	6.40E-17	-2.36E-17	-6.05E-16	5.406372
0.50000	-32.297293	-0.001966	-6.55E-19	-2.36E-17	-6.13E-16	5.473637
0.75000	-32.297293	0.532226	-6.53E-17	-2.36E-17	-6.05E-16	5.407355
1.00000	-32.297293	1.066417	-1.30E-16	-2.36E-17	-5.81E-16	5.207524

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-32.297293	-1.070349	1.29E-16	-2.36E-17	-5.81E-16	5.205558
0.25000	-32.297293	-0.536158	6.40E-17	-2.36E-17	-6.05E-16	5.406372
0.50000	-32.297293	-0.001966	-6.55E-19	-2.36E-17	-6.13E-16	5.473637
0.75000	-32.297293	0.532226	-6.53E-17	-2.36E-17	-6.05E-16	5.407355
1.00000	-32.297293	1.066417	-1.30E-16	-2.36E-17	-5.81E-16	5.207524

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-28.718550	-0.515720	6.33E-17	2.33E-17	6.63E-16	-5.361975
0.25000	-28.718550	0.018472	-1.35E-18	2.33E-17	6.55E-16	-5.299819
0.50000	-28.718550	0.552663	-6.60E-17	2.33E-17	6.64E-16	-5.371210
0.75000	-28.718550	1.086855	-1.31E-16	2.33E-17	6.88E-16	-5.576150
1.00000	-28.718550	1.621047	-1.95E-16	2.33E-17	7.29E-16	-5.914638

COMB COMB5 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-28.718550	-0.515720	6.33E-17	2.33E-17	6.63E-16	-5.361975
0.25000	-28.718550	0.018472	-1.35E-18	2.33E-17	6.55E-16	-5.299819
0.50000	-28.718550	0.552663	-6.60E-17	2.33E-17	6.64E-16	-5.371210
0.75000	-28.718550	1.086855	-1.31E-16	2.33E-17	6.88E-16	-5.576150
1.00000	-28.718550	1.621047	-1.95E-16	2.33E-17	7.29E-16	-5.914638

COMB COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-17.048611	-0.832656	1.01E-16	-1.17E-19	2.00E-17	-0.042392
0.25000	-17.048611	-0.370153	4.48E-17	-1.17E-19	1.83E-18	0.107959
0.50000	-17.048611	0.092351	-1.12E-17	-1.17E-19	-2.37E-18	0.142684
0.75000	-17.048611	0.554854	-6.72E-17	-1.17E-19	7.43E-18	0.061783
1.00000	-17.048611	1.017358	-1.23E-16	-1.17E-19	3.12E-17	-0.134743

COMB COMB6 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-17.048611	-0.832656	1.01E-16	-1.17E-19	2.00E-17	-0.042392

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
0.25000	-17.048611	-0.370153	4.48E-17	-1.17E-19	1.83E-18	0.107959
0.50000	-17.048611	0.092351	-1.12E-17	-1.17E-19	-2.37E-18	0.142684
0.75000	-17.048611	0.554854	-6.72E-17	-1.17E-19	7.43E-18	0.061783
1.00000	-17.048611	1.017358	-1.23E-16	-1.17E-19	3.12E-17	-0.134743

COMB COMB7 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-14.533956	-0.781988	9.41E-17	-1.57E-17	-3.84E-16	3.485970
0.25000	-14.533956	-0.435110	5.21E-17	-1.57E-17	-4.02E-16	3.638107
0.50000	-14.533956	-0.088232	1.01E-17	-1.57E-17	-4.10E-16	3.703525
0.75000	-14.533956	0.258645	-3.19E-17	-1.57E-17	-4.07E-16	3.682223
1.00000	-14.533956	0.605523	-7.39E-17	-1.57E-17	-3.94E-16	3.574202

COMB COMB7 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-14.533956	-0.781988	9.41E-17	-1.57E-17	-3.84E-16	3.485970
0.25000	-14.533956	-0.435110	5.21E-17	-1.57E-17	-4.02E-16	3.638107
0.50000	-14.533956	-0.088232	1.01E-17	-1.57E-17	-4.10E-16	3.703525
0.75000	-14.533956	0.258645	-3.19E-17	-1.57E-17	-4.07E-16	3.682223
1.00000	-14.533956	0.605523	-7.39E-17	-1.57E-17	-3.94E-16	3.574202

COMB COMB8 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-12.148128	-0.412235	5.05E-17	1.55E-17	4.45E-16	-3.559052
0.25000	-12.148128	-0.065357	8.50E-18	1.55E-17	4.38E-16	-3.499353
0.50000	-12.148128	0.281520	-3.35E-17	1.55E-17	4.41E-16	-3.526374
0.75000	-12.148128	0.628398	-7.55E-17	1.55E-17	4.55E-16	-3.640114
1.00000	-12.148128	0.975276	-1.18E-16	1.55E-17	4.79E-16	-3.840573

COMB COMB8 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-12.148128	-0.412235	5.05E-17	1.55E-17	4.45E-16	-3.559052
0.25000	-12.148128	-0.065357	8.50E-18	1.55E-17	4.38E-16	-3.499353
0.50000	-12.148128	0.281520	-3.35E-17	1.55E-17	4.41E-16	-3.526374
0.75000	-12.148128	0.628398	-7.55E-17	1.55E-17	4.55E-16	-3.640114
1.00000	-12.148128	0.975276	-1.18E-16	1.55E-17	4.79E-16	-3.840573

ELEM 39 ========== LENGTH = 1.000000

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-39.568060	2.136827	-2.59E-16	-1.82E-19	6.12E-17	-0.407153
0.25000	-39.568060	2.849083	-3.45E-16	-1.82E-19	1.37E-16	-1.030392
0.50000	-39.568060	3.561338	-4.31E-16	-1.82E-19	2.34E-16	-1.831694
0.75000	-39.568060	4.273594	-5.18E-16	-1.82E-19	3.52E-16	-2.811061
1.00000	-39.568060	4.985849	-6.04E-16	-1.82E-19	4.93E-16	-3.968491

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-39.568060	2.136827	-2.59E-16	-1.82E-19	6.12E-17	-0.407153
0.25000	-39.568060	2.849083	-3.45E-16	-1.82E-19	1.37E-16	-1.030392
0.50000	-39.568060	3.561338	-4.31E-16	-1.82E-19	2.34E-16	-1.831694
0.75000	-39.568060	4.273594	-5.18E-16	-1.82E-19	3.52E-16	-2.811061
1.00000	-39.568060	4.985849	-6.04E-16	-1.82E-19	4.93E-16	-3.968491

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-58.353862	0.956185	-1.16E-16	-1.20E-19	7.18E-17	-0.755378
0.25000	-58.353862	1.414064	-1.71E-16	-1.20E-19	1.08E-16	-1.051659
0.50000	-58.353862	1.871942	-2.27E-16	-1.20E-19	1.57E-16	-1.462410
0.75000	-58.353862	2.329821	-2.82E-16	-1.20E-19	2.21E-16	-1.987630
1.00000	-58.353862	2.787699	-3.38E-16	-1.20E-19	2.98E-16	-2.627320

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-58.353862	0.956185	-1.16E-16	-1.20E-19	7.18E-17	-0.755378
0.25000	-58.353862	1.414064	-1.71E-16	-1.20E-19	1.08E-16	-1.051659
0.50000	-58.353862	1.871942	-2.27E-16	-1.20E-19	1.57E-16	-1.462410
0.75000	-58.353862	2.329821	-2.82E-16	-1.20E-19	2.21E-16	-1.987630
1.00000	-58.353862	2.787699	-3.38E-16	-1.20E-19	2.98E-16	-2.627320

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	6.516092	2.721312	-3.30E-16	-1.77E-19	1.58E-17	0.283938
0.25000	6.516092	3.433568	-4.16E-16	-1.77E-19	1.09E-16	-0.485422
0.50000	6.516092	4.145823	-5.02E-16	-1.77E-19	2.24E-16	-1.432846
0.75000	6.516092	4.858079	-5.88E-16	-1.77E-19	3.60E-16	-2.558334
1.00000	6.516092	5.570334	-6.75E-16	-1.77E-19	5.18E-16	-3.861885

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	6.516092	2.721312	-3.30E-16	-1.77E-19	1.58E-17	0.283938
0.25000	6.516092	3.433568	-4.16E-16	-1.77E-19	1.09E-16	-0.485422
0.50000	6.516092	4.145823	-5.02E-16	-1.77E-19	2.24E-16	-1.432846
0.75000	6.516092	4.858079	-5.88E-16	-1.77E-19	3.60E-16	-2.558334
1.00000	6.516092	5.570334	-6.75E-16	-1.77E-19	5.18E-16	-3.861885

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-32.297293	-0.653315	7.82E-17	-2.36E-17	-5.81E-16	5.207524
0.25000	-32.297293	-0.119123	1.35E-17	-2.36E-17	-5.92E-16	5.304079
0.50000	-32.297293	0.415068	-5.12E-17	-2.36E-17	-5.87E-16	5.267086
0.75000	-32.297293	0.949260	-1.16E-16	-2.36E-17	-5.66E-16	5.096545
1.00000	-32.297293	1.483451	-1.81E-16	-2.36E-17	-5.29E-16	4.792456

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-32.297293	-0.653315	7.82E-17	-2.36E-17	-5.81E-16	5.207524
0.25000	-32.297293	-0.119123	1.35E-17	-2.36E-17	-5.92E-16	5.304079
0.50000	-32.297293	0.415068	-5.12E-17	-2.36E-17	-5.87E-16	5.267086
0.75000	-32.297293	0.949260	-1.16E-16	-2.36E-17	-5.66E-16	5.096545
1.00000	-32.297293	1.483451	-1.81E-16	-2.36E-17	-5.29E-16	4.792456

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-28.718550	3.777039	-4.57E-16	2.33E-17	7.29E-16	-5.914638
0.25000	-28.718550	4.311231	-5.21E-16	2.33E-17	8.51E-16	-6.925672
0.50000	-28.718550	4.845423	-5.86E-16	2.33E-17	9.90E-16	-8.070254
0.75000	-28.718550	5.379614	-6.51E-16	2.33E-17	1.14E-15	-9.348383
1.00000	-28.718550	5.913806	-7.15E-16	2.33E-17	1.32E-15	-10.760061

COMB COMB5 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-28.718550	3.777039	-4.57E-16	2.33E-17	7.29E-16	-5.914638
0.25000	-28.718550	4.311231	-5.21E-16	2.33E-17	8.51E-16	-6.925672
0.50000	-28.718550	4.845423	-5.86E-16	2.33E-17	9.90E-16	-8.070254
0.75000	-28.718550	5.379614	-6.51E-16	2.33E-17	1.14E-15	-9.348383
1.00000	-28.718550	5.913806	-7.15E-16	2.33E-17	1.32E-15	-10.760061

COMB COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-17.048611	1.497194	-1.81E-16	-1.17E-19	3.12E-17	-0.134743
0.25000	-17.048611	1.959697	-2.37E-16	-1.17E-19	8.36E-17	-0.566855
0.50000	-17.048611	2.422201	-2.93E-16	-1.17E-19	1.50E-16	-1.114592
0.75000	-17.048611	2.884704	-3.49E-16	-1.17E-19	2.30E-16	-1.777955
1.00000	-17.048611	3.347208	-4.05E-16	-1.17E-19	3.25E-16	-2.556944

COMB COMB6 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-17.048611	1.497194	-1.81E-16	-1.17E-19	3.12E-17	-0.134743
0.25000	-17.048611	1.959697	-2.37E-16	-1.17E-19	8.36E-17	-0.566855
0.50000	-17.048611	2.422201	-2.93E-16	-1.17E-19	1.50E-16	-1.114592
0.75000	-17.048611	2.884704	-3.49E-16	-1.17E-19	2.30E-16	-1.777955
1.00000	-17.048611	3.347208	-4.05E-16	-1.17E-19	3.25E-16	-2.556944

COMB COMB7 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-14.533956	-0.381062	4.56E-17	-1.57E-17	-3.94E-16	3.574202
0.25000	-14.533956	-0.034184	3.54E-18	-1.57E-17	-4.00E-16	3.626108
0.50000	-14.533956	0.312694	-3.85E-17	-1.57E-17	-3.96E-16	3.591294
0.75000	-14.533956	0.659571	-8.05E-17	-1.57E-17	-3.81E-16	3.469761
1.00000	-14.533956	1.006449	-1.22E-16	-1.57E-17	-3.56E-16	3.261508

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB7 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-14.533956	-0.381062	4.56E-17	-1.57E-17	-3.94E-16	3.574202
0.25000	-14.533956	-0.034184	3.54E-18	-1.57E-17	-4.00E-16	3.626108
0.50000	-14.533956	0.312694	-3.85E-17	-1.57E-17	-3.96E-16	3.591294
0.75000	-14.533956	0.659571	-8.05E-17	-1.57E-17	-3.81E-16	3.469761
1.00000	-14.533956	1.006449	-1.22E-16	-1.57E-17	-3.56E-16	3.261508

COMB COMB8 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-12.148128	2.572508	-3.11E-16	1.55E-17	4.79E-16	-3.840573
0.25000	-12.148128	2.919386	-3.53E-16	1.55E-17	5.62E-16	-4.527060
0.50000	-12.148128	3.266263	-3.95E-16	1.55E-17	6.55E-16	-5.300266
0.75000	-12.148128	3.613141	-4.37E-16	1.55E-17	7.59E-16	-6.160191
1.00000	-12.148128	3.960019	-4.79E-16	1.55E-17	8.74E-16	-7.106836

COMB COMB8 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-12.148128	2.572508	-3.11E-16	1.55E-17	4.79E-16	-3.840573
0.25000	-12.148128	2.919386	-3.53E-16	1.55E-17	5.62E-16	-4.527060
0.50000	-12.148128	3.266263	-3.95E-16	1.55E-17	6.55E-16	-5.300266
0.75000	-12.148128	3.613141	-4.37E-16	1.55E-17	7.59E-16	-6.160191
1.00000	-12.148128	3.960019	-4.79E-16	1.55E-17	8.74E-16	-7.106836

ELEM 40 ========== LENGTH = 1.000000

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-39.568060	3.848922	-4.66E-16	-1.82E-19	4.93E-16	-3.968491
0.25000	-39.568060	4.773929	-5.78E-16	-1.82E-19	6.23E-16	-5.046347
0.50000	-39.568060	5.698936	-6.90E-16	-1.82E-19	7.82E-16	-6.355456
0.75000	-39.568060	6.623943	-8.02E-16	-1.82E-19	9.68E-16	-7.895816
1.00000	-39.568060	7.548950	-9.14E-16	-1.82E-19	1.18E-15	-9.667427

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-39.568060	3.848922	-4.66E-16	-1.82E-19	4.93E-16	-3.968491
0.25000	-39.568060	4.773929	-5.78E-16	-1.82E-19	6.23E-16	-5.046347
0.50000	-39.568060	5.698936	-6.90E-16	-1.82E-19	7.82E-16	-6.355456
0.75000	-39.568060	6.623943	-8.02E-16	-1.82E-19	9.68E-16	-7.895816
1.00000	-39.568060	7.548950	-9.14E-16	-1.82E-19	1.18E-15	-9.667427

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-58.353862	-8.246190	9.99E-16	-1.20E-19	2.98E-16	-2.627320
0.25000	-58.353862	-7.651542	9.27E-16	-1.20E-19	5.78E-17	-0.640103
0.50000	-58.353862	-7.056895	8.55E-16	-1.20E-19	-1.65E-16	1.198451

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
0.75000	-58.353862	-6.462247	7.83E-16	-1.20E-19	-3.70E-16	2.888344
1.00000	-58.353862	-5.867600	7.11E-16	-1.20E-19	-5.56E-16	4.429575

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-58.353862	-8.246190	9.99E-16	-1.20E-19	2.98E-16	-2.627320
0.25000	-58.353862	-7.651542	9.27E-16	-1.20E-19	5.78E-17	-0.640103
0.50000	-58.353862	-7.056895	8.55E-16	-1.20E-19	-1.65E-16	1.198451
0.75000	-58.353862	-6.462247	7.83E-16	-1.20E-19	-3.70E-16	2.888344
1.00000	-58.353862	-5.867600	7.11E-16	-1.20E-19	-5.56E-16	4.429575

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	6.516092	18.857617	-2.28E-15	-1.77E-19	5.18E-16	-3.861885
0.25000	6.516092	19.782624	-2.40E-15	-1.77E-19	1.10E-15	-8.691915
0.50000	6.516092	20.707631	-2.51E-15	-1.77E-19	1.72E-15	-13.753197
0.75000	6.516092	21.632638	-2.62E-15	-1.77E-19	2.36E-15	-19.045731
1.00000	6.516092	22.557645	-2.73E-15	-1.77E-19	3.03E-15	-24.569516

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	6.516092	18.857617	-2.28E-15	-1.77E-19	5.18E-16	-3.861885
0.25000	6.516092	19.782624	-2.40E-15	-1.77E-19	1.10E-15	-8.691915
0.50000	6.516092	20.707631	-2.51E-15	-1.77E-19	1.72E-15	-13.753197
0.75000	6.516092	21.632638	-2.62E-15	-1.77E-19	2.36E-15	-19.045731
1.00000	6.516092	22.557645	-2.73E-15	-1.77E-19	3.03E-15	-24.569516

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-32.297293	0.393883	-4.86E-17	-2.36E-17	-5.29E-16	4.792456
0.25000	-32.297293	1.087638	-1.33E-16	-2.36E-17	-5.07E-16	4.607266
0.50000	-32.297293	1.781393	-2.17E-16	-2.36E-17	-4.63E-16	4.248637
0.75000	-32.297293	2.475149	-3.01E-16	-2.36E-17	-3.98E-16	3.716569
1.00000	-32.297293	3.168904	-3.85E-16	-2.36E-17	-3.13E-16	3.011063

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-32.297293	0.393883	-4.86E-17	-2.36E-17	-5.29E-16	4.792456
0.25000	-32.297293	1.087638	-1.33E-16	-2.36E-17	-5.07E-16	4.607266
0.50000	-32.297293	1.781393	-2.17E-16	-2.36E-17	-4.63E-16	4.248637
0.75000	-32.297293	2.475149	-3.01E-16	-2.36E-17	-3.98E-16	3.716569
1.00000	-32.297293	3.168904	-3.85E-16	-2.36E-17	-3.13E-16	3.011063

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-28.718550	3.286290	-3.97E-16	2.33E-17	1.32E-15	-10.760061

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
0.25000	-28.718550	3.980045	-4.81E-16	2.33E-17	1.42E-15	-11.668353
0.50000	-28.718550	4.673801	-5.65E-16	2.33E-17	1.56E-15	-12.750083
0.75000	-28.718550	5.367556	-6.49E-16	2.33E-17	1.71E-15	-14.005253
1.00000	-28.718550	6.061311	-7.33E-16	2.33E-17	1.88E-15	-15.433861

COMB COMB5 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-28.718550	3.286290	-3.97E-16	2.33E-17	1.32E-15	-10.760061
0.25000	-28.718550	3.980045	-4.81E-16	2.33E-17	1.42E-15	-11.668353
0.50000	-28.718550	4.673801	-5.65E-16	2.33E-17	1.56E-15	-12.750083
0.75000	-28.718550	5.367556	-6.49E-16	2.33E-17	1.71E-15	-14.005253
1.00000	-28.718550	6.061311	-7.33E-16	2.33E-17	1.88E-15	-15.433861

COMB COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-17.048611	5.314784	-6.44E-16	-1.17E-19	3.25E-16	-2.556944
0.25000	-17.048611	5.915438	-7.16E-16	-1.17E-19	4.95E-16	-3.960722
0.50000	-17.048611	6.516092	-7.89E-16	-1.17E-19	6.83E-16	-5.514663
0.75000	-17.048611	7.116746	-8.62E-16	-1.17E-19	8.89E-16	-7.218768
1.00000	-17.048611	7.717400	-9.35E-16	-1.17E-19	1.11E-15	-9.073036

COMB COMB6 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-17.048611	5.314784	-6.44E-16	-1.17E-19	3.25E-16	-2.556944
0.25000	-17.048611	5.915438	-7.16E-16	-1.17E-19	4.95E-16	-3.960722
0.50000	-17.048611	6.516092	-7.89E-16	-1.17E-19	6.83E-16	-5.514663
0.75000	-17.048611	7.116746	-8.62E-16	-1.17E-19	8.89E-16	-7.218768
1.00000	-17.048611	7.717400	-9.35E-16	-1.17E-19	1.11E-15	-9.073036

COMB COMB7 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-14.533956	2.324215	-2.82E-16	-1.57E-17	-3.56E-16	3.261508
0.25000	-14.533956	2.774706	-3.37E-16	-1.57E-17	-2.78E-16	2.624143
0.50000	-14.533956	3.225196	-3.91E-16	-1.57E-17	-1.87E-16	1.874155
0.75000	-14.533956	3.675687	-4.46E-16	-1.57E-17	-8.28E-17	1.011545
1.00000	-14.533956	4.126177	-5.00E-16	-1.57E-17	3.54E-17	0.036312

COMB COMB7 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-14.533956	2.324215	-2.82E-16	-1.57E-17	-3.56E-16	3.261508
0.25000	-14.533956	2.774706	-3.37E-16	-1.57E-17	-2.78E-16	2.624143
0.50000	-14.533956	3.225196	-3.91E-16	-1.57E-17	-1.87E-16	1.874155
0.75000	-14.533956	3.675687	-4.46E-16	-1.57E-17	-8.28E-17	1.011545
1.00000	-14.533956	4.126177	-5.00E-16	-1.57E-17	3.54E-17	0.036312

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB8 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-12.148128	4.252487	-5.14E-16	1.55E-17	8.74E-16	-7.106836
0.25000	-12.148128	4.702977	-5.69E-16	1.55E-17	1.01E-15	-8.226269
0.50000	-12.148128	5.153468	-6.24E-16	1.55E-17	1.16E-15	-9.458325
0.75000	-12.148128	5.603958	-6.78E-16	1.55E-17	1.32E-15	-10.803003
1.00000	-12.148128	6.054449	-7.33E-16	1.55E-17	1.50E-15	-12.260304

COMB COMB8 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-12.148128	4.252487	-5.14E-16	1.55E-17	8.74E-16	-7.106836
0.25000	-12.148128	4.702977	-5.69E-16	1.55E-17	1.01E-15	-8.226269
0.50000	-12.148128	5.153468	-6.24E-16	1.55E-17	1.16E-15	-9.458325
0.75000	-12.148128	5.603958	-6.78E-16	1.55E-17	1.32E-15	-10.803003
1.00000	-12.148128	6.054449	-7.33E-16	1.55E-17	1.50E-15	-12.260304

ELEM 41 ========== LENGTH = 1.075000

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-39.568060	-39.294828	5.21E-15	-1.82E-19	1.14E-15	-9.667427
0.25000	-39.568060	-38.300445	5.09E-15	-1.82E-19	-2.42E-16	0.759438
0.50000	-39.568060	-37.306062	4.97E-15	-1.82E-19	-1.59E-15	10.919062
0.75000	-39.568060	-36.311679	4.85E-15	-1.82E-19	-2.91E-15	20.811446
1.00000	-39.568060	-35.317297	4.73E-15	-1.82E-19	-4.20E-15	30.436590

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-39.568060	-39.294828	5.21E-15	-1.82E-19	1.14E-15	-9.667427
0.25000	-39.568060	-38.300445	5.09E-15	-1.82E-19	-2.42E-16	0.759438
0.50000	-39.568060	-37.306062	4.97E-15	-1.82E-19	-1.59E-15	10.919062
0.75000	-39.568060	-36.311679	4.85E-15	-1.82E-19	-2.91E-15	20.811446
1.00000	-39.568060	-35.317297	4.73E-15	-1.82E-19	-4.20E-15	30.436590

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-58.353862	-64.220431	2.62E-14	-1.20E-19	-2.18E-15	4.429575
0.25000	-58.353862	-63.581185	2.61E-14	-1.20E-19	-9.22E-15	21.602917
0.50000	-58.353862	-62.941939	2.61E-14	-1.20E-19	-1.62E-14	38.604461
0.75000	-58.353862	-62.302693	2.60E-14	-1.20E-19	-2.32E-14	55.434209
1.00000	-58.353862	-61.663447	2.59E-14	-1.20E-19	-3.02E-14	72.092159

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-58.353862	-64.220431	2.62E-14	-1.20E-19	-2.18E-15	4.429575
0.25000	-58.353862	-63.581185	2.61E-14	-1.20E-19	-9.22E-15	21.602917
0.50000	-58.353862	-62.941939	2.61E-14	-1.20E-19	-1.62E-14	38.604461

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
0.75000	-58.353862	-62.302693	2.60E-14	-1.20E-19	-2.32E-14	55.434209
1.00000	-58.353862	-61.663447	2.59E-14	-1.20E-19	-3.02E-14	72.092159

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	6.516092	15.248430	-2.68E-14	-1.77E-19	5.23E-15	-24.569516
0.25000	6.516092	16.242813	-2.69E-14	-1.77E-19	1.24E-14	-28.801152
0.50000	6.516092	17.237196	-2.70E-14	-1.77E-19	1.97E-14	-33.300028
0.75000	6.516092	18.231579	-2.72E-14	-1.77E-19	2.70E-14	-38.066145
1.00000	6.516092	19.225961	-2.73E-14	-1.77E-19	3.43E-14	-43.099502

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	6.516092	15.248430	-2.68E-14	-1.77E-19	5.23E-15	-24.569516
0.25000	6.516092	16.242813	-2.69E-14	-1.77E-19	1.24E-14	-28.801152
0.50000	6.516092	17.237196	-2.70E-14	-1.77E-19	1.97E-14	-33.300028
0.75000	6.516092	18.231579	-2.72E-14	-1.77E-19	2.70E-14	-38.066145
1.00000	6.516092	19.225961	-2.73E-14	-1.77E-19	3.43E-14	-43.099502

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-32.297293	-27.503264	2.37E-15	-2.36E-17	-2.28E-16	3.011063
0.25000	-32.297293	-26.757477	2.28E-15	-2.36E-17	-8.52E-16	10.302350
0.50000	-32.297293	-26.011690	2.19E-15	-2.36E-17	-1.45E-15	17.393206
0.75000	-32.297293	-25.265903	2.10E-15	-2.36E-17	-2.03E-15	24.283633
1.00000	-32.297293	-24.520116	2.01E-15	-2.36E-17	-2.58E-15	30.973629

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-32.297293	-27.503264	2.37E-15	-2.36E-17	-2.28E-16	3.011063
0.25000	-32.297293	-26.757477	2.28E-15	-2.36E-17	-8.52E-16	10.302350
0.50000	-32.297293	-26.011690	2.19E-15	-2.36E-17	-1.45E-15	17.393206
0.75000	-32.297293	-25.265903	2.10E-15	-2.36E-17	-2.03E-15	24.283633
1.00000	-32.297293	-24.520116	2.01E-15	-2.36E-17	-2.58E-15	30.973629

COMB COMB5 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-28.718550	-39.045932	9.92E-15	2.33E-17	1.42E-15	-15.433861
0.25000	-28.718550	-38.300145	9.83E-15	2.33E-17	-1.23E-15	-5.040482
0.50000	-28.718550	-37.554358	9.74E-15	2.33E-17	-3.86E-15	5.152467
0.75000	-28.718550	-36.808571	9.64E-15	2.33E-17	-6.46E-15	15.144985
1.00000	-28.718550	-36.062784	9.55E-15	2.33E-17	-9.04E-15	24.937074

COMB COMB5 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-28.718550	-39.045932	9.92E-15	2.33E-17	1.42E-15	-15.433861

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
0.25000	-28.718550	-38.300145	9.83E-15	2.33E-17	-1.23E-15	-5.040482
0.50000	-28.718550	-37.554358	9.74E-15	2.33E-17	-3.86E-15	5.152467
0.75000	-28.718550	-36.808571	9.64E-15	2.33E-17	-6.46E-15	15.144985
1.00000	-28.718550	-36.062784	9.55E-15	2.33E-17	-9.04E-15	24.937074

COMB COMB6 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-17.048611	-15.284342	-2.62E-15	-1.17E-19	1.51E-15	-9.073036
0.25000	-17.048611	-14.638639	-2.70E-15	-1.17E-19	2.22E-15	-5.052135
0.50000	-17.048611	-13.992936	-2.78E-15	-1.17E-19	2.96E-15	-1.204767
0.75000	-17.048611	-13.347233	-2.85E-15	-1.17E-19	3.72E-15	2.469068
1.00000	-17.048611	-12.701530	-2.93E-15	-1.17E-19	4.49E-15	5.969370

COMB COMB6 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-17.048611	-15.284342	-2.62E-15	-1.17E-19	1.51E-15	-9.073036
0.25000	-17.048611	-14.638639	-2.70E-15	-1.17E-19	2.22E-15	-5.052135
0.50000	-17.048611	-13.992936	-2.78E-15	-1.17E-19	2.96E-15	-1.204767
0.75000	-17.048611	-13.347233	-2.85E-15	-1.17E-19	3.72E-15	2.469068
1.00000	-17.048611	-12.701530	-2.93E-15	-1.17E-19	4.49E-15	5.969370

COMB COMB7 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-14.533956	-10.151352	-2.99E-15	-1.57E-17	4.08E-16	0.036312
0.25000	-14.533956	-9.667075	-3.05E-15	-1.57E-17	1.22E-15	2.699413
0.50000	-14.533956	-9.182797	-3.11E-15	-1.57E-17	2.05E-15	5.232364
0.75000	-14.533956	-8.698520	-3.17E-15	-1.57E-17	2.89E-15	7.635166
1.00000	-14.533956	-8.214243	-3.23E-15	-1.57E-17	3.75E-15	9.907819

COMB COMB7 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-14.533956	-10.151352	-2.99E-15	-1.57E-17	4.08E-16	0.036312
0.25000	-14.533956	-9.667075	-3.05E-15	-1.57E-17	1.22E-15	2.699413
0.50000	-14.533956	-9.182797	-3.11E-15	-1.57E-17	2.05E-15	5.232364
0.75000	-14.533956	-8.698520	-3.17E-15	-1.57E-17	2.89E-15	7.635166
1.00000	-14.533956	-8.214243	-3.23E-15	-1.57E-17	3.75E-15	9.907819

COMB COMB8 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-12.148128	-17.846464	2.04E-15	1.55E-17	1.51E-15	-12.260304
0.25000	-12.148128	-17.362187	1.98E-15	1.55E-17	9.68E-16	-7.529142
0.50000	-12.148128	-16.877910	1.92E-15	1.55E-17	4.44E-16	-2.928129
0.75000	-12.148128	-16.393632	1.86E-15	1.55E-17	-6.48E-17	1.542735
1.00000	-12.148128	-15.909355	1.80E-15	1.55E-17	-5.58E-16	5.883449

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB8 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-12.148128	-17.846464	2.04E-15	1.55E-17	1.51E-15	-12.260304
0.25000	-12.148128	-17.362187	1.98E-15	1.55E-17	9.68E-16	-7.529142
0.50000	-12.148128	-16.877910	1.92E-15	1.55E-17	4.44E-16	-2.928129
0.75000	-12.148128	-16.393632	1.86E-15	1.55E-17	-6.48E-17	1.542735
1.00000	-12.148128	-15.909355	1.80E-15	1.55E-17	-5.58E-16	5.883449

7-2. U - TYPE 구조계산 결과

단면력도

SAP2000

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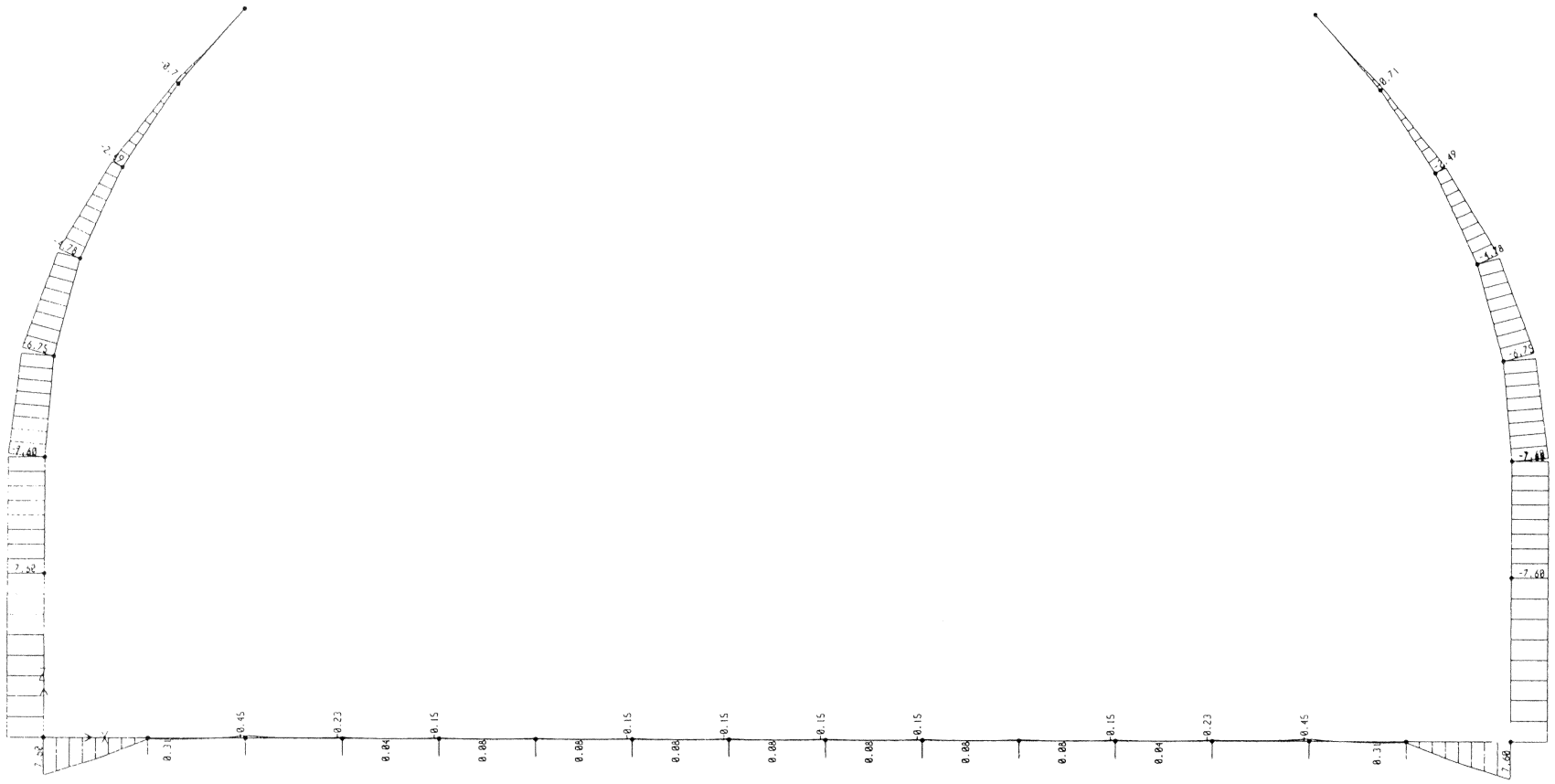

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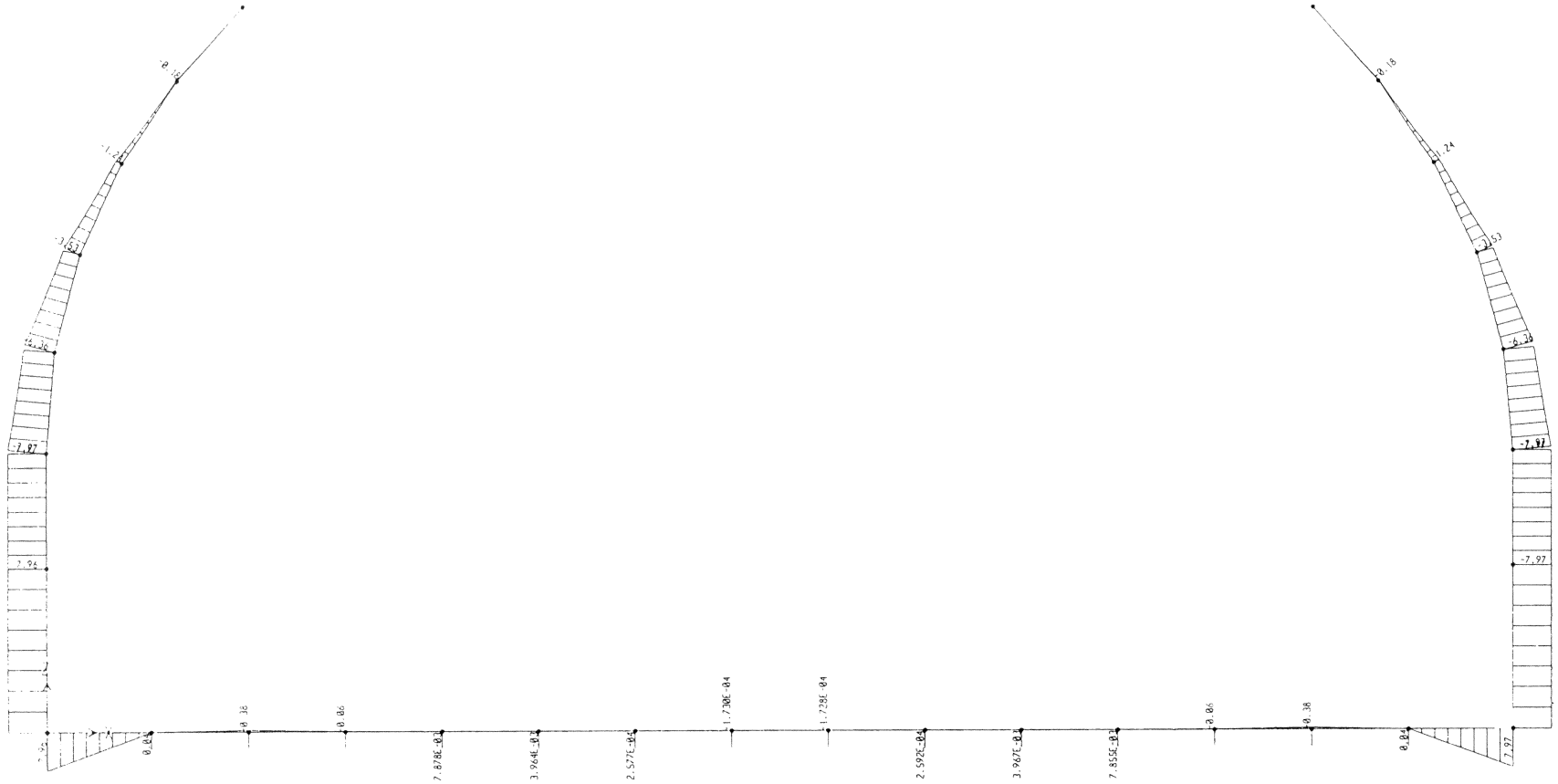

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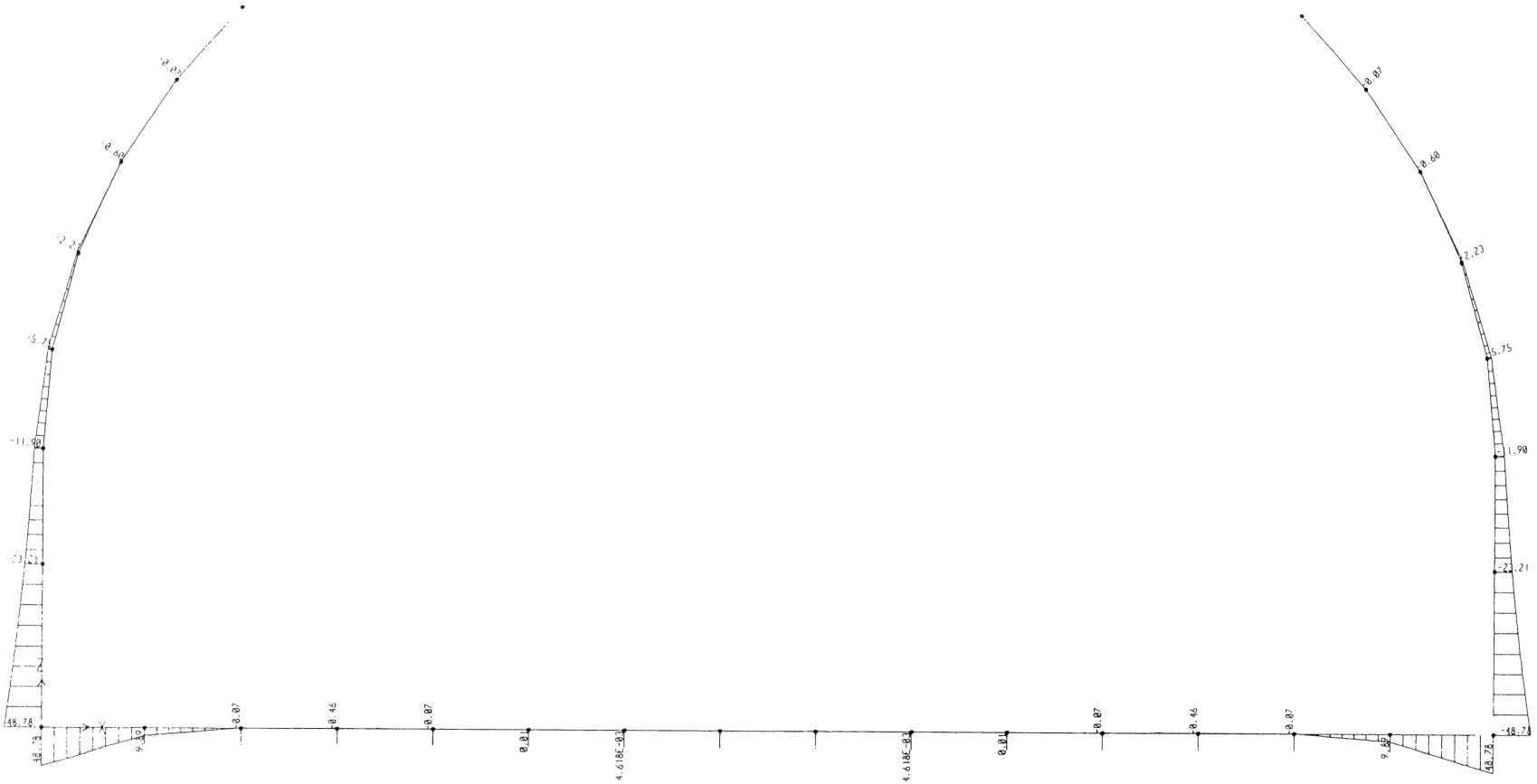
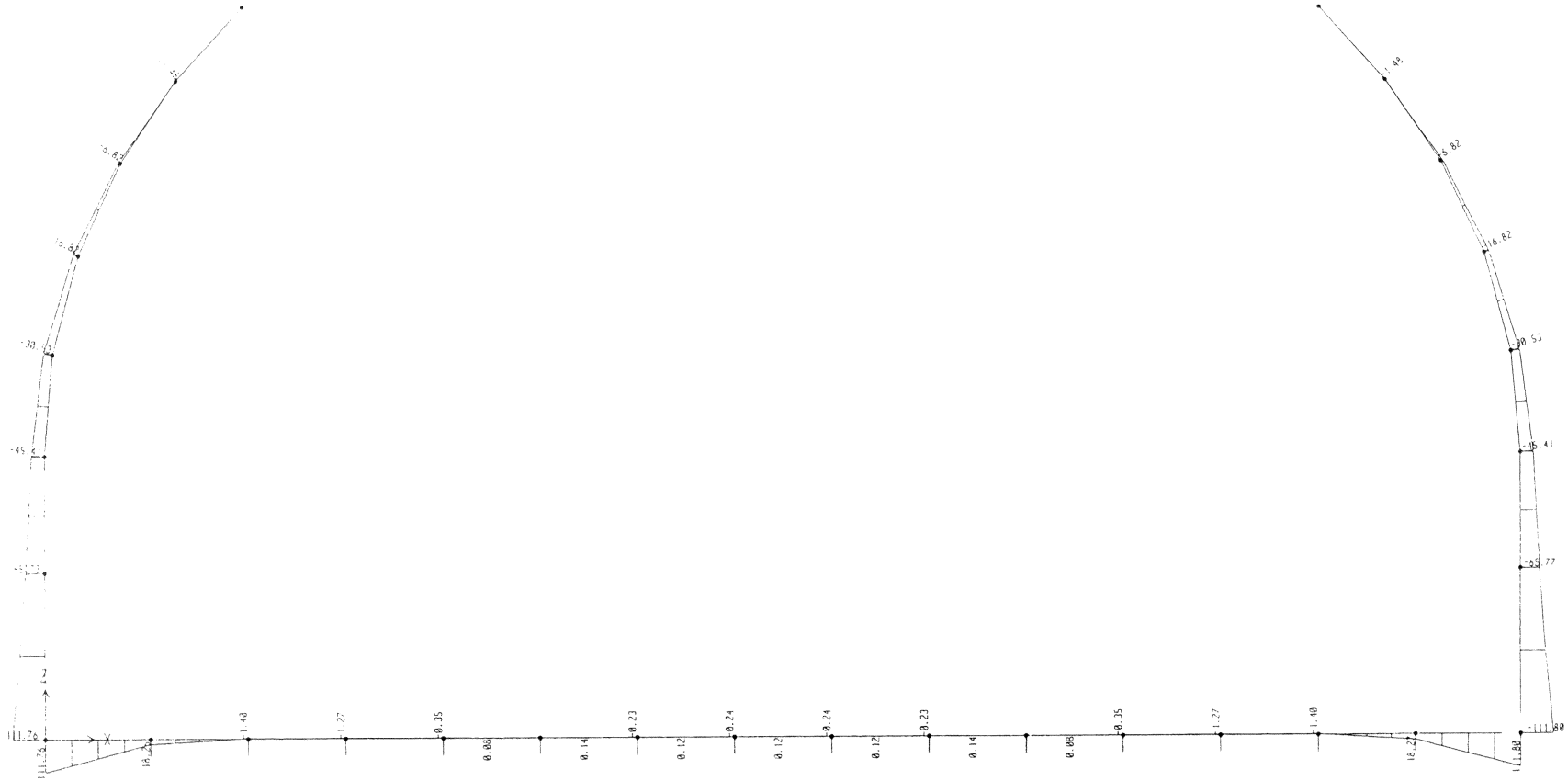


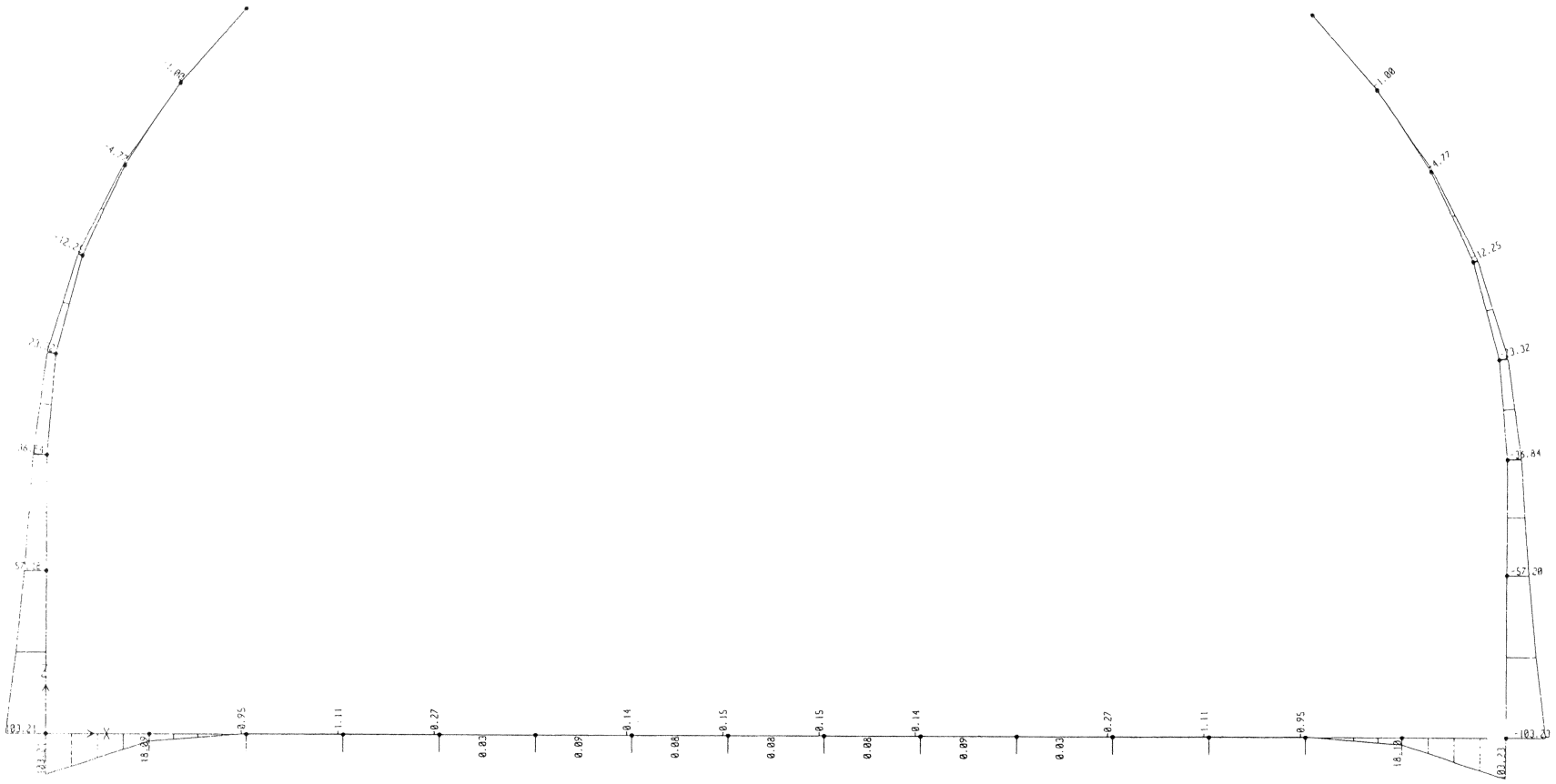
SAP2000 v7.40 - File:tttt-1 - Moment 3-3 Diagram (LOAD3) - Ton-m Units



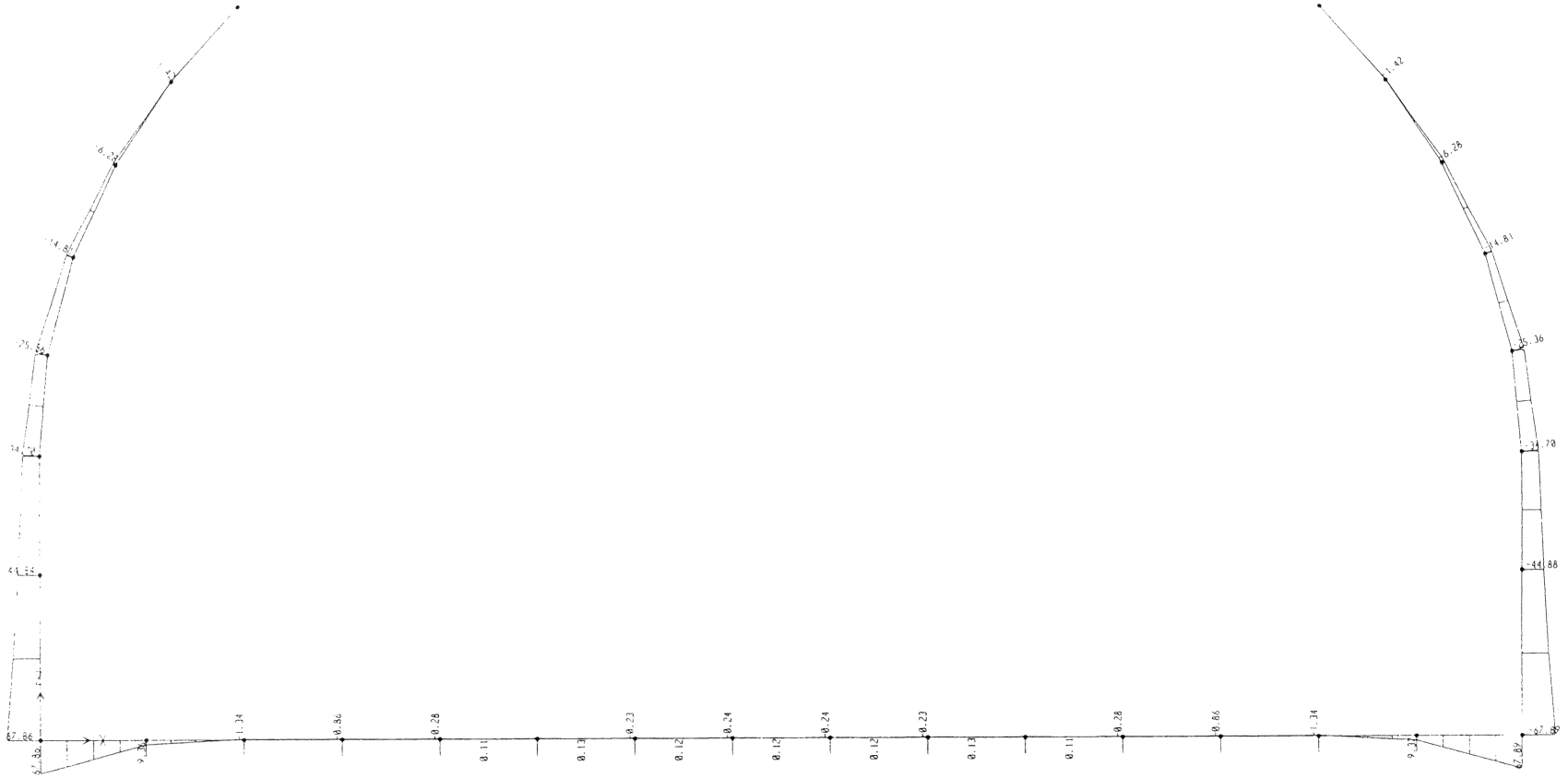
SAP2000 v7.40 - File:tttt-1 - Moment 3-3 Diagram (COMB1) - Ton-m Units

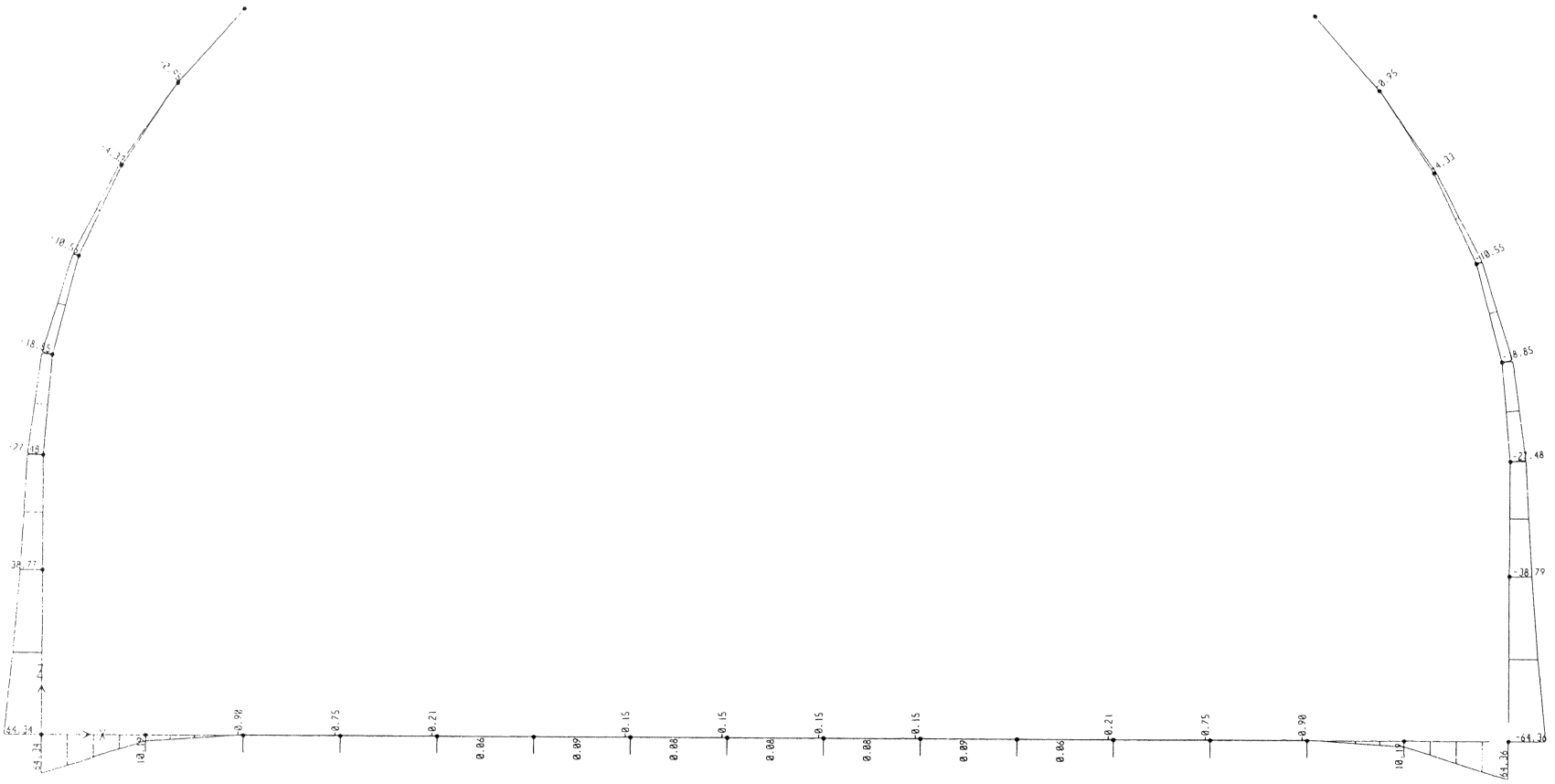
SAP2000

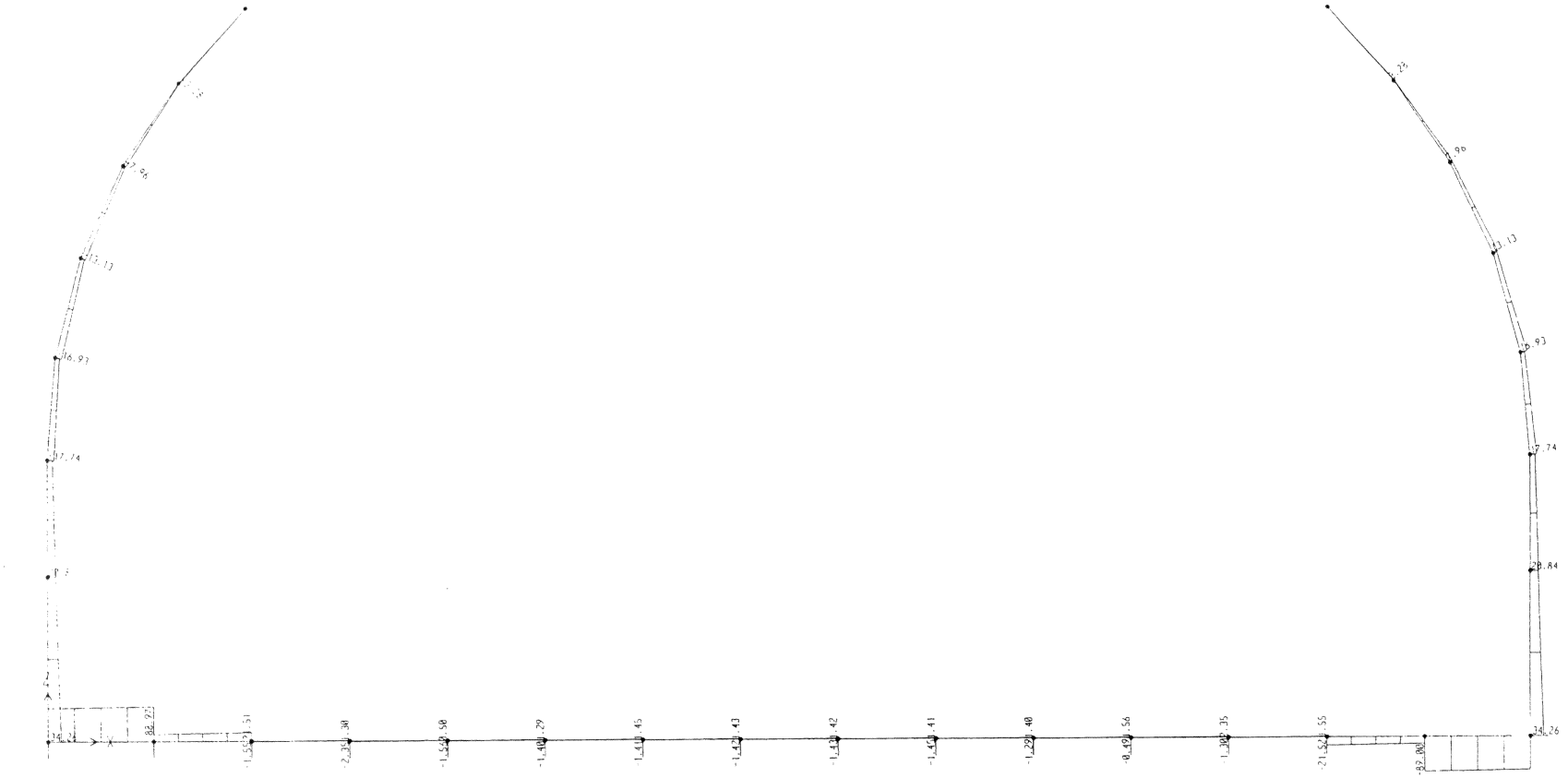
7-24-03 10:11:29



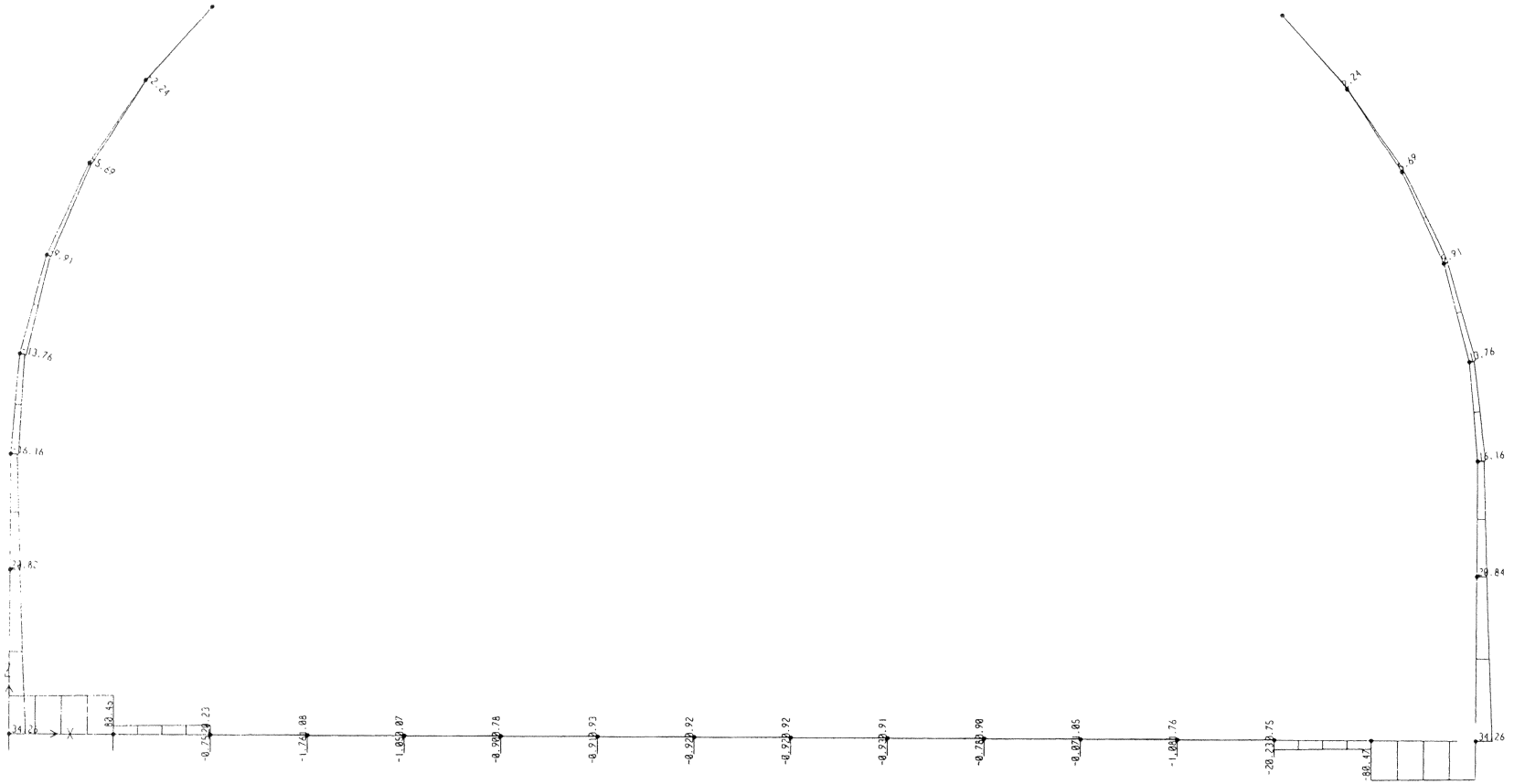
SAP2000 v7.40 - File:tttt-1 - Moment 3-3 Diagram (COMB2) - Ton-m Units

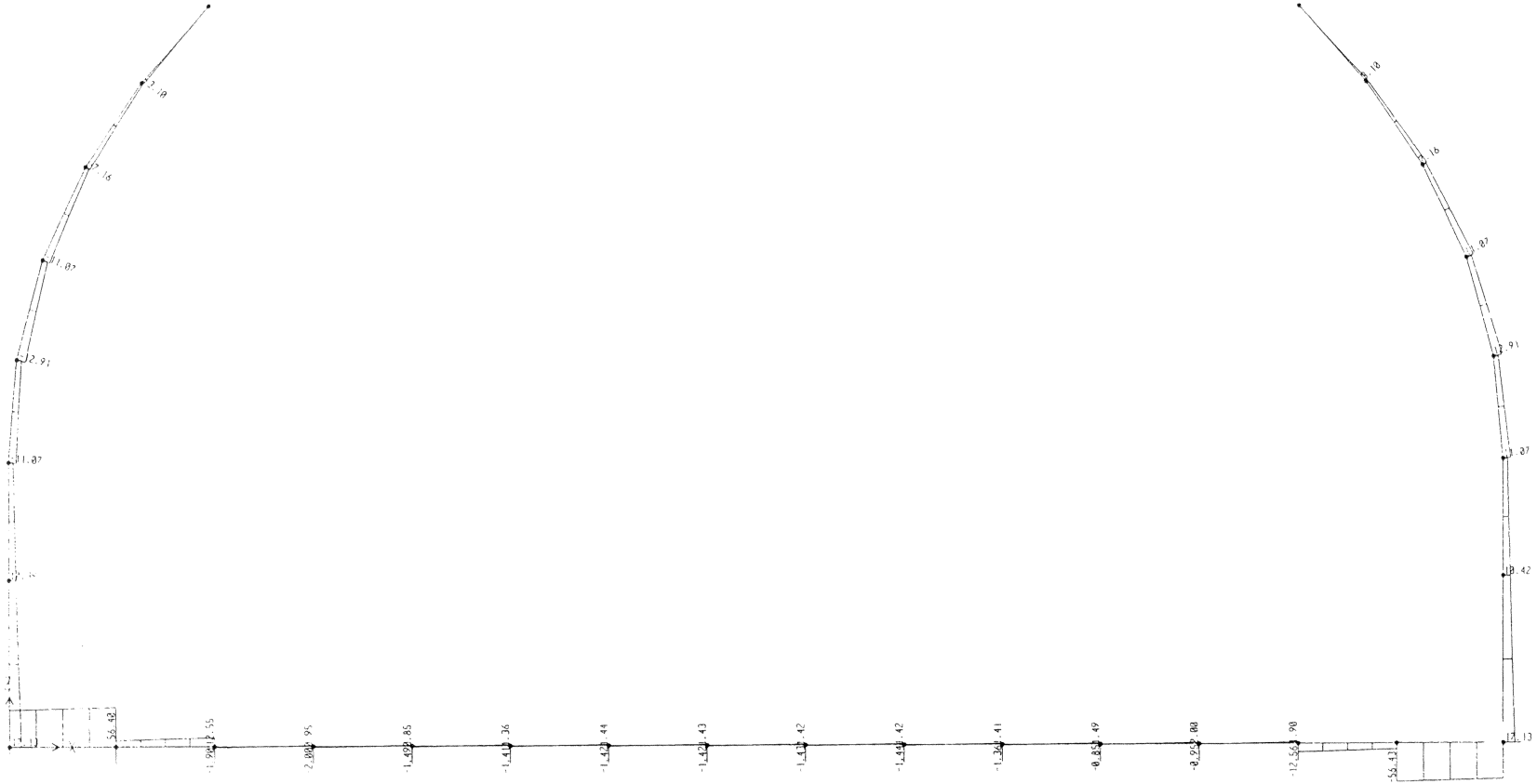

-1.42
-6.28
-14.81
-25.36
-34.70
-44.88
-1.34
-0.86
-0.28
-0.11
-0.13
-0.23
-0.12
-0.24
-0.12
-0.24
-0.12
-0.23
-0.13
-0.11
-0.28
-0.86
-1.34


0.75
4.33
10.55
18.85
27.48
38.79
64.36
0.98
0.75
0.21
0.06
0.09
0.15
0.08
0.15
0.08
0.15
0.08
0.15
0.07
0.06
0.21
0.75
0.98
10.19
64.36



SAP2000 v7.40 - File:tttt-1 - Shear Force 2-2 Diagram (COMB1) - Ton-m Units





SAP2000 v7.40 - File:tttt-1 - Shear Force 2-2 Diagram (COMB3) - Ton-m Units

■ 전산 OUT PUT

3) 입력데이터 및 OUTPUT (부재력도)

가) 입력데이터 (SAP 2000 Program)

```
; File C:₩2003pro₩토질부₩tttt-1.$2k saved 7-24-03 10:14:05 in Ton-m

SYSTEM
  DOF=UX,UY,UZ,RX,RY,RZ  LENGTH=m  FORCE=Ton  LINES=59

JOINT
  1  X=0  Y=0  Z=0
  2  X=0  Y=0  Z=1.687847
  3  X=-7.213203E-04  Y=0  Z=2.887847
  4  X=8.945698E-02  Y=0  Z=3.91859
  5  X=.3572519  Y=0  Z=4.918014
  6  X=.7945265  Y=0  Z=5.855752
  7  X=1.363475  Y=0  Z=6.707245
  8  X=2.038699  Y=0  Z=7.477191
  9  X=13.11058  Y=0  Z=7.477191
  10  X=13.7858  Y=0  Z=6.707245
  11  X=14.35475  Y=0  Z=5.855752
  12  X=14.79203  Y=0  Z=4.918014
  13  X=15.05982  Y=0  Z=3.91859
  14  X=15.15  Y=0  Z=2.887847
  15  X=15.15  Y=0  Z=1.687847
  16  X=15.15  Y=0  Z=0
  17  X=1.075  Y=0  Z=0
  18  X=2.075  Y=0  Z=0
  19  X=3.075  Y=0  Z=0
  20  X=4.075  Y=0  Z=0
  21  X=5.075  Y=0  Z=0
  22  X=6.075  Y=0  Z=0
  23  X=7.075  Y=0  Z=0
  24  X=8.075  Y=0  Z=0
  25  X=9.075  Y=0  Z=0
  26  X=10.075  Y=0  Z=0
  27  X=11.075  Y=0  Z=0
  28  X=12.075  Y=0  Z=0
  29  X=13.075  Y=0  Z=0
  30  X=14.075  Y=0  Z=0

LOCAL
  ADD=16  ANG=0,180,180

PATTERN
  NAME=DEFAULT

SPRING
  ADD=1  U3=1624484
  ADD=17  U3=1751002
  ADD=30  U3=1751002
  ADD=18  U3=1686900
  ADD=19  U3=1686900
  ADD=20  U3=1686900
  ADD=21  U3=1686900
  ADD=22  U3=1686900
  ADD=23  U3=1686900
  ADD=24  U3=1686900
  ADD=25  U3=1686900
  ADD=26  U3=1686900
  ADD=27  U3=1686900
  ADD=28  U3=1686900
  ADD=29  U3=1686900
  ADD=16  U1=1E+10  U2=1E+10  U3=1624484  R1=1E+10  R3=1E+10
```

```
MATERIAL
  NAME=STEEL  IDES=S  M=.798142  W=7.833414
    T=0  E=2.038902E+07  U=.3  A=.0000117  FY=25310.51
  NAME=CONC  IDES=C  M=.2448012  W=2.402616
    T=0  E=2531051  U=.2  A=.0000099
  NAME=OTHER  IDES=N  M=.2448012  W=2.402616
    T=0  E=2531051  U=.2  A=.0000099

FRAME SECTION
  NAME=FSEC1 MAT=CONC SH=R T=1,1 A=1 J=.1408333 I=8.333334E-02,8.333334E-02 AS=.8333333,.8333333
  NAME=FSEC2 MAT=CONC SH=R T=.85,1 A=.85 J=9.985561E-02 I=5.117708E-02,7.083333E-02 AS=.7083333,.7083333
  NAME=FSEC3 MAT=CONC SH=R T=.77,1 A=.77 J=8.051882E-02 I=3.804442E-02,6.416667E-02 AS=.6416667,.6416667

FRAME
  1  J=1,2  SEC=FSEC1  NSEG=2  ANG=0
  2  J=2,3  SEC=FSEC2  NSEG=2  ANG=0
  3  J=3,4  SEC=FSEC2  NSEG=2  ANG=0
  4  J=4,5  SEC=FSEC2  NSEG=2  ANG=0
  5  J=5,6  SEC=FSEC2  NSEG=2  ANG=0
  6  J=6,7  SEC=FSEC2  NSEG=2  ANG=0
  7  J=7,8  SEC=FSEC2  NSEG=2  ANG=0
  8  J=9,10  SEC=FSEC2  NSEG=2  ANG=0
  9  J=10,11  SEC=FSEC2  NSEG=2  ANG=0
  10  J=11,12  SEC=FSEC2  NSEG=2  ANG=0
  11  J=12,13  SEC=FSEC2  NSEG=2  ANG=0
  12  J=13,14  SEC=FSEC2  NSEG=2  ANG=0
  13  J=14,15  SEC=FSEC2  NSEG=2  ANG=0
  14  J=15,16  SEC=FSEC1  NSEG=2  ANG=0
  15  J=1,17  SEC=FSEC1  NSEG=4  ANG=0
  16  J=17,18  SEC=FSEC1  NSEG=4  ANG=0
  17  J=18,19  SEC=FSEC3  NSEG=4  ANG=0
  18  J=19,20  SEC=FSEC3  NSEG=4  ANG=0
  19  J=20,21  SEC=FSEC3  NSEG=4  ANG=0
  20  J=21,22  SEC=FSEC3  NSEG=4  ANG=0
  21  J=22,23  SEC=FSEC3  NSEG=4  ANG=0
  22  J=23,24  SEC=FSEC3  NSEG=4  ANG=0
  23  J=24,25  SEC=FSEC3  NSEG=4  ANG=0
  24  J=25,26  SEC=FSEC3  NSEG=4  ANG=0
  25  J=26,27  SEC=FSEC3  NSEG=4  ANG=0
  26  J=27,28  SEC=FSEC3  NSEG=4  ANG=0
  27  J=28,29  SEC=FSEC3  NSEG=4  ANG=0
  28  J=29,30  SEC=FSEC1  NSEG=4  ANG=0
  29  J=30,16  SEC=FSEC1  NSEG=4  ANG=0

LOAD
  NAME=LOAD1  SW=1  CSYS=0
  NAME=LOAD2  CSYS=0
    TYPE=DISTRIBUTED SPAN
      ADD=3  RD=0,1  UZ=-9.178,-7.116
      ADD=4  RD=0,1  UZ=-7.116,-5.118
      ADD=5  RD=0,1  UZ=-5.118,-3.242
      ADD=6  RD=0,1  UZ=-3.242,-1.54
      ADD=7  RD=0,1  UZ=-1.54,0
      ADD=8  RD=0,1  UZ=0,-1.54
      ADD=9  RD=0,1  UZ=-1.54,-3.242
      ADD=10  RD=0,1  UZ=-3.242,-5.118
      ADD=11  RD=0,1  UZ=-5.118,-7.116
      ADD=12  RD=0,1  UZ=-7.116,-9.178
  NAME=LOAD3  CSYS=0
    TYPE=DISTRIBUTED SPAN
      ADD=1  RD=0,1  UX=4.98,3.855
      ADD=2  RD=0,.9999997  UX=3.855,3.056
      ADD=3  RD=0,1  UX=3.056,2.37
```

```
        ADD=4   RD=0,1   UX=2.37,1.704
        ADD=5   RD=0,1   UX=1.704,1.08
        ADD=6   RD=0,1   UX=1.08,.513
        ADD=7   RD=0,1   UX=.513,0
        ADD=8   RD=0,1   UX=0,-.513
        ADD=9   RD=0,1   UX=-.513,-1.08
        ADD=10   RD=0,1   UX=-1.08,-1.704
        ADD=11   RD=0,1   UX=-1.704,-2.37
        ADD=12   RD=0,1   UX=-2.37,-3.056
        ADD=13   RD=0,1   UX=-3.056,-3.855
        ADD=14   RD=0,1   UX=-3.855,-4.98

COMBO
  NAME=COMB1
    LOAD=LOAD1   SF=1.54
    LOAD=LOAD2   SF=1.54
    LOAD=LOAD3   SF=1.8
  NAME=COMB2
    LOAD=LOAD1   SF=.99
    LOAD=LOAD2   SF=.99
    LOAD=LOAD3   SF=1.8
  NAME=COMB3
    LOAD=LOAD1   SF=1.54
    LOAD=LOAD2   SF=1.54
    LOAD=LOAD3   SF=.9
  NAME=COMB4
    LOAD=LOAD1   SF=1
    LOAD=LOAD2   SF=1
    LOAD=LOAD3   SF=1

OUTPUT
  ELEM=JOINT   TYPE=DISP   COMB=COMB1
  ELEM=JOINT   TYPE=DISP   COMB=COMB2
  ELEM=JOINT   TYPE=DISP   COMB=COMB3
  ELEM=JOINT   TYPE=DISP   COMB=COMB4
  ELEM=JOINT   TYPE=REAC   COMB=COMB1
  ELEM=JOINT   TYPE=REAC   COMB=COMB2
  ELEM=JOINT   TYPE=REAC   COMB=COMB3
  ELEM=JOINT   TYPE=REAC   COMB=COMB4
  ELEM=FRAME   TYPE=FORCE   COMB=COMB1
  ELEM=FRAME   TYPE=FORCE   COMB=COMB2
  ELEM=FRAME   TYPE=FORCE   COMB=COMB3
  ELEM=FRAME   TYPE=FORCE   COMB=COMB4

END

; The following data is used for graphics, design and pushover analysis.
; If changes are made to the analysis data above, then the following data
; should be checked for consistency.
SAP2000 V7.40 SUPPLEMENTAL DATA
  GROUP "DXFIN"   FRAME 1
  GROUP "DXFIN"   FRAME 2
  GROUP "DXFIN"   FRAME 3
  GROUP "DXFIN"   FRAME 4
  GROUP "DXFIN"   FRAME 5
  GROUP "DXFIN"   FRAME 6
  GROUP "DXFIN"   FRAME 7
  GROUP "DXFIN"   FRAME 8
  GROUP "DXFIN"   FRAME 9
  GROUP "DXFIN"   FRAME 10
  GROUP "DXFIN"   FRAME 11
  GROUP "DXFIN"   FRAME 12
  GROUP "DXFIN"   FRAME 13
```

```
  GROUP "DXFIN"  FRAME 14
  GROUP "DXFIN"  FRAME 15
  GROUP "DXFIN"  FRAME 16
  GROUP "DXFIN"  FRAME 17
  GROUP "DXFIN"  FRAME 18
  GROUP "DXFIN"  FRAME 19
  GROUP "DXFIN"  FRAME 20
  GROUP "DXFIN"  FRAME 21
  GROUP "DXFIN"  FRAME 22
  GROUP "DXFIN"  FRAME 23
  GROUP "DXFIN"  FRAME 24
  GROUP "DXFIN"  FRAME 25
  GROUP "DXFIN"  FRAME 26
  GROUP "DXFIN"  FRAME 27
  GROUP "DXFIN"  FRAME 28
  GROUP "DXFIN"  FRAME 29
  MATERIAL STEEL FY 25310.51
  MATERIAL CONC FYREBAR 42184.18 FYSHEAR 28122.79 FC 2812.279 FCSHEAR 2812.279
  CONCRETESECTION FSEC1 COLUMN  COVER .1 REBAR RR-3-3
  CONCRETESECTION FSEC2 COLUMN  COVER .085 REBAR RR-3-3
  CONCRETESECTION FSEC3 COLUMN  COVER .077 REBAR RR-3-3
  STATICLOAD LOAD1 TYPE DEAD
  STATICLOAD LOAD2 TYPE DEAD
  STATICLOAD LOAD3 TYPE OTHER
  COMBO COMB1 DESIGN CONCRETE
  COMBO COMB2 DESIGN CONCRETE
  COMBO COMB3 DESIGN CONCRETE
  COMBO COMB4 DESIGN CONCRETE
END SUPPLEMENTAL DATA
```

4) OUTPUT

S A P 2 0 0 0 (R)

Structural Analysis Programs

Nonlinear Version 7.40

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It is the responsibility of the user to verify all
results produced by this program

24 Jul 2003 10:02:48

D I S P L A C E M E N T D E G R E E S O F F R E E D O M

(A) = Active DOF, equilibrium equation
(-) = Restrained DOF, reaction computed
(+) = Constrained DOF
(>) = External substructure DOF
( ) = Null DOF

JOINTS		U1	U2	U3	R1	R2	R3
1	TO	30	A	A	A	A	A	A

A S S E M B L E D J O I N T M A S S E S

IN LOCAL COORDINATES

JOINT	U1	U2	U3	R1	R2	R3
1	0.338174	0.338174	0.338174	.000000	.000000	.000000
2	0.331442	0.331442	0.331442	.000000	.000000	.000000
3	0.232497	0.232497	0.232497	.000000	.000000	.000000
4	0.215297	0.215297	0.215297	.000000	.000000	.000000
5	0.215297	0.215297	0.215297	.000000	.000000	.000000
6	0.214195	0.214195	0.214195	.000000	.000000	.000000
7	0.213092	0.213092	0.213092	.000000	.000000	.000000
8	0.106546	0.106546	0.106546	.000000	.000000	.000000
9	0.106546	0.106546	0.106546	.000000	.000000	.000000
10	0.213092	0.213092	0.213092	.000000	.000000	.000000
11	0.214195	0.214195	0.214195	.000000	.000000	.000000
12	0.215297	0.215297	0.215297	.000000	.000000	.000000
13	0.215297	0.215297	0.215297	.000000	.000000	.000000
14	0.232497	0.232497	0.232497	.000000	.000000	.000000
15	0.331442	0.331442	0.331442	.000000	.000000	.000000
16	0.338174	0.338174	0.338174	.000000	.000000	.000000
17	0.253981	0.253981	0.253981	.000000	.000000	.000000
18	0.216649	0.216649	0.216649	.000000	.000000	.000000
19	0.188497	0.188497	0.188497	.000000	.000000	.000000
20	0.188497	0.188497	0.188497	.000000	.000000	.000000
21	0.188497	0.188497	0.188497	.000000	.000000	.000000
22	0.188497	0.188497	0.188497	.000000	.000000	.000000
23	0.188497	0.188497	0.188497	.000000	.000000	.000000
24	0.188497	0.188497	0.188497	.000000	.000000	.000000
25	0.188497	0.188497	0.188497	.000000	.000000	.000000
26	0.188497	0.188497	0.188497	.000000	.000000	.000000
27	0.188497	0.188497	0.188497	.000000	.000000	.000000
28	0.188497	0.188497	0.188497	.000000	.000000	.000000
29	0.216649	0.216649	0.216649	.000000	.000000	.000000
30	0.253981	0.253981	0.253981	.000000	.000000	.000000

T O T A L A S S E M B L E D J O I N T M A S S E S

IN GLOBAL COORDINATES

	UX	UY	UZ	RX	RY	RZ
TOTAL	6.559311	6.559311	6.559311	.000000	.000000	.000000

T O T A L A C C E L E R A T E D M A S S A N D L O C A T I O N

TOTAL MASS ACTIVATED BY ACCELERATION LOADS, IN GLOBAL COORDINATES

	UX	UY	UZ
MASS	6.559311	6.559311	6.559311
X-LOC	7.574868	7.574868	7.574868
Y-LOC	.000000	.000000	.000000
Z-LOC	2.016532	2.016532	2.016532

J O I N T D I S P L A C E M E N T S

TRANSLATIONS AND ROTATIONS, IN LOCAL COORDINATES

COMB COMB1 ---------- MAX

JOINT	U1	U2	U3	R1	R2	R3
1	0.000250	-1.72E-18	1.50E-05	-2.83E-32	0.000357	1.13E-19
2	0.001543	-1.72E-18	-2.33E-05	-2.93E-32	0.001052	1.13E-19
3	0.003156	-1.72E-18	-5.16E-05	-2.99E-32	0.001560	1.13E-19
4	0.004947	-1.71E-18	-0.000228	-1.00E-20	0.001859	1.14E-19
5	0.006920	-1.66E-18	-0.000769	-1.60E-20	0.002043	1.16E-19
6	0.008894	-1.60E-18	-0.001697	-1.87E-20	0.002133	1.17E-19
7	0.010730	-1.51E-18	-0.002927	-1.95E-20	0.002162	1.17E-19
8	0.012398	-1.42E-18	-0.004391	-1.96E-20	0.002166	1.18E-19
9	-0.012153	-1.56E-19	-0.004393	-1.96E-20	-0.002167	1.10E-19
10	-0.010484	-9.60E-20	-0.002929	-1.95E-20	-0.002163	1.11E-19
11	-0.008647	-4.94E-20	-0.001698	-1.87E-20	-0.002134	1.16E-19
12	-0.006673	-1.70E-20	-0.000771	-1.60E-20	-0.002044	1.32E-19
13	-0.004699	1.54E-23	-0.000229	-1.00E-20	-0.001860	1.14E-19
14	-0.002908	4.83E-21	-5.26E-05	-4.64E-33	-0.001561	1.15E-19
15	-0.001294	4.83E-21	-2.33E-05	-2.73E-33	-0.001053	1.15E-19
16	2.64E-16	6.21E-25	1.50E-05	3.70E-35	0.000357	1.15E-19
17	0.000235	-1.60E-18	-4.06E-05	-2.70E-32	2.39E-05	1.13E-19
18	0.000221	-1.49E-18	-1.37E-05	-2.57E-32	1.75E-05	1.13E-19
19	0.000204	-1.37E-18	-2.16E-06	-2.36E-32	-6.09E-06	1.14E-19
20	0.000186	-1.26E-18	-1.22E-06	-2.15E-32	-1.49E-07	1.14E-19
21	0.000169	-1.15E-18	-1.59E-06	-1.94E-32	2.52E-07	1.14E-19
22	0.000151	-1.03E-18	-1.70E-06	-1.73E-32	4.61E-06	1.14E-19
23	0.000134	-9.18E-19	-1.69E-06	-1.52E-32	1.60E-09	1.14E-19
24	0.000116	-8.04E-19	-1.69E-06	-1.31E-32	1.60E-09	1.14E-19
25	9.84E-05	-6.90E-19	-1.70E-06	-1.09E-32	4.61E-06	1.14E-19
26	8.08E-05	-5.76E-19	-1.59E-06	-8.82E-33	1.52E-07	1.14E-19
27	6.33E-05	-4.62E-19	-1.22E-06	-6.71E-33	2.49E-07	1.14E-19
28	4.57E-05	-3.48E-19	-2.16E-06	-4.59E-33	6.09E-06	1.14E-19
29	2.81E-05	-2.34E-19	-1.37E-05	-2.47E-33	1.75E-05	1.15E-19
30	1.46E-05	-1.19E-19	-4.07E-05	-1.26E-33	2.39E-05	1.15E-19

COMB COMB1 ---------- MIN

JOINT	U1	U2	U3	R1	R2	R3
1	0.000250	-1.72E-18	1.50E-05	-2.83E-32	0.000357	1.13E-19
2	0.001543	-1.72E-18	-2.33E-05	-2.93E-32	0.001052	1.13E-19
3	0.003156	-1.72E-18	-5.16E-05	-2.99E-32	0.001560	1.13E-19
4	0.004947	-1.71E-18	-0.000228	-1.00E-20	0.001859	1.14E-19
5	0.006920	-1.66E-18	-0.000769	-1.60E-20	0.002043	1.16E-19
6	0.008894	-1.60E-18	-0.001697	-1.87E-20	0.002133	1.17E-19
7	0.010730	-1.51E-18	-0.002927	-1.95E-20	0.002162	1.17E-19
8	0.012398	-1.42E-18	-0.004391	-1.96E-20	0.002166	1.18E-19
9	-0.012153	-1.56E-19	-0.004393	-1.96E-20	-0.002167	1.10E-19
10	-0.010484	-9.60E-20	-0.002929	-1.95E-20	-0.002163	1.11E-19
11	-0.008647	-4.94E-20	-0.001698	-1.87E-20	-0.002134	1.16E-19
12	-0.006673	-1.70E-20	-0.000771	-1.60E-20	-0.002044	1.32E-19
13	-0.004699	1.54E-23	-0.000229	-1.00E-20	-0.001860	1.14E-19
14	-0.002908	4.83E-21	-5.26E-05	-4.64E-33	-0.001561	1.15E-19

J O I N T D I S P L A C E M E N T S

TRANSLATIONS AND ROTATIONS, IN LOCAL COORDINATES

JOINT	U1	U2	U3	R1	R2	R3
15	-0.001294	4.83E-21	-2.33E-05	-2.73E-33	-0.001053	1.15E-19
16	2.64E-16	6.21E-25	1.50E-05	3.70E-35	0.000357	1.15E-19
17	0.000235	-1.60E-18	-4.06E-05	-2.70E-32	2.39E-05	1.13E-19
18	0.000221	-1.49E-18	-1.37E-05	-2.57E-32	-1.75E-05	1.13E-19
19	0.000204	-1.37E-18	-2.16E-06	-2.36E-32	-6.09E-06	1.14E-19
20	0.000186	-1.26E-18	-1.22E-06	-2.15E-32	-1.49E-07	1.14E-19
21	0.000169	-1.15E-18	-1.59E-06	-1.94E-32	2.53E-07	1.14E-19
22	0.000151	-1.03E-18	-1.70E-06	-1.73E-32	4.61E-08	1.14E-19
23	0.000134	-9.18E-19	-1.69E-06	-1.52E-32	-1.60E-09	1.14E-19
24	0.000116	-8.04E-19	-1.69E-06	-1.31E-32	1.60E-09	1.14E-19
25	9.84E-05	-6.90E-19	-1.70E-06	-1.09E-32	-4.61E-08	1.14E-19
26	8.08E-05	-5.76E-19	-1.59E-06	-8.82E-33	-2.53E-07	1.14E-19
27	6.33E-05	-4.62E-19	-1.22E-06	-6.71E-33	1.49E-07	1.14E-19
28	4.57E-05	-3.48E-19	-2.16E-06	-4.59E-33	6.09E-06	1.14E-19
29	2.81E-05	-2.34E-19	-1.37E-05	-2.47E-33	1.75E-05	1.15E-19
30	1.46E-05	-1.19E-19	-4.07E-05	-1.26E-33	-2.39E-05	1.15E-19

COMB COMB2 ---------- MAX

JOINT	U1	U2	U3	R1	R2	R3
1	0.000250	-1.62E-18	2.40E-05	-2.63E-32	0.000337	1.07E-19
2	0.001451	-1.62E-18	-6.66E-07	-2.73E-32	0.000964	1.07E-19
3	0.002911	-1.62E-18	-1.86E-05	-2.79E-32	0.001392	1.07E-19
4	0.004494	-1.61E-18	-0.000170	-7.91E-21	0.001628	1.08E-19
5	0.006210	-1.57E-18	-0.000637	-1.24E-20	0.001766	1.09E-19
6	0.007909	-1.51E-18	-0.001434	-1.44E-20	0.001831	1.10E-19
7	0.009482	-1.43E-18	-0.002487	-1.49E-20	0.001851	1.10E-19
8	0.010909	-1.35E-18	-0.003739	-1.50E-20	0.001854	1.10E-19
9	-0.010662	-1.56E-19	-0.003741	-1.50E-20	-0.001854	1.05E-19
10	-0.009234	-9.70E-20	-0.002488	-1.49E-20	-0.001852	1.05E-19
11	-0.007661	-4.96E-20	-0.001435	-1.44E-20	-0.001831	1.06E-19
12	-0.005962	-1.59E-20	-0.000638	-1.24E-20	-0.001767	1.07E-19
13	-0.004245	2.36E-21	-0.000171	-7.91E-21	-0.001629	1.08E-19
14	-0.002662	7.71E-21	-1.95E-05	-4.07E-33	-0.001393	1.08E-19
15	-0.001202	7.71E-21	-6.55E-07	-2.39E-33	-0.000964	1.08E-19
16	2.64E-16	1.15E-24	2.40E-05	3.49E-35	0.000337	1.08E-19
17	0.000235	-1.51E-18	-3.58E-05	-2.51E-32	2.67E-05	1.07E-19
18	0.000221	-1.40E-18	-1.24E-05	-2.40E-32	-1.49E-05	1.07E-19
19	0.000204	-1.29E-18	-1.69E-06	-2.20E-32	-5.80E-06	1.07E-19
20	0.000186	-1.19E-18	-6.65E-07	-2.01E-32	-2.22E-07	1.08E-19
21	0.000169	-1.08E-18	-9.93E-07	-1.81E-32	2.28E-07	1.08E-19
22	0.000151	-9.71E-19	-1.09E-06	-1.61E-32	4.56E-08	1.08E-19
23	0.000134	-8.64E-19	-1.09E-06	-1.41E-32	-7.44E-10	1.08E-19
24	0.000116	-7.56E-19	-1.09E-06	-1.22E-32	7.45E-10	1.08E-19
25	9.84E-05	-6.48E-19	-1.09E-06	-1.02E-32	-4.56E-08	1.08E-19
26	8.08E-05	-5.41E-19	-9.93E-07	-8.22E-33	-2.28E-07	1.08E-19
27	6.33E-05	-4.33E-19	-6.65E-07	-6.25E-33	2.22E-07	1.08E-19
28	4.57E-05	-3.25E-19	-1.69E-06	-4.28E-33	5.80E-06	1.08E-19
29	2.81E-05	-2.17E-19	-1.24E-05	-2.31E-33	1.49E-05	1.08E-19
30	1.46E-05	-1.09E-19	-3.58E-05	-1.18E-33	-2.67E-05	1.08E-19

J O I N T D I S P L A C E M E N T S

TRANSLATIONS AND ROTATIONS, IN LOCAL COORDINATES

COMB COMB2 ---------- MIN

JOINT	U1	U2	U3	R1	R2	R3
1	0.000250	-1.62E-18	2.40E-05	-2.63E-32	0.000337	1.07E-19
2	0.001451	-1.62E-18	-6.66E-07	-2.73E-32	0.000964	1.07E-19
3	0.002911	-1.62E-18	-1.86E-05	-2.79E-32	0.001392	1.07E-19
4	0.004494	-1.61E-18	-0.000170	-7.91E-21	0.001628	1.08E-19
5	0.006210	-1.57E-18	-0.000637	-1.24E-20	0.001766	1.09E-19
6	0.007909	-1.51E-18	-0.001434	-1.44E-20	0.001831	1.10E-19
7	0.009482	-1.43E-18	-0.002487	-1.49E-20	0.001851	1.10E-19
8	0.010909	-1.35E-18	-0.003739	-1.50E-20	0.001854	1.10E-19
9	-0.010662	-1.56E-19	-0.003741	-1.50E-20	-0.001854	1.05E-19
10	-0.009234	-9.70E-20	-0.002488	-1.49E-20	-0.001852	1.05E-19
11	-0.007661	-4.96E-20	-0.001435	-1.44E-20	-0.001831	1.06E-19
12	-0.005962	-1.59E-20	-0.000638	-1.24E-20	-0.001767	1.07E-19
13	-0.004245	2.36E-21	-0.000171	-7.91E-21	-0.001629	1.08E-19
14	-0.002662	7.71E-21	-1.95E-05	-4.07E-33	-0.001393	1.08E-19
15	-0.001202	7.71E-21	-6.55E-07	-2.39E-33	-0.000964	1.08E-19
16	2.64E-16	1.15E-24	2.40E-05	3.49E-35	0.000337	1.08E-19
17	0.000235	-1.51E-18	-3.58E-05	-2.51E-32	2.67E-05	1.07E-19
18	0.000221	-1.40E-18	-1.24E-05	-2.40E-32	-1.49E-05	1.07E-19
19	0.000204	-1.29E-18	-1.69E-06	-2.20E-32	-5.80E-06	1.07E-19
20	0.000186	-1.19E-18	-6.65E-07	-2.01E-32	-2.22E-07	1.08E-19
21	0.000169	-1.08E-18	-9.93E-07	-1.81E-32	2.28E-07	1.08E-19
22	0.000151	-9.71E-19	-1.09E-06	-1.61E-32	4.56E-08	1.08E-19
23	0.000134	-8.64E-19	-1.09E-06	-1.41E-32	-7.44E-10	1.08E-19
24	0.000116	-7.56E-19	-1.09E-06	-1.22E-32	7.45E-10	1.08E-19
25	9.84E-05	-6.48E-19	-1.09E-06	-1.02E-32	-4.56E-08	1.08E-19
26	8.08E-05	-5.41E-19	-9.93E-07	-8.22E-33	-2.28E-07	1.08E-19
27	6.33E-05	-4.33E-19	-6.65E-07	-6.25E-33	2.22E-07	1.08E-19
28	4.57E-05	-3.25E-19	-1.69E-06	-4.28E-33	5.80E-06	1.08E-19
29	2.81E-05	-2.17E-19	-1.24E-05	-2.31E-33	1.49E-05	1.08E-19
30	1.46E-05	-1.09E-19	-3.58E-05	-1.18E-33	-2.67E-05	1.08E-19

COMB COMB3 ---------- MAX

JOINT	U1	U2	U3	R1	R2	R3
1	0.000125	-1.00E-18	-5.03E-06	-1.68E-32	0.000207	6.53E-20
2	0.000900	-1.00E-18	-4.34E-05	-1.74E-32	0.000650	6.53E-20
3	0.001922	-1.00E-18	-7.20E-05	-1.78E-32	0.001015	6.53E-20
4	0.003107	-9.90E-19	-0.000196	-7.94E-21	0.001252	6.60E-20
5	0.004455	-9.61E-19	-0.000570	-1.30E-20	0.001409	6.73E-20
6	0.005826	-9.18E-19	-0.001217	-1.55E-20	0.001490	6.85E-20
7	0.007113	-8.65E-19	-0.002080	-1.63E-20	0.001517	6.90E-20
8	0.008284	-8.06E-19	-0.003108	-1.63E-20	0.001521	6.91E-20
9	-0.008163	-7.64E-20	-0.003110	-1.63E-20	-0.001521	6.27E-20
10	-0.006992	-4.66E-20	-0.002081	-1.63E-20	-0.001518	6.28E-20
11	-0.005705	-2.44E-20	-0.001218	-1.55E-20	-0.001490	6.33E-20
12	-0.004332	-9.99E-21	-0.000570	-1.30E-20	-0.001410	6.44E-20
13	-0.002984	-3.27E-21	-0.000196	-7.94E-21	-0.001253	6.58E-20
14	-0.001798	-1.61E-21	-7.26E-05	-3.13E-33	-0.001016	6.65E-20

J O I N T D I S P L A C E M E N T S

TRANSLATIONS AND ROTATIONS, IN LOCAL COORDINATES

JOINT	U1	U2	U3	R1	R2	R3
15	-0.000775	-1.61E-21	-4.33E-05	-1.84E-33	-0.000650	6.65E-20
16	1.32E-16	-4.26E-25	-5.01E-06	2.14E-35	0.000207	6.65E-20
17	0.000118	-9.30E-19	-2.72E-05	-1.60E-32	8.05E-06	6.53E-20
18	0.000111	-8.64E-19	-8.57E-06	-1.53E-32	-1.24E-05	6.53E-20
19	0.000102	-7.99E-19	-1.75E-06	-1.41E-32	-3.46E-06	6.57E-20
20	9.32E-05	-7.33E-19	-1.39E-06	-1.28E-32	2.75E-08	6.59E-20
21	8.44E-05	-6.67E-19	-1.64E-06	-1.15E-32	1.61E-07	6.59E-20
22	7.56E-05	-6.01E-19	-1.69E-06	-1.03E-32	2.37E-08	6.59E-20
23	6.68E-05	-5.35E-19	-1.69E-06	-9.02E-33	-1.99E-09	6.59E-20
24	5.80E-05	-4.69E-19	-1.69E-06	-7.76E-33	1.99E-09	6.59E-20
25	4.92E-05	-4.04E-19	-1.69E-06	-6.50E-33	-2.37E-08	6.59E-20
26	4.04E-05	-3.38E-19	-1.64E-06	-5.25E-33	-1.61E-07	6.59E-20
27	3.16E-05	-2.72E-19	-1.39E-06	-3.99E-33	-2.73E-08	6.59E-20
28	2.28E-05	-2.06E-19	-1.75E-06	-2.73E-33	3.46E-06	6.61E-20
29	1.40E-05	-1.40E-19	-8.57E-06	-1.47E-33	1.24E-05	6.65E-20
30	7.28E-06	-7.31E-20	-2.72E-05	-7.52E-34	-8.06E-06	6.65E-20

COMB COMB3 ---------- MIN

JOINT	U1	U2	U3	R1	R2	R3
1	0.000125	-1.00E-18	-5.03E-06	-1.68E-32	0.000207	6.53E-20
2	0.000900	-1.00E-18	-4.34E-05	-1.74E-32	0.000650	6.53E-20
3	0.001922	-1.00E-18	-7.20E-05	-1.78E-32	0.001015	6.53E-20
4	0.003107	-9.90E-19	-0.000196	-7.94E-21	0.001252	6.60E-20
5	0.004455	-9.61E-19	-0.000570	-1.30E-20	0.001409	6.73E-20
6	0.005826	-9.18E-19	-0.001217	-1.55E-20	0.001490	6.85E-20
7	0.007113	-8.65E-19	-0.002080	-1.63E-20	0.001517	6.90E-20
8	0.008284	-8.06E-19	-0.003108	-1.63E-20	0.001521	6.91E-20
9	-0.008163	-7.64E-20	-0.003110	-1.63E-20	-0.001521	6.27E-20
10	-0.006992	-4.66E-20	-0.002081	-1.63E-20	-0.001518	6.28E-20
11	-0.005705	-2.44E-20	-0.001218	-1.55E-20	-0.001490	6.33E-20
12	-0.004332	-9.99E-21	-0.000570	-1.30E-20	-0.001410	6.44E-20
13	-0.002984	-3.27E-21	-0.000196	-7.94E-21	-0.001253	6.58E-20
14	-0.001798	-1.61E-21	-7.26E-05	-3.13E-33	-0.001016	6.65E-20
15	-0.000775	-1.61E-21	-4.33E-05	-1.84E-33	-0.000650	6.65E-20
16	1.32E-16	-4.26E-25	-5.01E-06	2.14E-35	0.000207	6.65E-20
17	0.000118	-9.30E-19	-2.72E-05	-1.60E-32	8.05E-06	6.53E-20
18	0.000111	-8.64E-19	-8.57E-06	-1.53E-32	-1.24E-05	6.53E-20
19	0.000102	-7.99E-19	-1.75E-06	-1.41E-32	-3.46E-06	6.57E-20
20	9.32E-05	-7.33E-19	-1.39E-06	-1.28E-32	2.75E-08	6.59E-20
21	8.44E-05	-6.67E-19	-1.64E-06	-1.15E-32	1.61E-07	6.59E-20
22	7.56E-05	-6.01E-19	-1.69E-06	-1.03E-32	2.37E-08	6.59E-20
23	6.68E-05	-5.35E-19	-1.69E-06	-9.02E-33	-1.99E-09	6.59E-20
24	5.80E-05	-4.69E-19	-1.69E-06	-7.76E-33	1.99E-09	6.59E-20
25	4.92E-05	-4.04E-19	-1.69E-06	-6.50E-33	-2.37E-08	6.59E-20
26	4.04E-05	-3.38E-19	-1.64E-06	-5.25E-33	-1.61E-07	6.59E-20
27	3.16E-05	-2.72E-19	-1.39E-06	-3.99E-33	-2.73E-08	6.59E-20
28	2.28E-05	-2.06E-19	-1.75E-06	-2.73E-33	3.46E-06	6.61E-20
29	1.40E-05	-1.40E-19	-8.57E-06	-1.47E-33	1.24E-05	6.65E-20
30	7.28E-06	-7.31E-20	-2.72E-05	-7.52E-34	-8.06E-06	6.65E-20

J O I N T D I S P L A C E M E N T S

TRANSLATIONS AND ROTATIONS, IN LOCAL COORDINATES

COMB COMB4 ---------- MAX

JOINT	U1	U2	U3	R1	R2	R3
1	0.000139	-9.83E-19	5.99E-06	-1.62E-32	0.000204	6.45E-20
2	0.000881	-9.83E-19	-1.89E-05	-1.68E-32	0.000608	6.45E-20
3	0.001818	-9.83E-19	-3.73E-05	-1.71E-32	0.000911	6.45E-20
4	0.002867	-9.74E-19	-0.000142	-6.11E-21	0.001093	6.50E-20
5	0.004031	-9.48E-19	-0.000462	-9.83E-21	0.001208	6.60E-20
6	0.005200	-9.09E-19	-0.001012	-1.16E-20	0.001264	6.68E-20
7	0.006289	-8.61E-19	-0.001742	-1.21E-20	0.001283	6.72E-20
8	0.007279	-8.06E-19	-0.002611	-1.21E-20	0.001285	6.72E-20
9	-0.007143	-8.61E-20	-0.002612	-1.21E-20	-0.001286	6.28E-20
10	-0.006153	-5.31E-20	-0.001743	-1.21E-20	-0.001284	6.28E-20
11	-0.005063	-2.74E-20	-0.001013	-1.16E-20	-0.001265	6.32E-20
12	-0.003894	-9.72E-21	-0.000463	-9.83E-21	-0.001208	6.40E-20
13	-0.002730	-6.06E-22	-0.000143	-6.11E-21	-0.001094	6.50E-20
14	-0.001680	1.93E-21	-3.79E-05	-2.73E-33	-0.000911	6.55E-20

COMB COMB4 ---------- MIN

JOINT	U1	U2	U3	R1	R2	R3
1	0.000139	-9.83E-19	5.99E-06	-1.62E-32	0.000204	6.45E-20
2	0.000881	-9.83E-19	-1.89E-05	-1.68E-32	0.000608	6.45E-20
3	0.001818	-9.83E-19	-3.73E-05	-1.71E-32	0.000911	6.45E-20
4	0.002867	-9.74E-19	-0.000142	-6.11E-21	0.001093	6.50E-20
5	0.004031	-9.48E-19	-0.000462	-9.83E-21	0.001208	6.60E-20
6	0.005200	-9.09E-19	-0.001012	-1.16E-20	0.001264	6.68E-20
7	0.006289	-8.61E-19	-0.001742	-1.21E-20	0.001283	6.72E-20
8	0.007279	-8.06E-19	-0.002611	-1.21E-20	0.001285	6.72E-20
9	-0.007143	-8.61E-20	-0.002612	-1.21E-20	-0.001286	6.28E-20
10	-0.006153	-5.31E-20	-0.001743	-1.21E-20	-0.001284	6.28E-20
11	-0.005063	-2.74E-20	-0.001013	-1.16E-20	-0.001265	6.32E-20
12	-0.003894	-9.72E-21	-0.000463	-9.83E-21	-0.001208	6.40E-20
13	-0.002730	-6.06E-22	-0.000143	-6.11E-21	-0.001094	6.50E-20
14	-0.001680	1.93E-21	-3.79E-05	-2.73E-33	-0.000911	6.55E-20

J O I N T D I S P L A C E M E N T S

TRANSLATIONS AND ROTATIONS, IN LOCAL COORDINATES

JOINT	U1	U2	U3	R1	R2	R3
15	-0.000743	1.93E-21	-1.89E-05	-1.61E-33	-0.000668	6.55E-20
16	1.47E-16	2.07E-25	6.00E-06	2.11E-35	0.000204	6.55E-20
17	0.000131	-9.14E-19	-2.39E-05	-1.55E-32	1.25E-05	6.45E-20
18	0.000123	-8.49E-19	-7.92E-06	-1.48E-32	-1.04E-05	6.45E-20
19	0.000113	-7.84E-19	-1.33E-06	-1.35E-32	-3.46E-06	6.48E-20
20	0.000104	-7.19E-19	-8.23E-07	-1.23E-32	-6.37E-08	6.50E-20
21	9.37E-05	-6.54E-19	-1.04E-06	-1.11E-32	1.47E-07	6.50E-20
22	8.40E-05	-5.89E-19	-1.10E-06	-9.91E-33	2.57E-08	6.50E-20
23	7.42E-05	-5.24E-19	-1.10E-06	-8.70E-33	-1.11E-09	6.50E-20
24	6.44E-05	-4.59E-19	-1.10E-06	-7.48E-33	1.11E-09	6.50E-20
25	5.47E-05	-3.94E-19	-1.10E-06	-6.27E-33	-2.57E-08	6.50E-20
26	4.49E-05	-3.29E-19	-1.04E-06	-5.06E-33	-1.47E-07	6.50E-20
27	3.51E-05	-2.64E-19	-8.23E-07	-3.84E-33	6.38E-08	6.50E-20
28	2.54E-05	-1.99E-19	-1.33E-06	-2.63E-33	3.46E-06	6.52E-20
29	1.56E-05	-1.34E-19	-7.92E-06	-1.42E-33	1.04E-05	6.55E-20
30	8.09E-06	-6.85E-20	-2.39E-05	-7.25E-34	-1.25E-05	6.55E-20

S P R I N G F O R C E S

FORCES AND MOMENTS ACTING ON JOINTS, IN LOCAL COORDINATES

COMB COMB1 ---------- MAX

JOINT	F1	F2	F3	M1	M2	M3
1	.000000	.000000	-24.394843	.000000	.000000	.000000
16	-2.64E-06	-6.21E-15	-24.422939	-3.70E-25	2.20E-41	-1.15E-09
17	.000000	.000000	71.157879	.000000	.000000	.000000
18	.000000	.000000	23.065172	.000000	.000000	.000000
19	.000000	.000000	3.649079	.000000	.000000	.000000
20	.000000	.000000	2.057669	.000000	.000000	.000000
21	.000000	.000000	2.690268	.000000	.000000	.000000
22	.000000	.000000	2.860023	.000000	.000000	.000000
23	.000000	.000000	2.858820	.000000	.000000	.000000
24	.000000	.000000	2.858823	.000000	.000000	.000000
25	.000000	.000000	2.860024	.000000	.000000	.000000
26	.000000	.000000	2.690203	.000000	.000000	.000000
27	.000000	.000000	2.057426	.000000	.000000	.000000
28	.000000	.000000	3.649683	.000000	.000000	.000000
29	.000000	.000000	23.072603	.000000	.000000	.000000
30	.000000	.000000	71.178245	.000000	.000000	.000000

COMB COMB1 ---------- MIN

JOINT	F1	F2	F3	M1	M2	M3
1	.000000	.000000	-24.394843	.000000	.000000	.000000
16	-2.64E-06	-6.21E-15	-24.422939	-3.70E-25	2.20E-41	-1.15E-09
17	.000000	.000000	71.157879	.000000	.000000	.000000
18	.000000	.000000	23.065172	.000000	.000000	.000000
19	.000000	.000000	3.649079	.000000	.000000	.000000
20	.000000	.000000	2.057669	.000000	.000000	.000000
21	.000000	.000000	2.690268	.000000	.000000	.000000
22	.000000	.000000	2.860023	.000000	.000000	.000000
23	.000000	.000000	2.858820	.000000	.000000	.000000
24	.000000	.000000	2.858823	.000000	.000000	.000000
25	.000000	.000000	2.860024	.000000	.000000	.000000
26	.000000	.000000	2.690203	.000000	.000000	.000000
27	.000000	.000000	2.057426	.000000	.000000	.000000
28	.000000	.000000	3.649683	.000000	.000000	.000000
29	.000000	.000000	23.072603	.000000	.000000	.000000
30	.000000	.000000	71.178245	.000000	.000000	.000000

COMB COMB2 ---------- MAX

JOINT	F1	F2	F3	M1	M2	M3
1	.000000	.000000	-38.943157	.000000	.000000	.000000
16	-2.64E-06	-1.15E-14	-38.961222	-3.49E-25	2.35E-41	-1.08E-09
17	.000000	.000000	62.604436	.000000	.000000	.000000
18	.000000	.000000	20.979021	.000000	.000000	.000000
19	.000000	.000000	2.846277	.000000	.000000	.000000
20	.000000	.000000	1.121760	.000000	.000000	.000000
21	.000000	.000000	1.675671	.000000	.000000	.000000
22	.000000	.000000	1.839307	.000000	.000000	.000000

S P R I N G F O R C E S

FORCES AND MOMENTS ACTING ON JOINTS, IN LOCAL COORDINATES

JOINT	F1	F2	F3	M1	M2	M3
23	.000000	.000000	1.840728	.000000	.000000	.000000
24	.000000	.000000	1.840729	.000000	.000000	.000000
25	.000000	.000000	1.839308	.000000	.000000	.000000
26	.000000	.000000	1.675629	.000000	.000000	.000000
27	.000000	.000000	1.121604	.000000	.000000	.000000
28	.000000	.000000	2.846665	.000000	.000000	.000000
29	.000000	.000000	20.983799	.000000	.000000	.000000
30	.000000	.000000	62.617531	.000000	.000000	.000000

COMB COMB2 ---------- MIN

JOINT	F1	F2	F3	M1	M2	M3
1	.000000	.000000	-38.943157	.000000	.000000	.000000
16	-2.64E-06	-1.15E-14	-38.961222	-3.49E-25	2.35E-41	-1.08E-09
17	.000000	.000000	62.604436	.000000	.000000	.000000
18	.000000	.000000	20.979021	.000000	.000000	.000000
19	.000000	.000000	2.846277	.000000	.000000	.000000
20	.000000	.000000	1.121760	.000000	.000000	.000000
21	.000000	.000000	1.675671	.000000	.000000	.000000
22	.000000	.000000	1.839307	.000000	.000000	.000000
23	.000000	.000000	1.840728	.000000	.000000	.000000
24	.000000	.000000	1.840729	.000000	.000000	.000000
25	.000000	.000000	1.839308	.000000	.000000	.000000
26	.000000	.000000	1.675629	.000000	.000000	.000000
27	.000000	.000000	1.121604	.000000	.000000	.000000
28	.000000	.000000	2.846665	.000000	.000000	.000000
29	.000000	.000000	20.983799	.000000	.000000	.000000
30	.000000	.000000	62.617531	.000000	.000000	.000000

COMB COMB3 ---------- MAX

JOINT	F1	F2	F3	M1	M2	M3
1	.000000	.000000	8.170217	.000000	.000000	.000000
16	-1.32E-06	4.26E-15	8.142127	-2.14E-25	8.97E-42	-6.65E-10
17	.000000	.000000	47.553760	.000000	.000000	.000000
18	.000000	.000000	14.453198	.000000	.000000	.000000
19	.000000	.000000	2.948462	.000000	.000000	.000000
20	.000000	.000000	2.339107	.000000	.000000	.000000
21	.000000	.000000	2.765570	.000000	.000000	.000000
22	.000000	.000000	2.859013	.000000	.000000	.000000
23	.000000	.000000	2.854740	.000000	.000000	.000000
24	.000000	.000000	2.854743	.000000	.000000	.000000
25	.000000	.000000	2.859014	.000000	.000000	.000000
26	.000000	.000000	2.765505	.000000	.000000	.000000
27	.000000	.000000	2.338864	.000000	.000000	.000000
28	.000000	.000000	2.949067	.000000	.000000	.000000
29	.000000	.000000	14.460627	.000000	.000000	.000000
30	.000000	.000000	47.574122	.000000	.000000	.000000

S P R I N G F O R C E S

FORCES AND MOMENTS ACTING ON JOINTS, IN LOCAL COORDINATES

COMB COMB3 ---------- MIN

JOINT	F1	F2	F3	M1	M2	M3
1	.000000	.000000	8.170217	.000000	.000000	.000000
16	-1.32E-06	4.26E-15	8.142127	-2.14E-25	8.97E-42	-6.65E-10
17	.000000	.000000	47.553760	.000000	.000000	.000000
18	.000000	.000000	14.453198	.000000	.000000	.000000
19	.000000	.000000	2.948462	.000000	.000000	.000000
20	.000000	.000000	2.339107	.000000	.000000	.000000
21	.000000	.000000	2.765570	.000000	.000000	.000000
22	.000000	.000000	2.859013	.000000	.000000	.000000
23	.000000	.000000	2.854740	.000000	.000000	.000000
24	.000000	.000000	2.854743	.000000	.000000	.000000
25	.000000	.000000	2.859014	.000000	.000000	.000000
26	.000000	.000000	2.765505	.000000	.000000	.000000
27	.000000	.000000	2.338864	.000000	.000000	.000000
28	.000000	.000000	2.949067	.000000	.000000	.000000
29	.000000	.000000	14.460627	.000000	.000000	.000000
30	.000000	.000000	47.574122	.000000	.000000	.000000

COMB COMB4 ---------- MAX

JOINT	F1	F2	F3	M1	M2	M3
1	.000000	.000000	-9.731922	.000000	.000000	.000000
16	-1.47E-06	-2.07E-15	-9.750165	-2.11E-25	1.19E-41	-6.55E-10
17	.000000	.000000	41.778514	.000000	.000000	.000000
18	.000000	.000000	13.361863	.000000	.000000	.000000
19	.000000	.000000	2.238103	.000000	.000000	.000000
20	.000000	.000000	1.388944	.000000	.000000	.000000
21	.000000	.000000	1.761053	.000000	.000000	.000000
22	.000000	.000000	1.856968	.000000	.000000	.000000
23	.000000	.000000	1.855612	.000000	.000000	.000000
24	.000000	.000000	1.855613	.000000	.000000	.000000
25	.000000	.000000	1.856969	.000000	.000000	.000000
26	.000000	.000000	1.761011	.000000	.000000	.000000
27	.000000	.000000	1.388786	.000000	.000000	.000000
28	.000000	.000000	2.238495	.000000	.000000	.000000
29	.000000	.000000	13.366687	.000000	.000000	.000000
30	.000000	.000000	41.791738	.000000	.000000	.000000

COMB COMB4 ---------- MIN

JOINT	F1	F2	F3	M1	M2	M3
1	.000000	.000000	-9.731922	.000000	.000000	.000000
16	-1.47E-06	-2.07E-15	-9.750165	-2.11E-25	1.19E-41	-6.55E-10
17	.000000	.000000	41.778514	.000000	.000000	.000000
18	.000000	.000000	13.361863	.000000	.000000	.000000
19	.000000	.000000	2.238103	.000000	.000000	.000000
20	.000000	.000000	1.388944	.000000	.000000	.000000
21	.000000	.000000	1.761053	.000000	.000000	.000000
22	.000000	.000000	1.856968	.000000	.000000	.000000

S P R I N G F O R C E S

FORCES AND MOMENTS ACTING ON JOINTS, IN LOCAL COORDINATES

JOINT	F1	F2	F3	M1	M2	M3
23	.000000	.000000	1.855612	.000000	.000000	.000000
24	.000000	.000000	1.855613	.000000	.000000	.000000
25	.000000	.000000	1.856969	.000000	.000000	.000000
26	.000000	.000000	1.761011	.000000	.000000	.000000
27	.000000	.000000	1.388786	.000000	.000000	.000000
28	.000000	.000000	2.238495	.000000	.000000	.000000
29	.000000	.000000	13.366687	.000000	.000000	.000000
30	.000000	.000000	41.791738	.000000	.000000	.000000

G L O B A L F O R C E B A L A N C E

TOTAL FORCE AND MOMENT AT THE ORIGIN, IN GLOBAL COORDINATES

LOAD LOAD1 ----------

	FX	FY	FZ	MX	MY	MZ
APPLIED	6.07E-17	4.03E-32	-64.376748	3.45E-31	487.645376	7.45E-31
SPRINGS	1.63E-13	-1.07E-15	64.376748	5.46E-29	-487.645376	-6.27E-11
TOTAL	1.64E-13	-1.07E-15	.000000	5.50E-29	-3.41E-13	-6.27E-11

LOAD LOAD2 ----------

	FX	FY	FZ	MX	MY	MZ
APPLIED	-5.06E-16	8.49E-32	-44.641521	-4.42E-31	338.143433	1.16E-30
SPRINGS	1.69E-13	1.31E-27	44.641521	5.37E-29	-338.143433	-5.51E-11
TOTAL	1.69E-13	1.31E-27	.000000	5.33E-29	-3.98E-13	-5.51E-11

LOAD LOAD3 ----------

	FX	FY	FZ	MX	MY	MZ
APPLIED	-1.47E-06	-3.74E-32	-4.29E-16	-2.48E-33	-8.23E-06	9.51E-31
SPRINGS	1.47E-06	4.57E-27	-2.03E-13	2.19E-28	8.23E-06	-5.37E-10
TOTAL	4.51E-13	4.57E-27	-2.03E-13	2.19E-28	8.10E-13	-5.37E-10

COMB COMB1 ---------- MAX

	FX	FY	FZ	MX	MY	MZ
APPLIED	-2.64E-06	1.26E-31	-167.888135	-1.54E-31	1271.715	4.65E-30
SPRINGS	2.64E-06	-1.64E-15	167.888135	5.61E-28	-1271.715	-1.15E-09
TOTAL	1.32E-12	-1.64E-15	-3.65E-13	5.61E-28	3.19E-13	-1.15E-09

COMB COMB1 ---------- MIN

	FX	FY	FZ	MX	MY	MZ
APPLIED	-2.64E-06	1.26E-31	-167.888135	-1.54E-31	1271.715	4.65E-30
SPRINGS	2.64E-06	-1.64E-15	167.888135	5.61E-28	-1271.715	-1.15E-09
TOTAL	1.32E-12	-1.64E-15	-3.65E-13	5.61E-28	3.19E-13	-1.15E-09

COMB COMB2 ---------- MAX

	FX	FY	FZ	MX	MY	MZ
APPLIED	-2.64E-06	5.67E-32	-107.928087	-1.01E-31	817.530906	3.60E-30
SPRINGS	2.64E-06	-1.06E-15	107.928087	5.02E-28	-817.530906	-1.08E-09
TOTAL	1.14E-12	-1.06E-15	-3.65E-13	5.02E-28	7.26E-13	-1.08E-09

G L O B A L F O R C E B A L A N C E

TOTAL FORCE AND MOMENT AT THE ORIGIN, IN GLOBAL COORDINATES

COMB COMB2 ---------- MIN

	FX	FY	FZ	MX	MY	MZ
APPLIED	-2.64E-06	5.67E-32	-107.928087	-1.01E-31	817.530906	3.60E-30
SPRINGS	2.64E-06	-1.06E-15	107.928087	5.02E-28	-817.530906	-1.08E-09
TOTAL	1.14E-12	-1.06E-15	-3.65E-13	5.02E-28	7.26E-13	-1.08E-09

COMB COMB3 ---------- MAX

	FX	FY	FZ	MX	MY	MZ
APPLIED	-1.32E-06	1.59E-31	-167.888135	-1.52E-31	1271.715	3.79E-30
SPRINGS	1.32E-06	-1.64E-15	167.888135	3.64E-28	-1271.715	-6.65E-10
TOTAL	9.18E-13	-1.64E-15	-1.83E-13	3.64E-28	-4.09E-13	-6.65E-10

COMB COMB3 ---------- MIN

	FX	FY	FZ	MX	MY	MZ
APPLIED	-1.32E-06	1.59E-31	-167.888135	-1.52E-31	1271.715	3.79E-30
SPRINGS	1.32E-06	-1.64E-15	167.888135	3.64E-28	-1271.715	-6.65E-10
TOTAL	9.18E-13	-1.64E-15	-1.83E-13	3.64E-28	-4.09E-13	-6.65E-10

COMB COMB4 ---------- MAX

	FX	FY	FZ	MX	MY	MZ
APPLIED	-1.47E-06	8.78E-32	-109.018269	-9.97E-32	825.788801	2.86E-30
SPRINGS	1.47E-06	-1.07E-15	109.018269	3.27E-28	-825.788801	-6.55E-10
TOTAL	7.83E-13	-1.07E-15	-2.03E-13	3.27E-28	7.07E-14	-6.55E-10

COMB COMB4 ---------- MIN

	FX	FY	FZ	MX	MY	MZ
APPLIED	-1.47E-06	8.78E-32	-109.018269	-9.97E-32	825.788801	2.86E-30
SPRINGS	1.47E-06	-1.07E-15	109.018269	3.27E-28	-825.788801	-6.55E-10
TOTAL	7.83E-13	-1.07E-15	-2.03E-13	3.27E-28	7.07E-14	-6.55E-10

F R A M E E L E M E N T I N T E R N A L F O R C E S

ELEM 1 ========== LENGTH = 1.687847

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-60.596886	34.264847	6.00E-29	5.88E-30	1.70E-28	111.761782
0.50000	-57.474345	27.127153	6.00E-29	5.88E-30	1.20E-28	85.916799
1.00000	-54.351803	20.843931	6.00E-29	5.88E-30	6.90E-29	65.734929

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-60.596886	34.264847	6.00E-29	5.88E-30	1.70E-28	111.761782
0.50000	-57.474345	27.127153	6.00E-29	5.88E-30	1.20E-28	85.916799
1.00000	-54.351803	20.843931	6.00E-29	5.88E-30	6.90E-29	65.734929

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-38.955141	34.264847	5.48E-29	4.79E-30	1.58E-28	103.207383
0.50000	-36.947793	27.127153	5.48E-29	4.79E-30	1.12E-28	77.362400
1.00000	-34.940445	20.843931	5.48E-29	4.79E-30	6.57E-29	57.180530

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-38.955141	34.264847	5.48E-29	4.79E-30	1.58E-28	103.207383
0.50000	-36.947793	27.127153	5.48E-29	4.79E-30	1.12E-28	77.362400
1.00000	-34.940445	20.843931	5.48E-29	4.79E-30	6.57E-29	57.180530

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-60.596886	17.132423	3.73E-29	4.46E-30	1.02E-28	67.857051
0.50000	-57.474345	13.563576	3.73E-29	4.46E-30	7.07E-29	54.934559
1.00000	-54.351803	10.421966	3.73E-29	4.46E-30	3.92E-29	44.843624

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-60.596886	17.132423	3.73E-29	4.46E-30	1.02E-28	67.857051
0.50000	-57.474345	13.563576	3.73E-29	4.46E-30	7.07E-29	54.934559
1.00000	-54.351803	10.421966	3.73E-29	4.46E-30	3.92E-29	44.843624

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-39.348627	19.036026	3.47E-29	3.55E-30	9.78E-29	64.336489
0.50000	-37.321003	15.070640	3.47E-29	3.55E-30	6.85E-29	49.978165
1.00000	-35.293379	11.579962	3.47E-29	3.55E-30	3.92E-29	38.766015

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-39.348627	19.036026	3.47E-29	3.55E-30	9.78E-29	64.336489
0.50000	-37.321003	15.070640	3.47E-29	3.55E-30	6.85E-29	49.978165
1.00000	-35.293379	11.579962	3.47E-29	3.55E-30	3.92E-29	38.766015

ELEM 2 ========== LENGTH = 1.200000

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-54.364323	20.811256	9.72E-30	4.46E-30	1.15E-28	65.734929
0.50000	-52.474935	16.864721	9.72E-30	4.46E-30	1.09E-28	54.453707
1.00000	-50.585807	13.349647	9.72E-30	4.46E-30	1.04E-28	45.410969

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-54.364323	20.811256	9.72E-30	4.46E-30	1.15E-28	65.734929
0.50000	-52.474935	16.864721	9.72E-30	4.46E-30	1.09E-28	54.453707
1.00000	-50.585807	13.349647	9.72E-30	4.46E-30	1.04E-28	45.410969

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-34.952968	20.822925	6.25E-30	3.37E-30	1.06E-28	57.180530
0.50000	-33.737514	16.875984	6.25E-30	3.37E-30	1.03E-28	45.892428
1.00000	-32.522320	13.360505	6.25E-30	3.37E-30	9.90E-29	36.843053

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-34.952968	20.822925	6.25E-30	3.37E-30	1.06E-28	57.180530
0.50000	-33.737514	16.875984	6.25E-30	3.37E-30	1.03E-28	45.892428
1.00000	-32.522320	13.360505	6.25E-30	3.37E-30	9.90E-29	36.843053

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-54.358058	10.389293	9.72E-30	3.75E-30	6.97E-29	44.843624
0.50000	-52.469857	8.416592	9.72E-30	3.75E-30	6.39E-29	39.212644
1.00000	-50.581786	6.659622	9.72E-30	3.75E-30	5.81E-29	34.700566

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-54.358058	10.389293	9.72E-30	3.75E-30	6.97E-29	44.843624
0.50000	-52.469857	8.416592	9.72E-30	3.75E-30	6.39E-29	39.212644
1.00000	-50.581786	6.659622	9.72E-30	3.75E-30	5.81E-29	34.700566

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-35.300333	11.558745	6.31E-30	2.76E-30	6.63E-29	38.766015
0.50000	-34.073681	9.366331	6.31E-30	2.76E-30	6.25E-29	32.500476
1.00000	-32.847172	7.413619	6.31E-30	2.76E-30	5.87E-29	27.478475

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-35.300333	11.558745	6.31E-30	2.76E-30	6.63E-29	38.766015
0.50000	-34.073681	9.366331	6.31E-30	2.76E-30	6.25E-29	32.500476
1.00000	-32.847172	7.413619	6.31E-30	2.76E-30	5.87E-29	27.478475

ELEM 3 ========== LENGTH = 1.034680

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-49.219162	-17.737279	2.15E-15	-2.74E-30	5.50E-15	-45.410969
0.50000	-40.957229	-14.318112	1.73E-15	-2.74E-30	4.50E-15	-37.136003
1.00000	-33.485733	-11.288724	1.37E-15	-2.74E-30	3.70E-15	-30.529085

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-49.219162	-17.737279	2.15E-15	-2.74E-30	5.50E-15	-45.410969
0.50000	-40.957229	-14.318112	1.73E-15	-2.74E-30	4.50E-15	-37.136003
1.00000	-33.485733	-11.288724	1.37E-15	-2.74E-30	3.70E-15	-30.529085

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-31.224408	-16.162943	1.96E-15	-3.28E-30	4.46E-15	-36.843053
0.50000	-25.996775	-13.009242	1.58E-15	-3.28E-30	3.55E-15	-29.312784
1.00000	-21.267339	-10.219754	1.24E-15	-3.28E-30	2.82E-15	-23.319840

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-31.224408	-16.162943	1.96E-15	-3.28E-30	4.46E-15	-36.843053
0.50000	-25.996775	-13.009242	1.58E-15	-3.28E-30	3.55E-15	-29.312784
1.00000	-21.267339	-10.219754	1.24E-15	-3.28E-30	2.82E-15	-23.319840

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-49.802236	-11.072711	1.34E-15	-6.11E-31	4.20E-15	-34.700566
0.50000	-41.423249	-8.991473	1.09E-15	-6.11E-31	3.58E-15	-29.520507
1.00000	-33.848619	-7.140921	8.65E-16	-6.11E-31	3.07E-15	-25.357485

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-49.802236	-11.072711	1.34E-15	-6.11E-31	4.20E-15	-34.700566
0.50000	-41.423249	-8.991473	1.09E-15	-6.11E-31	3.58E-15	-29.520507
1.00000	-33.848619	-7.140921	8.65E-16	-6.11E-31	3.07E-15	-25.357485

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-32.069874	-10.267506	1.24E-15	-1.38E-30	3.33E-15	-27.478475
0.50000	-26.683024	-8.298250	1.00E-15	-1.38E-30	2.75E-15	-22.685695
1.00000	-21.812057	-6.552253	7.94E-16	-1.38E-30	2.28E-15	-18.853940

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-32.069874	-10.267506	1.24E-15	-1.38E-30	3.33E-15	-27.478475
0.50000	-26.683024	-8.298250	1.00E-15	-1.38E-30	2.75E-15	-22.685695
1.00000	-21.812057	-6.552253	7.94E-16	-1.38E-30	2.28E-15	-18.853940

ELEM 4 ========== LENGTH = 1.034680

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-31.016742	-16.931963	2.05E-15	-9.64E-30	3.70E-15	-30.529085
0.50000	-24.884443	-13.164508	1.59E-15	-9.64E-30	2.76E-15	-22.765825
1.00000	-19.440672	-9.902577	1.20E-15	-9.64E-30	2.04E-15	-16.820857

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-31.016742	-16.931963	2.05E-15	-9.64E-30	3.70E-15	-30.529085
0.50000	-24.884443	-13.164508	1.59E-15	-9.64E-30	2.76E-15	-22.765825
1.00000	-19.440672	-9.902577	1.20E-15	-9.64E-30	2.04E-15	-16.820857

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-19.169597	-13.757529	1.67E-15	-9.74E-30	2.82E-15	-23.319840
0.50000	-15.417075	-10.627734	1.29E-15	-9.74E-30	2.06E-15	-17.030727
1.00000	-12.078516	-7.929892	9.60E-16	-9.74E-30	1.48E-15	-12.249049

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-19.169597	-13.757529	1.67E-15	-9.74E-30	2.82E-15	-23.319840
0.50000	-15.417075	-10.627734	1.29E-15	-9.74E-30	2.06E-15	-17.030727
1.00000	-12.078516	-7.929892	9.60E-16	-9.74E-30	1.48E-15	-12.249049

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-32.094373	-12.910188	1.56E-15	-4.67E-30	3.07E-15	-25.357485
0.50000	-25.696535	-10.133738	1.23E-15	-4.67E-30	2.35E-15	-19.412051
1.00000	-20.027355	-7.713047	9.34E-16	-4.67E-30	1.79E-15	-14.810961

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-32.094373	-12.910188	1.56E-15	-4.67E-30	3.07E-15	-25.357485
0.50000	-25.696535	-10.133738	1.23E-15	-4.67E-30	2.35E-15	-19.412051
1.00000	-20.027355	-7.713047	9.34E-16	-4.67E-30	1.79E-15	-14.810961

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-20.342895	-10.240336	1.24E-15	-5.32E-30	2.28E-15	-18.853940
0.50000	-16.311070	-7.979839	9.66E-16	-5.32E-30	1.71E-15	-14.153868
1.00000	-12.733869	-6.019510	7.29E-16	-5.32E-30	1.28E-15	-10.545598

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-20.342895	-10.240336	1.24E-15	-5.32E-30	2.28E-15	-18.853940
0.50000	-16.311070	-7.979839	9.66E-16	-5.32E-30	1.71E-15	-14.153868
1.00000	-12.733869	-6.019510	7.29E-16	-5.32E-30	1.28E-15	-10.545598

ELEM 5 ========== LENGTH = 1.034679

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-17.425759	-13.127973	1.59E-15	1.17E-29	2.04E-15	-16.820857
0.50000	-13.203517	-9.568572	1.16E-15	1.17E-29	1.33E-15	-10.974913
1.00000	-9.535778	-6.588314	7.98E-16	1.17E-29	8.26E-16	-6.820581

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-17.425759	-13.127973	1.59E-15	1.17E-29	2.04E-15	-16.820857
0.50000	-13.203517	-9.568572	1.16E-15	1.17E-29	1.33E-15	-10.974913
1.00000	-9.535778	-6.588314	7.98E-16	1.17E-29	8.26E-16	-6.820581

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-10.518003	-9.906833	1.20E-15	1.06E-29	1.48E-15	-12.249049
0.50000	-8.021280	-7.152055	8.66E-16	1.06E-29	9.51E-16	-7.856533
1.00000	-5.837171	-4.863624	5.89E-16	1.06E-29	5.78E-16	-4.768544

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB2 ---------- - MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-10.518003	-9.9006833	1.20E-15	1.06E-29	1.48E-15	-12.249049
0.50000	-8.021280	-7.152055	8.66E-16	1.06E-29	9.51E-16	-7.856533
1.00000	-5.837171	-4.863624	5.89E-16	1.06E-29	5.78E-16	-4.768544

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-18.383737	-11.073584	1.34E-15	7.45E-30	1.79E-15	-14.810961
0.50000	-13.856889	-8.167411	9.89E-16	7.45E-30	1.19E-15	-9.853187
1.00000	-9.945939	-5.708722	6.91E-16	7.45E-30	7.61E-16	-6.283141

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-18.383737	-11.073584	1.34E-15	7.45E-30	1.79E-15	-14.810961
0.50000	-13.856889	-8.167411	9.89E-16	7.45E-30	1.19E-15	-9.853187
1.00000	-9.945939	-5.708722	6.91E-16	7.45E-30	7.61E-16	-6.283141

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-11.495135	-8.139275	9.86E-16	6.80E-30	1.28E-15	-10.545598
0.50000	-8.696278	-5.950514	7.21E-16	6.80E-30	8.38E-16	-6.916142
1.00000	-6.269006	-4.113123	4.98E-16	6.80E-30	5.24E-16	-4.328130

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-11.495135	-8.139275	9.86E-16	6.80E-30	1.28E-15	-10.545598
0.50000	-8.696278	-5.950514	7.21E-16	6.80E-30	8.38E-16	-6.916142
1.00000	-6.269006	-4.113123	4.98E-16	6.80E-30	5.24E-16	-4.328130

ELEM 6 ========== LENGTH = 1.024081

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-8.422567	-7.962243	9.64E-16	2.23E-29	8.26E-16	-6.820581
0.50000	-5.717381	-5.114661	6.19E-16	2.23E-29	4.24E-16	-3.497806
1.00000	-3.424986	-2.857152	3.46E-16	2.23E-29	1.79E-16	-1.482038

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-8.422567	-7.962243	9.64E-16	2.23E-29	8.26E-16	-6.820581
0.50000	-5.717381	-5.114661	6.19E-16	2.23E-29	4.24E-16	-3.497806
1.00000	-3.424986	-2.857152	3.46E-16	2.23E-29	1.79E-16	-1.482038

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-5.029370	-5.694985	6.90E-16	2.09E-29	5.78E-16	-4.768544
0.50000	-3.461905	-3.607603	4.37E-16	2.09E-29	2.91E-16	-2.406389
1.00000	-2.107961	-1.977146	2.39E-16	2.09E-29	1.21E-16	-0.996077

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-5.029370	-5.694985	6.90E-16	2.09E-29	5.78E-16	-4.768544
0.50000	-3.461905	-3.607603	4.37E-16	2.09E-29	2.91E-16	-2.406389
1.00000	-2.107961	-1.977146	2.39E-16	2.09E-29	1.21E-16	-0.996077

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-8.961759	-7.155283	8.67E-16	1.31E-29	7.61E-16	-6.283141
0.50000	-6.016356	-4.667212	5.65E-16	1.31E-29	3.97E-16	-3.276885
1.00000	-3.556328	-2.660585	3.22E-16	1.31E-29	1.72E-16	-1.421363

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-8.961759	-7.155283	8.67E-16	1.31E-29	7.61E-16	-6.283141
0.50000	-6.016356	-4.667212	5.65E-16	1.31E-29	3.97E-16	-3.276885
1.00000	-3.556328	-2.660585	3.22E-16	1.31E-29	1.72E-16	-1.421363

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-5.570346	-5.018910	6.08E-16	1.28E-29	5.24E-16	-4.328130
0.50000	-3.768670	-3.237271	3.92E-16	1.28E-29	2.70E-16	-2.229860
1.00000	-2.248655	-1.818420	2.20E-16	1.28E-29	1.15E-16	-0.950980

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-5.570346	-5.018910	6.08E-16	1.28E-29	5.24E-16	-4.328130
0.50000	-3.768670	-3.237271	3.92E-16	1.28E-29	2.70E-16	-2.229860
1.00000	-2.248655	-1.818420	2.20E-16	1.28E-29	1.15E-16	-0.950980

ELEM 7 ========== LENGTH = 1.024082

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-3.022750	-3.279761	3.97E-16	2.48E-30	1.79E-16	-1.482038
0.50000	-1.361062	-1.350839	1.64E-16	2.48E-30	3.89E-17	-0.321176
1.00000	1.33E-12	-2.50E-13	7.90E-29	2.48E-30	7.99E-29	2.32E-13

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-3.022750	-3.279761	3.97E-16	2.48E-30	1.79E-16	-1.482038
0.50000	-1.361062	-1.350839	1.64E-16	2.48E-30	3.89E-17	-0.321176
1.00000	1.33E-12	-2.50E-13	7.90E-29	2.48E-30	7.99E-29	2.32E-13

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-1.831857	-2.235376	2.71E-16	2.10E-30	1.21E-16	-0.996077
0.50000	-0.847134	-0.900136	1.09E-16	2.10E-30	2.57E-17	-0.211887
1.00000	1.35E-12	-2.52E-13	7.89E-29	2.10E-30	7.65E-29	2.39E-13

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-1.831857	-2.235376	2.71E-16	2.10E-30	1.21E-16	-0.996077
0.50000	-0.847134	-0.900136	1.09E-16	2.10E-30	2.57E-17	-0.211887
1.00000	1.35E-12	-2.52E-13	7.89E-29	2.10E-30	7.65E-29	2.39E-13

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-3.178625	-3.102019	3.76E-16	1.77E-30	1.72E-16	-1.421363
0.50000	-1.400031	-1.306404	1.58E-16	1.77E-30	3.80E-17	-0.313591
1.00000	6.39E-13	-1.21E-13	3.97E-29	1.77E-30	4.48E-29	1.06E-13

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-3.178625	-3.102019	3.76E-16	1.77E-30	1.72E-16	-1.421363
0.50000	-1.400031	-1.306404	1.58E-16	1.77E-30	3.80E-17	-0.313591
1.00000	6.39E-13	-1.21E-13	3.97E-29	1.77E-30	4.48E-29	1.06E-13

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-1.992065	-2.096372	2.54E-16	1.48E-30	1.15E-16	-0.950980
0.50000	-0.891117	-0.868833	1.05E-16	1.48E-30	2.51E-17	-0.207133
1.00000	7.35E-13	-1.38E-13	4.39E-29	1.48E-30	4.53E-29	1.27E-13

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-1.992065	-2.096372	2.54E-16	1.48E-30	1.15E-16	-0.950980
0.50000	-0.891117	-0.868833	1.05E-16	1.48E-30	2.51E-17	-0.207133
1.00000	7.35E-13	-1.38E-13	4.39E-29	1.48E-30	4.53E-29	1.27E-13

F R A M E E L E M E N T I N T E R N A L F O R C E S

ELEM 8 ========== LENGTH = 1.024080

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	.000000	-1.58E-12	1.94E-29	-1.55E-29	-7.46E-29	-2.96E-14
0.50000	-1.361063	1.350832	-1.64E-16	-1.55E-29	3.89E-17	-0.321173
1.00000	-3.022752	3.279743	-3.97E-16	-1.55E-29	1.79E-16	-1.482026

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	.000000	-1.58E-12	1.94E-29	-1.55E-29	-7.46E-29	-2.96E-14
0.50000	-1.361063	1.350832	-1.64E-16	-1.55E-29	3.89E-17	-0.321173
1.00000	-3.022752	3.279743	-3.97E-16	-1.55E-29	1.79E-16	-1.482026

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	.000000	-1.45E-12	1.25E-29	-1.40E-29	-6.42E-29	-9.21E-14
0.50000	-0.847134	0.900131	-1.09E-16	-1.40E-29	2.57E-17	-0.211886
1.00000	-1.831859	2.235365	-2.71E-16	-1.40E-29	1.21E-16	-0.996069

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	.000000	-1.45E-12	1.25E-29	-1.40E-29	-6.42E-29	-9.21E-14
0.50000	-0.847134	0.900131	-1.09E-16	-1.40E-29	2.57E-17	-0.211886
1.00000	-1.831859	2.235365	-2.71E-16	-1.40E-29	1.21E-16	-0.996069

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	.000000	-9.64E-13	1.94E-29	-9.78E-30	-5.19E-29	7.28E-14
0.50000	-1.400031	1.306396	-1.58E-16	-9.78E-30	3.80E-17	-0.313589
1.00000	-3.178626	3.102001	-3.76E-16	-9.78E-30	1.72E-16	-1.421352

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	.000000	-9.64E-13	1.94E-29	-9.78E-30	-5.19E-29	7.28E-14
0.50000	-1.400031	1.306396	-1.58E-16	-9.78E-30	3.80E-17	-0.313589
1.00000	-3.178626	3.102001	-3.76E-16	-9.78E-30	1.72E-16	1.421352

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	.000000	-9.09E-13	1.26E-29	-8.97E-30	-4.42E-29	.000000
0.50000	-0.891117	0.868828	-1.05E-16	-8.97E-30	2.51E-17	-0.207131
1.00000	-1.992066	2.096361	-2.54E-16	-8.97E-30	1.15E-16	-0.950973

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	000000	-9.09E-13	1.26E-29	-8.97E-30	-4.42E-29	000000
0.50000	-0.891117	0.868828	-1.05E-16	-8.97E-30	2.51E-17	-0.207131
1.00000	-1.992066	2.096361	-2.54E-16	-8.97E-30	1.15E-16	-0.950973

ELEM 9 ========== LENGTH = 1.024082

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-3.424973	2.857149	-3.46E-16	-9.23E-30	1.79E-16	-1.482026
0.50000	-5.717368	5.114662	-6.19E-16	-9.23E-30	4.24E-16	-3.497795
1.00000	-8.422552	7.962250	-9.64E-16	-9.23E-30	8.26E-16	-6.820575

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-3.424973	2.857149	-3.46E-16	-9.23E-30	1.79E-16	-1.482026
0.50000	-5.717368	5.114662	-6.19E-16	-9.23E-30	4.24E-16	-3.497795
1.00000	-8.422552	7.962250	-9.64E-16	-9.23E-30	8.26E-16	-6.820575

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-2.107953	1.977144	-2.39E-16	-8.47E-30	1.21E-16	-0.996069
0.50000	-3.461897	3.607603	-4.37E-16	-8.47E-30	2.91E-16	-2.406382
1.00000	-5.029360	5.694989	-6.90E-16	-8.47E-30	5.78E-16	-4.768540

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-2.107953	1.977144	-2.39E-16	-8.47E-30	1.21E-16	-0.996069
0.50000	-3.461897	3.607603	-4.37E-16	-8.47E-30	2.91E-16	-2.406382
1.00000	-5.029360	5.694989	-6.90E-16	-8.47E-30	5.78E-16	-4.768540

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-3.556315	2.660583	-3.22E-16	-5.68E-30	1.72E-16	-1.421352
0.50000	-6.016344	4.667214	-5.65E-16	-5.68E-30	3.97E-16	-3.276875
1.00000	-8.961746	7.155291	-8.67E-16	-5.68E-30	7.61E-16	-6.283136

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-3.556315	2.660583	-3.22E-16	-5.68E-30	1.72E-16	-1.421352
0.50000	-6.016344	4.667214	-5.65E-16	-5.68E-30	3.97E-16	-3.276875
1.00000	-8.961746	7.155291	-8.67E-16	-5.68E-30	7.61E-16	-6.283136

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-2.248647	1.818418	-2.20E-16	-5.32E-30	1.15E-16	-0.950973
0.50000	-3.768661	3.237272	-3.92E-16	-5.32E-30	2.70E-16	-2.229853
1.00000	-5.570337	5.018915	-6.08E-16	-5.32E-30	5.24E-16	-4.328126

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-2.248647	1.818418	-2.20E-16	-5.32E-30	1.15E-16	-0.950973
0.50000	-3.768661	3.237272	-3.92E-16	-5.32E-30	2.70E-16	-2.229853
1.00000	-5.570337	5.018915	-6.08E-16	-5.32E-30	5.24E-16	-4.328126

ELEM 10 ========== LENGTH = 1.034682

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-9.535742	6.588356	-7.98E-16	-3.52E-29	8.26E-16	-6.820575
0.50000	-13.203474	9.568639	-1.16E-15	-3.52E-29	1.33E-15	-10.974944
1.00000	-17.425709	13.128068	-1.59E-15	-3.52E-29	2.04E-15	-16.820943

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-9.535742	6.588356	-7.98E-16	-3.52E-29	8.26E-16	-6.820575
0.50000	-13.203474	9.568639	-1.16E-15	-3.52E-29	1.33E-15	-10.974944
1.00000	-17.425709	13.128068	-1.59E-15	-3.52E-29	2.04E-15	-16.820943

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-5.837145	4.863650	-5.89E-16	-3.13E-29	5.78E-16	-4.768540
0.50000	-8.021248	7.152096	-8.66E-16	-3.13E-29	9.51E-16	-7.856553
1.00000	-10.517964	9.906892	-1.20E-15	-3.13E-29	1.48E-15	-12.249104

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-5.837145	4.863650	-5.89E-16	-3.13E-29	5.78E-16	-4.768540
0.50000	-8.021248	7.152096	-8.66E-16	-3.13E-29	9.51E-16	-7.856553
1.00000	-10.517964	9.906892	-1.20E-15	-3.13E-29	1.48E-15	-12.249104

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-9.945906	5.708767	-6.91E-16	-2.32E-29	7.61E-16	-6.283136
0.50000	-13.856854	8.167479	-9.89E-16	-2.32E-29	1.19E-15	-9.853219
1.00000	-18.383698	11.073680	-1.34E-15	-2.32E-29	1.79E-15	-14.811046

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-9.945906	5.708767	-6.91E-16	-2.32E-29	7.61E-16	-6.283136
0.50000	-13.856854	8.167479	-9.89E-16	-2.32E-29	1.19E-15	-9.853219
1.00000	-18.383698	11.073680	-1.34E-15	-2.32E-29	1.79E-15	-14.811046

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-6.268983	4.113151	-4.98E-16	-2.06E-29	5.24E-16	-4.328126
0.50000	-8.696252	5.950558	-7.21E-16	-2.06E-29	8.38E-16	-6.916162
1.00000	-11.495105	8.139336	-9.86E-16	-2.06E-29	1.28E-15	-10.545653

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-6.268983	4.113151	-4.98E-16	-2.06E-29	5.24E-16	-4.328126
0.50000	-8.696252	5.950558	-7.21E-16	-2.06E-29	8.38E-16	-6.916162
1.00000	-11.495105	8.139336	-9.86E-16	-2.06E-29	1.28E-15	-10.545653

ELEM 11 ========== LENGTH = 1.034679

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-19.440732	9.902497	-1.20E-15	-6.26E-29	2.04E-15	-16.820943
0.50000	-24.884511	13.164399	-1.59E-15	-6.26E-29	2.76E-15	-22.765855
1.00000	-31.016820	16.931821	-2.05E-15	-6.26E-29	3.70E-15	-30.529041

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-19.440732	9.902497	-1.20E-15	-6.26E-29	2.04E-15	-16.820943
0.50000	-24.884511	13.164399	-1.59E-15	-6.26E-29	2.76E-15	-22.765855
1.00000	-31.016820	16.931821	-2.05E-15	-6.26E-29	3.70E-15	-30.529041

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-12.078561	7.929845	-9.60E-16	-5.49E-29	1.48E-15	-12.249104
0.50000	-15.417129	10.627668	-1.29E-15	-5.49E-29	2.06E-15	-17.030748
1.00000	-19.169660	13.757442	-1.67E-15	-5.49E-29	2.82E-15	-23.319813

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-12.078561	7.929845	-9.60E-16	-5.49E-29	1.48E-15	-12.249104
0.50000	-15.417129	10.627668	-1.29E-15	-5.49E-29	2.06E-15	-17.030748
1.00000	-19.169660	13.757442	-1.67E-15	-5.49E-29	2.82E-15	-23.319813

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-20.027405	7.712961	-9.34E-16	-4.20E-29	1.79E-15	-14.811046
0.50000	-25.696590	10.133624	-1.23E-15	-4.20E-29	2.35E-15	-19.412078
1.00000	-32.094433	12.910042	-1.56E-15	-4.20E-29	3.07E-15	-25.357438

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-20.027405	7.712961	-9.34E-16	-4.20E-29	1.79E-15	-14.811046
0.50000	-25.696590	10.133624	-1.23E-15	-4.20E-29	2.35E-15	-19.412078
1.00000	-32.094433	12.910042	-1.56E-15	-4.20E-29	3.07E-15	-25.357438

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-12.733906	6.019458	-7.29E-16	-3.68E-29	1.28E-15	-10.545653
0.50000	-16.311111	7.979768	-9.66E-16	-3.68E-29	1.71E-15	-14.153887
1.00000	-20.342942	10.240243	-1.24E-15	-3.68E-29	2.28E-15	-18.853910

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-12.733906	6.019458	-7.29E-16	-3.68E-29	1.28E-15	-10.545653
0.50000	-16.311111	7.979768	-9.66E-16	-3.68E-29	1.71E-15	-14.153887
1.00000	-20.342942	10.240243	-1.24E-15	-3.68E-29	2.28E-15	-18.853910

ELEM 12 ========== LENGTH = 1.034680

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-33.485715	11.288780	-1.37E-15	-9.82E-29	3.70E-15	-30.529041
0.50000	-40.957206	14.318180	-1.73E-15	-9.82E-29	4.50E-15	-37.135992
1.00000	-49.219135	17.737362	-2.15E-15	-9.82E-29	5.50E-15	-45.410998

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-33.485715	11.288780	-1.37E-15	-9.82E-29	3.70E-15	-30.529041
0.50000	-40.957206	14.318180	-1.73E-15	-9.82E-29	4.50E-15	-37.135992
1.00000	-49.219135	17.737362	-2.15E-15	-9.82E-29	5.50E-15	-45.410998

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-21.267322	10.219790	-1.24E-15	-8.60E-29	2.82E-15	-23.319813
0.50000	-25.996755	13.009286	-1.58E-15	-8.60E-29	3.55E-15	-29.312779
1.00000	-31.224383	16.162996	-1.96E-15	-8.60E-29	4.46E-15	-36.843074

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-21.257322	10.219790	-1.24E-15	8.60E-29	2.82E-15	-23.319813
0.50000	-25.996755	13.009286	-1.56E-15	8.60E-29	3.55E-15	-29.312779
1.00000	-31.224383	16.162996	-1.95E-15	8.60E-29	4.46E-15	-36.843074

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-33.848608	7.140977	-8.65E-16	-6.63E-29	3.07E-15	-25.357438
0.50000	-41.423236	8.991542	-1.09E-15	-6.63E-29	3.58E-15	-29.520493
1.00000	-49.802220	11.072793	-1.34E-15	-6.63E-29	4.20E-15	-34.700592

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-33.848608	7.140977	-8.65E-16	-6.63E-29	3.07E-15	-25.357438
0.50000	-41.423236	8.991542	-1.09E-15	-6.63E-29	3.58E-15	-29.520493
1.00000	-49.802220	11.072793	-1.34E-15	-6.63E-29	4.20E-15	-34.700592

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-21.812046	6.552290	-7.94E-16	-5.78E-29	2.28E-15	-18.853910
0.50000	-26.683011	8.298295	-1.00E-15	-5.78E-29	2.75E-15	-22.685687
1.00000	-32.069858	10.267560	-1.24E-15	-5.78E-29	3.33E-15	-27.478494

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-21.812046	6.552290	-7.94E-16	-5.78E-29	2.28E-15	-18.853910
0.50000	-26.683011	8.298295	-1.00E-15	-5.78E-29	2.75E-15	-22.685687
1.00000	-32.069858	10.267560	-1.24E-15	-5.78E-29	3.33E-15	-27.478494

ELEM 13 ========== LENGTH = 1.200000

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-50.577776	13.380054	4.22E-29	-1.24E-28	-2.60E-28	-45.410998
0.50000	-52.464791	16.896264	4.22E-29	-1.24E-28	-2.86E-28	-54.472320
1.00000	-54.351805	20.843934	4.22E-29	-1.24E-28	-3.11E-28	-65.772806

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-50.577776	13.380054	4.22E-29	-1.24E-28	-2.60E-28	-45.410998
0.50000	-52.464791	16.896264	4.22E-29	-1.24E-28	-2.86E-28	-54.472320
1.00000	-54.351805	20.843934	4.22E-29	-1.24E-28	-3.11E-28	-65.772806

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-32.514285	13.380054	3.67E-29	-1.08E-28	-2.28E-28	36.843074
0.50000	-33.727365	16.896264	3.67E-29	-1.08E-28	-2.50E-28	45.904397
1.00000	-34.940446	20.843934	3.67E-29	-1.08E-28	-2.72E-28	57.204883

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-32.514285	13.380054	3.67E-29	-1.08E-28	-2.28E-28	-36.843074
0.50000	-33.727365	16.896264	3.67E-29	-1.08E-28	-2.50E-28	-45.904397
1.00000	-34.940446	20.843934	3.67E-29	-1.08E-28	-2.72E-28	-57.204883

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-50.577776	6.690027	2.87E-29	-8.31E-29	-1.75E-28	-34.700592
0.50000	-52.464791	8.448132	2.87E-29	-8.31E-29	-1.92E-28	-39.231253
1.00000	-54.351805	10.421967	2.87E-29	-8.31E-29	-2.09E-28	-44.881496

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-50.577776	6.690027	2.87E-29	-8.31E-29	-1.75E-28	-34.700592
0.50000	-52.464791	8.448132	2.87E-29	-8.31E-29	-1.92E-28	-39.231253
1.00000	-54.351805	10.421967	2.87E-29	-8.31E-29	-2.09E-28	-44.881496

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-32.842712	7.433363	2.48E-29	-7.27E-29	-1.53E-28	-27.478494
0.50000	-34.068046	9.386813	2.48E-29	-7.27E-29	-1.68E-28	-32.512562
1.00000	-35.293380	11.579963	2.48E-29	-7.27E-29	-1.83E-28	-38.790610

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-32.842712	7.433363	2.48E-29	-7.27E-29	-1.53E-28	-27.478494
0.50000	-34.068046	9.386813	2.48E-29	-7.27E-29	-1.68E-28	-32.512562
1.00000	-35.293380	11.579963	2.48E-29	-7.27E-29	-1.83E-28	-38.790610

ELEM 14 ========== LENGTH = 1.687847

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-54.351805	20.843934	4.23E-29	-1.01E-14	-3.10E-28	-65.772806
0.50000	-57.474346	27.127155	4.23E-29	-1.01E-14	-3.46E-28	-85.954678
1.00000	-60.596887	34.264849	4.23E-29	-1.01E-14	-3.82E-28	-111.799664

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-54.351805	20.843934	4.23E-29	-1.01E-14	-3.10E-28	-65.772806
0.50000	-57.474346	27.127155	4.23E-29	-1.01E-14	-3.46E-28	-85.954678
1.00000	-60.596887	34.264849	4.23E-29	-1.01E-14	-3.82E-28	-111.799664

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-34.940446	20.843934	3.68E-29	-9.54E-15	-2.72E-28	-57.204883
0.50000	-36.947794	27.127155	3.68E-29	-9.54E-15	-3.03E-28	-77.386755
1.00000	-38.955142	34.264849	3.68E-29	-9.54E-15	-3.34E-28	-103.231740

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-34.940446	20.843934	3.68E-29	-9.54E-15	-2.72E-28	-57.204883
0.50000	-36.947794	27.127155	3.68E-29	-9.54E-15	-3.03E-28	-77.386755
1.00000	-38.955142	34.264849	3.68E-29	-9.54E-15	-3.34E-28	-103.231740

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-54.351805	10.421967	2.88E-29	-5.85E-15	-2.09E-28	-44.881496
0.50000	-57.474346	13.563578	2.88E-29	-5.85E-15	-2.33E-28	-54.972432
1.00000	-60.596887	17.132425	2.88E-29	-5.85E-15	-2.57E-28	-67.894925

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-54.351805	10.421967	2.88E-29	-5.85E-15	-2.09E-28	-44.881496
0.50000	-57.474346	13.563578	2.88E-29	-5.85E-15	-2.33E-28	-54.972432
1.00000	-60.596887	17.132425	2.88E-29	-5.85E-15	-2.57E-28	-67.894925

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-35.293380	11.579963	2.49E-29	-5.77E-15	-1.82E-28	-38.790610
0.50000	-37.321004	15.070642	2.49E-29	-5.77E-15	-2.03E-28	-50.002761
1.00000	-39.348628	19.036027	2.49E-29	-5.77E-15	-2.25E-28	-64.361086

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-35.293380	11.579963	2.49E-29	-5.77E-15	-1.82E-28	-38.790610
0.50000	-37.321004	15.070642	2.49E-29	-5.77E-15	-2.03E-28	-50.002761
1.00000	-39.348628	19.036027	2.49E-29	-5.77E-15	-2.25E-28	-64.361086

F R A M E E L E M E N T I N T E R N A L F O R C E S

ELEM 15 ========== LENGTH = 1.075600

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-34.264847	84.991729	-1.03E-14	1.80E-28	-1.35E-14	111.761782
0.25000	-34.264847	85.986112	-1.04E-14	1.80E-28	-1.08E-14	88.786635
0.50000	-34.264847	86.980495	-1.05E-14	1.80E-28	-7.94E-15	65.544247
0.75000	-34.264847	87.974877	-1.07E-14	1.80E-28	-5.09E-15	42.034619
1.00000	-34.264847	88.969260	-1.08E-14	1.80E-28	-2.21E-15	18.257751

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-34.264847	84.991729	-1.03E-14	1.80E-28	-1.35E-14	111.761782
0.25000	-34.264847	85.986112	-1.04E-14	1.80E-28	-1.08E-14	88.786635
0.50000	-34.264847	86.980495	-1.05E-14	1.80E-28	-7.94E-15	65.544247
0.75000	-34.264847	87.974877	-1.07E-14	1.80E-28	-5.09E-15	42.034619
1.00000	-34.264847	88.969260	-1.08E-14	1.80E-28	-2.21E-15	18.257751

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-34.264847	77.898298	-9.43E-15	1.68E-28	-1.25E-14	103.207383
0.25000	-34.264847	78.537544	-9.51E-15	1.68E-28	-9.95E-15	82.186316
0.50000	-34.264847	79.176790	-9.59E-15	1.68E-28	-7.39E-15	60.993453
0.75000	-34.264847	79.816036	-9.67E-15	1.68E-28	-4.80E-15	39.628792
1.00000	-34.264847	80.455282	-9.74E-15	1.68E-28	-2.19E-15	18.092334

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-34.264847	77.898298	-9.43E-15	1.68E-28	-1.25E-14	103.207383
0.25000	-34.264847	78.537544	-9.51E-15	1.68E-28	-9.95E-15	82.186316
0.50000	-34.264847	79.176790	-9.59E-15	1.68E-28	-7.39E-15	60.993453
0.75000	-34.264847	79.816036	-9.67E-15	1.68E-28	-4.80E-15	39.628792
1.00000	-34.264847	80.455282	-9.74E-15	1.68E-28	-2.19E-15	18.092334

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-17.132423	52.426669	-6.35E-15	1.07E-28	-8.22E-15	67.857051
0.25000	-17.132423	53.421051	-6.47E-15	1.07E-28	-6.50E-15	53.633763
0.50000	-17.132423	54.415434	-6.59E-15	1.07E-28	-4.74E-15	39.143236
0.75000	-17.132423	55.409817	-6.71E-15	1.07E-28	-2.95E-15	24.385468
1.00000	-17.132423	56.404199	-6.83E-15	1.07E-28	-1.13E-15	9.360459

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-17.132423	52.426669	-6.35E-15	1.07E-28	-8.22E-15	67.857051
0.25000	-17.132423	53.421051	-6.47E-15	1.07E-28	-6.50E-15	53.633763
0.50000	-17.132423	54.415434	-6.59E-15	1.07E-28	-4.74E-15	39.143236

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
0.75000	-17.132423	55.409817	-6.71E-15	1.07E-28	2.95E-15	24.385468
1.00000	-17.132423	56.404199	-6.83E-15	1.07E-28	-1.13E-15	9.360459

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-19.036026	49.080549	-5.94E-15	1.03E-28	-7.79E-15	64.336489
0.25000	-19.036026	49.726252	-6.02E-15	1.03E-28	-6.18E-15	51.059325
0.50000	-19.036026	50.371955	-6.10E-15	1.03E-28	-4.55E-15	37.608629
0.75000	-19.036026	51.017658	-6.18E-15	1.03E-28	-2.90E-15	23.964400
1.00000	-19.036026	51.663361	-6.26E-15	1.03E-28	-1.23E-15	10.186638

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-19.036026	49.080549	-5.94E-15	1.03E-28	-7.79E-15	64.336489
0.25000	-19.036026	49.726252	-6.02E-15	1.03E-28	-6.18E-15	51.059325
0.50000	-19.036026	50.371955	-6.10E-15	1.03E-28	-4.55E-15	37.608629
0.75000	-19.036026	51.017658	-6.18E-15	1.03E-28	-2.90E-15	23.964400
1.00000	-19.036026	51.663361	-6.26E-15	1.03E-28	-1.23E-15	10.186638

ELEM 16 ========== LENGTH = 1.000000

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-34.264847	17.811381	-2.16E-15	1.80E-28	-2.21E-15	18.257751
0.25000	-34.264847	18.736388	-2.27E-15	1.80E-28	-1.66E-15	13.689279
0.50000	-34.264847	19.661395	-2.38E-15	1.80E-28	-1.08E-15	8.889557
0.75000	-34.264847	20.586402	-2.49E-15	1.80E-28	-4.67E-16	3.858582
1.00000	-34.264847	21.511409	-2.61E-15	1.80E-28	1.70E-16	-1.403645

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-34.264847	17.811381	-2.16E-15	1.80E-28	-2.21E-15	18.257751
0.25000	-34.264847	18.736388	-2.27E-15	1.80E-28	-1.66E-15	13.689279
0.50000	-34.264847	19.661395	-2.38E-15	1.80E-28	-1.08E-15	8.889557
0.75000	-34.264847	20.586402	-2.49E-15	1.80E-28	-4.67E-16	3.858582
1.00000	-34.264847	21.511409	-2.61E-15	1.80E-28	1.70E-16	-1.403645

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-34.264847	17.850846	-2.16E-15	1.68E-28	-2.19E-15	18.092334
0.25000	-34.264847	18.445493	-2.23E-15	1.68E-28	-1.64E-15	13.555291
0.50000	-34.264847	19.040141	-2.31E-15	1.68E-28	-1.07E-15	8.869587
0.75000	-34.264847	19.634788	-2.38E-15	1.68E-28	-4.89E-16	4.035221
1.00000	-34.264847	20.229435	-2.45E-15	1.68E-28	1.15E-16	-0.947807

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-34.264847	17.850846	-2.16E-15	1.68E-28	-2.19E-15	18.092334
0.25000	-34.264847	18.445493	-2.23E-15	1.68E-28	-1.64E-15	13.555291
0.50000	-34.264847	19.040141	-2.31E-15	1.68E-28	-1.07E-15	8.869587
0.75000	-34.264847	19.634788	-2.38E-15	1.68E-28	-4.89E-16	4.035221
1.00000	-34.264847	20.229435	-2.45E-15	1.68E-28	1.15E-16	-0.947807

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-17.132423	8.850440	-1.07E-15	1.07E-28	-1.13E-15	9.360459
0.25000	-17.132423	9.775447	-1.18E-15	1.07E-28	-8.52E-16	7.032223
0.50000	-17.132423	10.700454	-1.30E-15	1.07E-28	-5.42E-16	4.472736
0.75000	-17.132423	11.625461	-1.41E-15	1.07E-28	-2.04E-16	1.681996
1.00000	-17.132423	12.550468	-1.52E-15	1.07E-28	1.62E-16	-1.339995

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-17.132423	8.850440	-1.07E-15	1.07E-28	-1.13E-15	9.360459
0.25000	-17.132423	9.775447	-1.18E-15	1.07E-28	-8.52E-16	7.032223
0.50000	-17.132423	10.700454	-1.30E-15	1.07E-28	-5.42E-16	4.472736
0.75000	-17.132423	11.625461	-1.41E-15	1.07E-28	-2.04E-16	1.681996
1.00000	-17.132423	12.550468	-1.52E-15	1.07E-28	1.62E-16	-1.339995

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-19.036026	9.884847	-1.20E-15	1.03E-28	-1.23E-15	10.186638
0.25000	-19.036026	10.485501	-1.27E-15	1.03E-28	-9.25E-16	7.640344
0.50000	-19.036026	11.086155	-1.34E-15	1.03E-28	-5.99E-16	4.943887
0.75000	-19.036026	11.686809	-1.42E-15	1.03E-28	-2.54E-16	2.097267
1.00000	-19.036026	12.287463	-1.49E-15	1.03E-28	1.09E-16	-0.899517

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-19.036026	9.884847	-1.20E-15	1.03E-28	-1.23E-15	10.186638
0.25000	-19.036026	10.485501	-1.27E-15	1.03E-28	-9.25E-16	7.640344
0.50000	-19.036026	11.086155	-1.34E-15	1.03E-28	-5.99E-16	4.943887
0.75000	-19.036026	11.686809	-1.42E-15	1.03E-28	-2.54E-16	2.097267
1.00000	-19.036026	12.287463	-1.49E-15	1.03E-28	1.09E-16	-0.899517

ELEM 17 ========== LENGTH = 1.000000

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-34.264847	-1.553763	1.88E-16	1.80E-28	1.70E-16	-1.403645
0.25000	-34.264847	-0.841507	1.02E-16	1.80E-28	1.34E-16	-1.104236
0.50000	-34.264847	-0.129252	1.57E-17	1.80E-28	1.19E-16	-0.982891

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
0.75000	-34.264847	0.583004	-7.06E-17	1.80E-28	1.26E-16	-1.039610
1.00000	-34.264847	1.295259	-1.57E-16	1.80E-28	1.54E-16	-1.274393

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-34.264847	-1.553763	1.88E-16	1.80E-28	1.70E-16	-1.403645
0.25000	-34.264847	-0.841507	1.02E-16	1.80E-28	1.34E-16	-1.104236
0.50000	-34.264847	-0.129252	1.57E-17	1.80E-28	1.19E-16	-0.982891
0.75000	-34.264847	0.583004	-7.06E-17	1.80E-28	1.26E-16	-1.039610
1.00000	-34.264847	1.295259	-1.57E-16	1.80E-28	1.54E-16	-1.274393

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-34.264847	-0.749586	9.08E-17	1.68E-28	1.15E-16	-0.947807
0.25000	-34.264847	-0.291707	3.53E-17	1.68E-28	9.90E-17	-0.817645
0.50000	-34.264847	0.166171	-2.01E-17	1.68E-28	9.71E-17	-0.801953
0.75000	-34.264847	0.624050	-7.56E-17	1.68E-28	1.09E-16	-0.900731
1.00000	-34.264847	1.081928	-1.31E-16	1.68E-28	1.35E-16	-1.113978

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-34.264847	-0.749586	9.08E-17	1.68E-28	1.15E-16	-0.947807
0.25000	-34.264847	-0.291707	3.53E-17	1.68E-28	9.90E-17	-0.817645
0.50000	-34.264847	0.166171	-2.01E-17	1.68E-28	9.71E-17	-0.801953
0.75000	-34.264847	0.624050	-7.56E-17	1.68E-28	1.09E-16	-0.900731
1.00000	-34.264847	1.081928	-1.31E-16	1.68E-28	1.35E-16	-1.113978

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-17.132423	-1.902729	2.30E-16	1.07E-28	1.62E-16	-1.339995
0.25000	-17.132423	-1.190474	1.44E-16	1.07E-28	1.15E-16	-0.953345
0.50000	-17.132423	-0.478218	5.79E-17	1.07E-28	9.02E-17	-0.744758
0.75000	-17.132423	0.234037	-2.83E-17	1.07E-28	8.65E-17	-0.714236
1.00000	-17.132423	0.946293	-1.15E-16	1.07E-28	1.04E-16	-0.861777

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-17.132423	-1.902729	2.30E-16	1.07E-28	1.62E-16	-1.339995
0.25000	-17.132423	-1.190474	1.44E-16	1.07E-28	1.15E-16	-0.953345
0.50000	-17.132423	-0.478218	5.79E-17	1.07E-28	9.02E-17	-0.744758
0.75000	-17.132423	0.234037	-2.83E-17	1.07E-28	8.65E-17	-0.714236
1.00000	-17.132423	0.946293	-1.15E-16	1.07E-28	1.04E-16	-0.861777

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-19.036026	-1.074400	1.30E-16	1.03E-28	1.09E-16	-0.899517

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
0.25000	-19.036026	-0.611896	7.41E-17	1.03E-28	8.34E-17	-0.688731
0.50000	-19.036026	-0.149392	1.81E-17	1.03E-28	7.19E-17	-0.593570
0.75000	-19.036026	0.313111	-3.79E-17	1.03E-28	7.44E-17	-0.614034
1.00000	-19.036026	0.775615	-9.39E-17	1.03E-28	9.08E-17	-0.750125

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-19.036026	-1.074400	1.30E-16	1.03E-28	1.09E-16	-0.899517
0.25000	-19.036026	-0.611896	7.41E-17	1.03E-28	8.34E-17	-0.688731
0.50000	-19.036026	-0.149392	1.81E-17	1.03E-28	7.19E-17	-0.593570
0.75000	-19.036026	0.313111	-3.79E-17	1.03E-28	7.44E-17	-0.614034
1.00000	-19.036026	0.775615	-9.39E-17	1.03E-28	9.08E-17	-0.750125

ELEM 18 ========== LENGTH = 1.000000

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-34.264847	-2.353819	2.85E-16	1.80E-28	1.54E-16	-1.274393
0.25000	-34.264847	-1.641564	1.99E-16	1.80E-28	9.39E-17	-0.774970
0.50000	-34.264847	-0.929308	1.13E-16	1.80E-28	5.49E-17	-0.453611
0.75000	-34.264847	-0.217053	2.63E-17	1.80E-28	3.76E-17	-0.310316
1.00000	-34.264847	0.495203	-6.00E-17	1.80E-28	4.18E-17	-0.345085

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-34.264847	-2.353819	2.85E-16	1.80E-28	1.54E-16	-1.274393
0.25000	-34.264847	-1.641564	1.99E-16	1.80E-28	9.39E-17	-0.774970
0.50000	-34.264847	-0.929308	1.13E-16	1.80E-28	5.49E-17	-0.453611
0.75000	-34.264847	-0.217053	2.63E-17	1.80E-28	3.76E-17	-0.310316
1.00000	-34.264847	0.495203	-6.00E-17	1.80E-28	4.18E-17	-0.345085

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-34.264847	-1.764348	2.14E-16	1.68E-28	1.35E-16	-1.113978
0.25000	-34.264847	-1.306470	1.58E-16	1.68E-28	8.84E-17	-0.730126
0.50000	-34.264847	-0.848591	1.03E-16	1.68E-28	5.58E-17	-0.460743
0.75000	-34.264847	-0.390713	4.73E-17	1.68E-28	3.70E-17	-0.305831
1.00000	-34.264847	0.067166	-8.13E-18	1.68E-28	3.21E-17	-0.265387

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-34.264847	-1.764348	2.14E-16	1.68E-28	1.35E-16	-1.113978
0.25000	-34.264847	-1.306470	1.58E-16	1.68E-28	8.84E-17	-0.730126
0.50000	-34.264847	-0.848591	1.03E-16	1.68E-28	5.58E-17	-0.460743
0.75000	-34.264847	-0.390713	4.73E-17	1.68E-28	3.70E-17	-0.305831
1.00000	-34.264847	0.067166	-8.13E-18	1.68E-28	3.21E-17	-0.265387

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB3 -------- -------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-17.132423	-2.002169	2.42E-16	1.07E-28	1.04E-16	-0.861777
0.25000	-17.132423	-1.289914	1.56E-16	1.07E-28	5.45E-17	-0.450266
0.50000	-17.132423	-0.577658	7.00E-17	1.07E-28	2.63E-17	-0.216820
0.75000	-17.132423	0.134597	-1.63E-17	1.07E-28	1.96E-17	-0.161437
1.00000	-17.132423	0.846853	-1.03E-16	1.07E-28	3.44E-17	-0.284119

COMB COMB3 ---------- ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-17.132423	-2.002169	2.42E-16	1.07E-28	1.04E-16	-0.861777
0.25000	-17.132423	-1.289914	1.56E-16	1.07E-28	5.45E-17	-0.450266
0.50000	-17.132423	-0.577658	7.00E-17	1.07E-28	2.63E-17	-0.216820
0.75000	-17.132423	0.134597	-1.63E-17	1.07E-28	1.96E-17	-0.161437
1.00000	-17.132423	0.846853	-1.03E-16	1.07E-28	3.44E-17	-0.284119

COMB COMB4 ---------- ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-19.036026	-1.462488	1.77E-16	1.03E-28	9.08E-17	-0.750125
0.25000	-19.036026	-0.999984	1.21E-16	1.03E-28	5.36E-17	-0.442316
0.50000	-19.036026	-0.537481	6.51E-17	1.03E-28	3.03E-17	-0.250133
0.75000	-19.036026	-0.074977	9.08E-18	1.03E-28	2.10E-17	-0.173576
1.00000	-19.036026	0.387526	-4.69E-17	1.03E-28	2.58E-17	-0.212644

COMB COMB4 ---------- ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-19.036026	-1.462488	1.77E-16	1.03E-28	9.08E-17	-0.750125
0.25000	-19.036026	-0.999984	1.21E-16	1.03E-28	5.36E-17	-0.442316
0.50000	-19.036026	-0.537481	6.51E-17	1.03E-28	3.03E-17	-0.250133
0.75000	-19.036026	-0.074977	9.08E-18	1.03E-28	2.10E-17	-0.173576
1.00000	-19.036026	0.387526	-4.69E-17	1.03E-28	2.58E-17	-0.212644

ELEM 19 ========== LENGTH = 1.000000

COMB COMB1 ---------- ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-34.264847	-1.562466	1.89E-16	1.80E-28	4.18E-17	-0.345085
0.25000	-34.264847	-0.850211	1.03E-16	1.80E-28	5.27E-18	-0.043500
0.50000	-34.264847	-0.137955	1.67E-17	1.80E-28	-9.69E-18	0.080021
0.75000	-34.264847	0.574300	-6.96E-17	1.80E-28	-3.09E-18	0.025478
1.00000	-34.264847	1.286556	-1.56E-16	1.80E-28	2.51E-17	-0.207129

COMB COMB1 ---------- ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-34.264847	-1.562466	1.89E-16	1.80E-28	4.18E-17	-0.345085
0.25000	-34.264847	-0.850211	1.03E-16	1.80E-28	5.27E-18	-0.043500
0.50000	-34.264847	-0.137955	1.67E-17	1.80E-28	-9.69E-18	0.080021

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
0.75000	-34.264847	0.574300	-6.96E-17	1.80E-28	-3.09E-18	0.025478
1.00000	-34.264847	1.286556	-1.56E-16	1.80E-28	2.51E-17	-0.207129

COMB COMB2 ---------- ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-34.264847	-1.054594	1.28E-16	1.68E-28	3.21E-17	-0.265387
0.25000	-34.264847	-0.596715	7.23E-17	1.68E-28	7.14E-18	-0.058974
0.50000	-34.264847	-0.138837	1.68E-17	1.68E-28	-3.99E-18	0.032971
0.75000	-34.264847	0.319042	-3.86E-17	1.68E-28	-1.26E-18	0.010445
1.00000	-34.264847	0.776920	-9.41E-17	1.68E-28	1.53E-17	-0.126550

COMB COMB2 ---------- ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-34.264847	-1.054594	1.28E-16	1.68E-28	3.21E-17	-0.265387
0.25000	-34.264847	-0.596715	7.23E-17	1.68E-28	7.14E-18	-0.058974
0.50000	-34.264847	-0.138837	1.68E-17	1.68E-28	-3.99E-18	0.032971
0.75000	-34.264847	0.319042	-3.86E-17	1.68E-28	-1.26E-18	0.010445
1.00000	-34.264847	0.776920	-9.41E-17	1.68E-28	1.53E-17	-0.126550

COMB COMB3 ---------- ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-17.132423	-1.492254	1.81E-16	1.07E-28	3.44E-17	-0.284119
0.25000	-17.132423	-0.779999	9.45E-17	1.07E-28	1.05E-20	-8.69E-05
0.50000	-17.132423	-0.067743	8.20E-18	1.07E-28	-1.28E-17	0.105881
0.75000	-17.132423	0.644512	-7.81E-17	1.07E-28	-4.09E-18	0.033785
1.00000	-17.132423	1.356768	-1.64E-16	1.07E-28	2.62E-17	-0.216375

COMB COMB3 ---------- ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-17.132423	-1.492254	1.81E-16	1.07E-28	3.44E-17	-0.284119
0.25000	-17.132423	-0.779999	9.45E-17	1.07E-28	1.05E-20	-8.69E-05
0.50000	-17.132423	-0.067743	8.20E-18	1.07E-28	-1.28E-17	0.105881
0.75000	-17.132423	0.644512	-7.81E-17	1.07E-28	-4.09E-18	0.033785
1.00000	-17.132423	1.356768	-1.64E-16	1.07E-28	2.62E-17	-0.216375

COMB COMB4 ---------- ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-19.036026	-1.001417	1.21E-16	1.03E-28	2.58E-17	-0.212644
0.25000	-19.036026	-0.538914	6.53E-17	1.03E-28	2.43E-18	-0.020103
0.50000	-19.036026	-0.076410	9.25E-18	1.03E-28	-6.88E-18	0.056813
0.75000	-19.036026	0.386093	-4.68E-17	1.03E-28	-2.19E-18	0.018102
1.00000	-19.036026	0.848597	-1.03E-16	1.03E-28	1.65E-17	-0.136234

COMB COMB4 ---------- ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-19.036026	-1.001417	1.21E-16	1.03E-28	2.58E-17	-0.212644

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
0.25000	-19.036026	-0.538914	6.53E-17	1.03E-28	2.43E-18	-0.020103
0.50000	-19.036026	-0.076410	9.25E-18	1.03E-28	-6.88E-18	0.056813
0.75000	-19.036026	0.386093	-4.68E-17	1.03E-28	-2.19E-18	0.018102
1.00000	-19.036026	0.848597	-1.03E-16	1.03E-28	1.65E-17	-0.136234

ELEM 20 ========== LENGTH = 1.000000

COMB COMB1 ---------- ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-34.264847	-1.403712	1.70E-16	1.80E-28	2.51E-17	-0.207129
0.25000	-34.264847	-0.691457	8.37E-17	1.80E-28	-6.63E-18	0.054767
0.50000	-34.264847	0.020799	-2.52E-18	1.80E-28	-1.68E-17	0.138599
0.75000	-34.264847	0.733054	-8.88E-17	1.80E-28	-5.37E-18	0.044368
1.00000	-34.264847	1.445310	-1.75E-16	1.80E-28	2.76E-17	-0.227928

COMB COMB1 ---------- ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-34.264847	-1.403712	1.70E-16	1.80E-28	2.51E-17	-0.207129
0.25000	-34.264847	-0.691457	8.37E-17	1.80E-28	-6.63E-18	0.054767
0.50000	-34.264847	0.020799	-2.52E-18	1.80E-28	-1.68E-17	0.138599
0.75000	-34.264847	0.733054	-8.88E-17	1.80E-28	-5.37E-18	0.044368
1.00000	-34.264847	1.445310	-1.75E-16	1.80E-28	2.76E-17	-0.227928

COMB COMB2 ---------- ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-34.264847	-0.898751	1.09E-16	1.68E-28	1.53E-17	-0.126550
0.25000	-34.264847	-0.440872	5.34E-17	1.68E-28	-4.95E-18	0.040903
0.50000	-34.264847	0.017006	-2.06E-18	1.68E-28	-1.14E-17	0.093886
0.75000	-34.264847	0.474885	-5.75E-17	1.68E-28	-3.92E-18	0.032400
1.00000	-34.264847	0.932763	-1.13E-16	1.68E-28	1.74E-17	-0.143556

COMB COMB2 ---------- ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-34.264847	-0.898751	1.09E-16	1.68E-28	1.53E-17	-0.126550
0.25000	-34.264847	-0.440872	5.34E-17	1.68E-28	-4.95E-18	0.040903
0.50000	-34.264847	0.017006	-2.06E-18	1.68E-28	-1.14E-17	0.093886
0.75000	-34.264847	0.474885	-5.75E-17	1.68E-28	-3.92E-18	0.032400
1.00000	-34.264847	0.932763	-1.13E-16	1.68E-28	1.74E-17	-0.143556

COMB COMB3 ---------- ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-17.132423	-1.408802	1.71E-16	1.07E-28	2.62E-17	-0.216375
0.25000	-17.132423	-0.696547	8.44E-17	1.07E-28	-5.67E-18	0.046793
0.50000	-17.132423	0.015709	-1.90E-18	1.07E-28	-1.60E-17	0.131898
0.75000	-17.132423	0.727964	-8.82E-17	1.07E-28	-4.72E-18	0.038939
1.00000	-17.132423	1.440220	-1.74E-16	1.07E-28	2.81E-17	-0.232084

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB3 ---------- ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-17.132423	-1.408802	1.71E-16	1.07E-28	2.62E-17	-0.216375
0.25000	-17.132423	-0.696547	8.44E-17	1.07E-28	-5.67E-18	0.046793
0.50000	-17.132423	0.015709	-1.90E-18	1.07E-28	-1.60E-17	0.131898
0.75000	-17.132423	0.727964	-8.82E-17	1.07E-28	-4.72E-18	0.038939
1.00000	-17.132423	1.440220	-1.74E-16	1.07E-28	2.81E-17	-0.232084

COMB COMB4 ---------- ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-19.036026	-0.912456	1.11E-16	1.03E-28	1.65E-17	-0.136234
0.25000	-19.036026	-0.449953	5.45E-17	1.03E-28	-4.13E-18	0.034067
0.50000	-19.036026	0.012551	-1.52E-18	1.03E-28	-1.07E-17	0.088742
0.75000	-19.036026	0.475054	-5.75E-17	1.03E-28	-3.37E-18	0.027792
1.00000	-19.036026	0.937558	-1.14E-16	1.03E-28	1.80E-17	-0.148785

COMB COMB4 ---------- ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-19.036026	-0.912456	1.11E-16	1.03E-28	1.65E-17	-0.136234
0.25000	-19.036026	-0.449953	5.45E-17	1.03E-28	-4.13E-18	0.034067
0.50000	-19.036026	0.012551	-1.52E-18	1.03E-28	-1.07E-17	0.088742
0.75000	-19.036026	0.475054	-5.75E-17	1.03E-28	-3.37E-18	0.027792
1.00000	-19.036026	0.937558	-1.14E-16	1.03E-28	1.80E-17	-0.148785

ELEM 21 ========== LENGTH = 1.000000

COMB COMB1 ---------- ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-34.264847	-1.414713	1.71E-16	1.80E-28	2.76E-17	-0.227928
0.25000	-34.264847	-0.702457	8.51E-17	1.80E-28	-4.45E-18	0.036718
0.50000	-34.264847	0.009798	-1.19E-18	1.80E-28	-1.49E-17	0.123301
0.75000	-34.264847	0.722054	-8.74E-17	1.80E-28	-3.85E-18	0.031819
1.00000	-34.264847	1.434309	-1.74E-16	1.80E-28	2.88E-17	-0.237726

COMB COMB1 ---------- ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-34.264847	-1.414713	1.71E-16	1.80E-28	2.76E-17	-0.227928
0.25000	-34.264847	-0.702457	8.51E-17	1.80E-28	-4.45E-18	0.036718
0.50000	-34.264847	0.009798	-1.19E-18	1.80E-28	-1.49E-17	0.123301
0.75000	-34.264847	0.722054	-8.74E-17	1.80E-28	-3.85E-18	0.031819
1.00000	-34.264847	1.434309	-1.74E-16	1.80E-28	2.88E-17	-0.237726

COMB COMB2 ---------- ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-34.264847	-0.906544	1.10E-16	1.68E-28	1.74E-17	-0.143556
0.25000	-34.264847	-0.448665	5.43E-17	1.68E-28	-3.13E-18	0.025845
0.50000	-34.264847	0.009213	-1.12E-18	1.68E-28	-9.78E-18	0.080776

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
0.75000	-34.264847	0.467092	-5.66E-17	1.68E-28	-2.57E-18	0.021238
1.00000	-34.264847	0.924970	-1.12E-16	1.68E-28	1.85E-17	-0.152770

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-34.264847	-0.906544	1.10E-16	1.68E-28	1.74E-17	-0.143556
0.25000	-34.264847	-0.448665	5.43E-17	1.68E-28	-3.13E-18	0.025845
0.50000	-34.264847	0.009213	-1.12E-18	1.68E-28	-9.78E-18	0.080776
0.75000	-34.264847	0.467092	-5.66E-17	1.68E-28	-2.57E-18	0.021238
1.00000	-34.264847	0.924970	-1.12E-16	1.68E-28	1.85E-17	-0.152770

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-17.132423	-1.418793	1.72E-16	1.07E-28	2.81E-17	-0.232084
0.25000	-17.132423	-0.706538	8.56E-17	1.07E-28	-4.07E-18	0.033582
0.50000	-17.132423	0.005718	-6.92E-19	1.07E-28	-1.47E-17	0.121185
0.75000	-17.132423	0.717973	-8.70E-17	1.07E-28	-3.72E-18	0.030723
1.00000	-17.132423	1.430229	-1.73E-16	1.07E-28	2.88E-17	-0.237802

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-17.132423	-1.418793	1.72E-16	1.07E-28	2.81E-17	-0.232084
0.25000	-17.132423	-0.706538	8.56E-17	1.07E-28	-4.07E-18	0.033582
0.50000	-17.132423	0.005718	-6.92E-19	1.07E-28	-1.47E-17	0.121185
0.75000	-17.132423	0.717973	-8.70E-17	1.07E-28	-3.72E-18	0.030723
1.00000	-17.132423	1.430229	-1.73E-16	1.07E-28	2.88E-17	-0.237802

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-19.036026	-0.919410	1.11E-16	1.03E-28	1.80E-17	-0.148785
0.25000	-19.036026	-0.456907	5.53E-17	1.03E-28	-2.82E-18	0.023255
0.50000	-19.036026	0.005597	-6.78E-19	1.03E-28	-9.65E-18	0.079668
0.75000	-19.036026	0.468101	-5.67E-17	1.03E-28	-2.48E-18	0.020456
1.00000	-19.036026	0.930604	-1.13E-16	1.03E-28	1.87E-17	-0.154382

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-19.036026	-0.919410	1.11E-16	1.03E-28	1.80E-17	-0.148785
0.25000	-19.036026	-0.456907	5.53E-17	1.03E-28	-2.82E-18	0.023255
0.50000	-19.036026	0.005597	-6.78E-19	1.03E-28	-9.65E-18	0.079668
0.75000	-19.036026	0.468101	-5.67E-17	1.03E-28	-2.48E-18	0.020456
1.00000	-19.036026	0.930604	-1.13E-16	1.03E-28	1.87E-17	-0.154382

F R A M E E L E M E N T I N T E R N A L F O R C E S

ELEM 22 ========== LENGTH = 1.000000

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-34.264847	-1.424511	1.73E-16	1.80E-28	2.88E-17	-0.237726
0.25000	-34.264847	-0.712256	8.63E-17	1.80E-28	3.56E-18	0.029370
0.50000	-34.264847	-3.31E-07	4.01E-23	1.80E-28	-1.43E-17	0.118402
0.75000	-34.264847	0.712255	-8.63E-17	1.80E-28	-3.56E-18	0.029370
1.00000	-34.264847	1.424511	-1.73E-16	1.80E-28	2.88E-17	-0.237726

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-34.264847	-1.424511	1.73E-16	1.80E-28	2.88E-17	-0.237726
0.25000	-34.264847	-0.712256	8.63E-17	1.80E-28	-3.56E-18	0.029370
0.50000	-34.264847	-3.31E-07	4.01E-23	1.80E-28	-1.43E-17	0.118402
0.75000	-34.264847	0.712255	-8.63E-17	1.80E-28	-3.56E-18	0.029370
1.00000	-34.264847	1.424511	-1.73E-16	1.80E-28	2.88E-17	-0.237726

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-34.264847	-0.915757	1.11E-16	1.68E-28	1.85E-17	-0.152770
0.25000	-34.264847	-0.457879	5.55E-17	1.68E-28	-2.29E-18	0.018935
0.50000	-34.264847	-2.13E-07	2.58E-23	1.68E-28	-9.22E-18	0.076170
0.75000	-34.264847	0.457878	-5.55E-17	1.68E-28	-2.29E-18	0.018935
1.00000	-34.264847	0.915757	-1.11E-16	1.68E-28	1.85E-17	-0.152770

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-34.264847	-0.915757	1.11E-16	1.68E-28	1.85E-17	-0.152770
0.25000	-34.264847	-0.457879	5.55E-17	1.68E-28	-2.29E-18	0.018935
0.50000	-34.264847	-2.13E-07	2.58E-23	1.68E-28	-9.22E-18	0.076170
0.75000	-34.264847	0.457878	-5.55E-17	1.68E-28	-2.29E-18	0.018935
1.00000	-34.264847	0.915757	-1.11E-16	1.68E-28	1.85E-17	-0.152770

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-17.132423	-1.424511	1.73E-16	1.07E-28	2.88E-17	-0.237802
0.25000	-17.132423	-0.712256	8.63E-17	1.07E-28	-3.55E-18	0.029294
0.50000	-17.132423	-3.31E-07	4.01E-23	1.07E-28	-1.43E-17	0.118326
0.75000	-17.132423	0.712255	-8.63E-17	1.07E-28	-3.55E-18	0.029294
1.00000	-17.132423	1.424511	-1.73E-16	1.07E-28	2.88E-17	-0.237802

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-17.132423	-1.424511	1.73E-16	1.07E-28	2.88E-17	-0.237802
0.25000	-17.132423	-0.712256	8.63E-17	1.07E-28	-3.55E-18	0.029294
0.50000	-17.132423	-3.31E-07	4.01E-23	1.07E-28	-1.43E-17	0.118326

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
0.75000	-17.132423	0.712255	-8.63E-17	1.07E-28	-3.55E-18	0.029294
1.00000	-17.132423	1.424511	-1.73E-16	1.07E-28	2.88E-17	-0.237802

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-19.036026	-0.925007	1.12E-16	1.03E-28	1.87E-17	-0.154382
0.25000	-19.036026	-0.462504	5.60E-17	1.03E-28	-2.31E-18	0.019057
0.50000	-19.036026	-2.15E-07	2.61E-23	1.03E-28	-9.31E-18	0.076870
0.75000	-19.036026	0.462503	-5.60E-17	1.03E-28	-2.31E-18	0.019057
1.00000	-19.036026	0.925007	-1.12E-16	1.03E-28	1.87E-17	-0.154382

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-19.036026	-0.925007	1.12E-16	1.03E-28	1.87E-17	-0.154382
0.25000	-19.036026	-0.462504	5.60E-17	1.03E-28	-2.31E-18	0.019057
0.50000	-19.036026	-2.15E-07	2.61E-23	1.03E-28	-9.31E-18	0.076870
0.75000	-19.036026	0.462503	-5.60E-17	1.03E-28	-2.31E-18	0.019057
1.00000	-19.036026	0.925007	-1.12E-16	1.03E-28	1.87E-17	-0.154382

ELEM 23 ========== LENGTH = 1.000000

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-34.264847	-1.434312	1.74E-16	1.80E-28	2.88E-17	-0.237726
0.25000	-34.264847	-0.722057	8.74E-17	1.80E-28	-3.85E-18	0.031820
0.50000	-34.264847	-0.009801	1.19E-18	1.80E-28	-1.49E-17	0.123303
0.75000	-34.264847	0.702454	-8.51E-17	1.80E-28	-4.45E-18	0.036721
1.00000	-34.264847	1.414710	-1.71E-16	1.80E-28	2.76E-17	-0.227924

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-34.264847	-1.434312	1.74E-16	1.80E-28	2.88E-17	-0.237726
0.25000	-34.264847	-0.722057	8.74E-17	1.80E-28	-3.85E-18	0.031820
0.50000	-34.264847	-0.009801	1.19E-18	1.80E-28	-1.49E-17	0.123303
0.75000	-34.264847	0.702454	-8.51E-17	1.80E-28	-4.45E-18	0.036721
1.00000	-34.264847	1.414710	-1.71E-16	1.80E-28	2.76E-17	-0.227924

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-34.264847	-0.924972	1.12E-16	1.68E-28	1.85E-17	-0.152770
0.25000	-34.264847	-0.467094	5.66E-17	1.68E-28	-2.57E-18	0.021239
0.50000	-34.264847	-0.009215	1.12E-18	1.68E-28	-9.78E-18	0.080777
0.75000	-34.264847	0.448663	-5.43E-17	1.68E-28	-3.13E-18	0.025846
1.00000	-34.264847	0.906542	-1.10E-16	1.68E-28	1.74E-17	-0.143554

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-34.264847	-0.924972	1.12E-16	1.68E-28	1.85E-17	-0.152770
0.25000	-34.264847	-0.467094	5.66E-17	1.68E-28	-2.57E-18	0.021239
0.50000	-34.264847	-0.009215	1.12E-18	1.68E-28	-9.78E-18	0.080777
0.75000	-34.264847	0.448663	-5.43E-17	1.68E-28	-3.13E-18	0.025846
1.00000	-34.264847	0.906542	-1.10E-16	1.68E-28	1.74E-17	-0.143554

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-17.132423	-1.430232	1.73E-16	1.07E-28	2.88E-17	-0.237802
0.25000	-17.132423	-0.717977	8.70E-17	1.07E-28	-3.72E-18	0.030725
0.50000	-17.132423	-0.005721	6.93E-19	1.07E-28	-1.47E-17	0.121187
0.75000	-17.132423	0.706534	-8.56E-17	1.07E-28	-4.07E-18	0.033585
1.00000	-17.132423	1.418790	-1.72E-16	1.07E-28	2.81E-17	-0.232080

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-17.132423	-1.430232	1.73E-16	1.07E-28	2.88E-17	-0.237802
0.25000	-17.132423	-0.717977	8.70E-17	1.07E-28	-3.72E-18	0.030725
0.50000	-17.132423	-0.005721	6.93E-19	1.07E-28	-1.47E-17	0.121187
0.75000	-17.132423	0.706534	-8.56E-17	1.07E-28	-4.07E-18	0.033585
1.00000	-17.132423	1.418790	-1.72E-16	1.07E-28	2.81E-17	-0.232080

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-19.036026	-0.930606	1.13E-16	1.03E-28	1.87E-17	-0.154382
0.25000	-19.036026	-0.468103	5.67E-17	1.03E-28	-2.48E-18	0.020457
0.50000	-19.036026	-0.005599	6.78E-19	1.03E-28	-9.65E-18	0.079670
0.75000	-19.036026	0.456904	-5.53E-17	1.03E-28	-2.82E-18	0.023257
1.00000	-19.036026	0.919408	-1.11E-16	1.03E-28	1.80E-17	-0.148782

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-19.036026	-0.930606	1.13E-16	1.03E-28	1.87E-17	-0.154382
0.25000	-19.036026	-0.468103	5.67E-17	1.03E-28	-2.48E-18	0.020457
0.50000	-19.036026	-0.005599	6.78E-19	1.03E-28	-9.65E-18	0.079670
0.75000	-19.036026	0.456904	-5.53E-17	1.03E-28	-2.82E-18	0.023257
1.00000	-19.036026	0.919408	-1.11E-16	1.03E-28	1.80E-17	-0.148782

ELEM 24 ========== LENGTH = 1.000000

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-34.264847	-1.445314	1.75E-16	1.80E-28	2.76E-17	-0.227924
0.25000	-34.264847	-0.733059	8.88E-17	1.80E-28	-5.37E-18	0.044372
0.50000	-34.264847	-0.020803	2.52E-18	1.80E-28	-1.68E-17	0.138805

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
0.75000	-34.264847	0.691452	-8.37E-17	1.80E-28	-5.63E-18	1.554774
1.00000	-34.264847	1.403708	-1.70E-16	1.80E-28	2.51E-17	-1.257121

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-34.264847	-1.445314	1.75E-16	1.80E-28	2.76E-17	-1.227924
0.25000	-34.264847	-0.733059	8.88E-17	1.80E-28	5.37E-18	-1.144372
0.50000	-34.264847	-0.020803	2.52E-18	1.80E-28	1.68E-17	-1.138695
0.75000	-34.264847	0.691452	-8.37E-17	1.80E-28	-5.63E-18	1.554774
1.00000	-34.264847	1.403708	-1.70E-16	1.80E-28	2.51E-17	-1.257121

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-34.264847	-0.932766	1.13E-16	1.68E-28	1.74E-17	-1.143554
0.25000	-34.264847	-0.474887	5.75E-17	1.68E-28	-3.92E-18	-1.132403
0.50000	-34.264847	-0.017009	2.06E-18	1.68E-28	-1.14E-17	-1.139890
0.75000	-34.264847	0.440870	-5.34E-17	1.68E-28	-4.95E-18	-1.140907
1.00000	-34.264847	0.898748	-1.09E-16	1.68E-28	1.53E-17	-1.126545

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-34.264847	-0.932766	1.13E-16	1.68E-28	1.74E-17	-1.143554
0.25000	-34.264847	-0.474887	5.75E-17	1.68E-28	-3.92E-18	-1.132403
0.50000	-34.264847	-0.017009	2.06E-18	1.68E-28	-1.14E-17	-1.139890
0.75000	-34.264847	0.440870	-5.34E-17	1.68E-28	-4.95E-18	-1.140907
1.00000	-34.264847	0.898748	-1.09E-16	1.68E-28	1.53E-17	-1.126545

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-17.132423	-1.440224	1.74E-16	1.07E-28	2.81E-17	-2.232080
0.25000	-17.132423	-0.727969	8.82E-17	1.07E-28	-4.72E-18	0.038944
0.50000	-17.132423	-0.015713	1.90E-18	1.07E-28	-1.60E-17	0.131904
0.75000	-17.132423	0.696542	-8.44E-17	1.07E-28	-5.67E-18	0.046800
1.00000	-17.132423	1.408798	-1.71E-16	1.07E-28	2.62E-17	-2.216367

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-17.132423	-1.440224	1.74E-16	1.07E-28	2.81E-17	-2.232080
0.25000	-17.132423	-0.727969	8.82E-17	1.07E-28	-4.72E-18	0.038944
0.50000	-17.132423	-0.015713	1.90E-18	1.07E-28	-1.60E-17	0.131904
0.75000	-17.132423	0.696542	-8.44E-17	1.07E-28	-5.67E-18	0.046800
1.00000	-17.132423	1.408798	-1.71E-16	1.07E-28	2.62E-17	-2.216367

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-19.036026	-0.937561	1.14E-16	1.03E-28	1.80E-17	-1.148782

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
0.25000	-19.036026	-0.475057	5.75E-17	1.03E-28	3.37E-18	0.027795
0.50000	-19.036026	-0.012554	1.52E-18	1.03E-28	1.07E-17	0.088746
0.75000	-19.036026	0.449950	-5.45E-17	1.03E-28	4.13E-18	0.034072
1.00000	-19.036026	0.912453	-1.11E-16	1.03E-28	1.65E-17	-0.136229

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-19.036026	-0.937561	1.14E-16	1.03E-28	1.80E-17	-0.148782
0.25000	-19.036026	-0.475057	5.75E-17	1.03E-28	-3.37E-18	0.027795
0.50000	-19.036026	-0.012554	1.52E-18	1.03E-28	-1.07E-17	0.088746
0.75000	-19.036026	0.449950	-5.45E-17	1.03E-28	-4.13E-18	0.034072
1.00000	-19.036026	0.912453	-1.11E-16	1.03E-28	1.65E-17	-0.136229

ELEM 25 ========== LENGTH = 1.000000

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-34.264847	-1.286495	1.56E-16	1.80E-28	2.51E-17	-0.207121
0.25000	-34.264847	-0.574240	6.95E-17	1.80E-28	-3.08E-18	0.025471
0.50000	-34.264847	0.138016	-1.67E-17	1.80E-28	-9.69E-18	0.079999
0.75000	-34.264847	0.850271	-1.03E-16	1.80E-28	5.27E-18	-0.043537
1.00000	-34.264847	1.562527	-1.89E-16	1.80E-28	4.18E-17	-0.345137

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-34.264847	-1.286495	1.56E-16	1.80E-28	2.51E-17	-0.207121
0.25000	-34.264847	-0.574240	6.95E-17	1.80E-28	-3.08E-18	0.025471
0.50000	-34.264847	0.138016	-1.67E-17	1.80E-28	-9.69E-18	0.079999
0.75000	-34.264847	0.850271	-1.03E-16	1.80E-28	5.27E-18	-0.043537
1.00000	-34.264847	1.562527	-1.89E-16	1.80E-28	4.18E-17	-0.345137

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-34.264847	-0.776881	9.41E-17	1.68E-28	1.53E-17	-0.126545
0.25000	-34.264847	-0.319003	3.86E-17	1.68E-28	-1.26E-18	0.010440
0.50000	-34.264847	0.138876	-1.68E-17	1.68E-28	-3.99E-18	0.032956
0.75000	-34.264847	0.596754	-7.23E-17	1.68E-28	7.14E-18	-0.058998
1.00000	-34.264847	1.054633	-1.28E-16	1.68E-28	3.21E-17	-0.265421

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-34.264847	-0.776881	9.41E-17	1.68E-28	1.53E-17	-0.126545
0.25000	-34.264847	-0.319003	3.86E-17	1.68E-28	-1.26E-18	0.010440
0.50000	-34.264847	0.138876	-1.68E-17	1.68E-28	-3.99E-18	0.032956
0.75000	-34.264847	0.596754	-7.23E-17	1.68E-28	7.14E-18	-0.058998
1.00000	-34.264847	1.054633	-1.28E-16	1.68E-28	3.21E-17	-0.265421

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-17.132423	-1.356707	1.64E-16	1.07E-28	2.62E-17	-0.216367
0.25000	-17.132423	-0.644452	7.80E-17	1.07E-28	-4.09E-18	0.033778
0.50000	-17.132423	0.067804	-8.21E-18	1.07E-28	-1.28E-17	0.105859
0.75000	-17.132423	0.780059	-9.45E-17	1.07E-28	1.51E-20	-0.000124
1.00000	-17.132423	1.492315	-1.81E-16	1.07E-28	3.44E-17	-0.284171

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-17.132423	-1.356707	1.64E-16	1.07E-28	2.62E-17	-0.216367
0.25000	-17.132423	-0.644452	7.80E-17	1.07E-28	-4.09E-18	0.033778
0.50000	-17.132423	0.067804	-8.21E-18	1.07E-28	-1.28E-17	0.105859
0.75000	-17.132423	0.780059	-9.45E-17	1.07E-28	1.51E-20	-0.000124
1.00000	-17.132423	1.492315	-1.81E-16	1.07E-28	3.44E-17	-0.284171

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-19.036026	-0.848558	1.03E-16	1.03E-28	1.65E-17	-0.136229
0.25000	-19.036026	-0.386054	4.68E-17	1.03E-28	-2.19E-18	0.018098
0.50000	-19.036026	0.076450	-9.26E-18	1.03E-28	-6.88E-18	0.056798
0.75000	-19.036026	0.538953	-6.53E-17	1.03E-28	2.44E-18	-0.020127
1.00000	-19.036026	1.001457	-1.21E-16	1.03E-28	2.58E-17	-0.212678

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-19.036026	-0.848558	1.03E-16	1.03E-28	1.65E-17	-0.136229
0.25000	-19.036026	-0.386054	4.68E-17	1.03E-28	-2.19E-18	0.018098
0.50000	-19.036026	0.076450	-9.26E-18	1.03E-28	-6.88E-18	0.056798
0.75000	-19.036026	0.538953	-6.53E-17	1.03E-28	2.44E-18	-0.020127
1.00000	-19.036026	1.001457	-1.21E-16	1.03E-28	2.58E-17	-0.212678

ELEM 26 ========== LENGTH = 1.000000

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-34.264847	-0.494899	5.99E-17	1.80E-28	4.18E-17	-0.345137
0.25000	-34.264847	0.217356	-2.63E-17	1.80E-28	3.76E-17	-0.310444
0.50000	-34.264847	0.929612	-1.13E-16	1.80E-28	5.50E-17	-0.453815
0.75000	-34.264847	1.641867	-1.99E-16	1.80E-28	9.39E-17	-0.775250
1.00000	-34.264847	2.354123	-2.85E-16	1.80E-28	1.54E-16	-1.274749

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-34.264847	-0.494899	5.99E-17	1.80E-28	4.18E-17	-0.345137
0.25000	-34.264847	0.217356	-2.63E-17	1.80E-28	3.76E-17	-0.310444
0.50000	-34.264847	0.929612	-1.13E-16	1.80E-28	5.50E-17	-0.453815

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
0.75000	-34.264847	1.641867	-1.99E-16	1.80E-28	9.39E-17	-0.775250
1.00000	-34.264847	2.354123	-2.85E-16	1.80E-28	1.54E-16	-1.274749

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-34.264847	-0.066971	8.11E-18	1.68E-28	3.21E-17	-0.265421
0.25000	-34.264847	0.390908	-4.73E-17	1.68E-28	3.70E-17	-0.305913
0.50000	-34.264847	0.848786	-1.03E-16	1.68E-28	5.58E-17	-0.460875
0.75000	-34.264847	1.306665	-1.58E-16	1.68E-28	8.84E-17	-0.730306
1.00000	-34.264847	1.764543	-2.14E-16	1.68E-28	1.35E-16	-1.114207

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-34.264847	-0.066971	8.11E-18	1.68E-28	3.21E-17	-0.265421
0.25000	-34.264847	0.390908	-4.73E-17	1.68E-28	3.70E-17	-0.305913
0.50000	-34.264847	0.848786	-1.03E-16	1.68E-28	5.58E-17	-0.460875
0.75000	-34.264847	1.306665	-1.58E-16	1.68E-28	8.84E-17	-0.730306
1.00000	-34.264847	1.764543	-2.14E-16	1.68E-28	1.35E-16	-1.114207

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-17.132423	-0.846549	1.03E-16	1.07E-28	3.44E-17	-0.284171
0.25000	-17.132423	-0.134294	1.63E-17	1.07E-28	1.96E-17	-0.161566
0.50000	-17.132423	0.577962	-7.00E-17	1.07E-28	2.63E-17	-0.217024
0.75000	-17.132423	1.290217	-1.56E-16	1.07E-28	5.46E-17	-0.450547
1.00000	-17.132423	2.002473	-2.43E-16	1.07E-28	1.04E-16	-0.862133

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-17.132423	-0.846549	1.03E-16	1.07E-28	3.44E-17	-0.284171
0.25000	-17.132423	-0.134294	1.63E-17	1.07E-28	1.96E-17	-0.161566
0.50000	-17.132423	0.577962	-7.00E-17	1.07E-28	2.63E-17	-0.217024
0.75000	-17.132423	1.290217	-1.56E-16	1.07E-28	5.46E-17	-0.450547
1.00000	-17.132423	2.002473	-2.43E-16	1.07E-28	1.04E-16	-0.862133

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-19.036026	-0.387329	4.69E-17	1.03E-28	2.58E-17	-0.212678
0.25000	-19.036026	0.075174	-9.10E-18	1.03E-28	2.10E-17	-0.173659
0.50000	-19.036026	0.537678	-6.51E-17	1.03E-28	3.03E-17	-0.250266
0.75000	-19.036026	1.000181	-1.21E-16	1.03E-28	5.39E-17	-0.442498
1.00000	-19.036026	1.462685	-1.77E-16	1.03E-28	9.09E-17	-0.750356

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-19.036026	-0.387329	4.69E-17	1.03E-28	2.58E-17	-0.212678

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
0.25000	-19.036026	0.075174	-9.10E-18	1.03E-28	2.10E-17	-0.173659
0.50000	-19.036026	0.537678	-6.51E-17	1.03E-28	3.03E-17	-0.250266
0.75000	-19.036026	1.000181	-1.21E-16	1.03E-28	5.36E-17	-0.442498
1.00000	-19.036026	1.462685	-1.77E-16	1.03E-28	9.09E-17	-0.750356

ELEM 27 ========== LENGTH = 1.000000

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-34.264847	-1.295560	1.57E-16	1.80E-28	1.54E-16	-1.274749
0.25000	-34.264847	-0.583305	7.06E-17	1.80E-28	1.26E-16	-1.039891
0.50000	-34.264847	0.128951	-1.56E-17	1.80E-28	1.19E-16	-0.983096
0.75000	-34.264847	0.841206	-1.02E-16	1.80E-28	1.34E-16	-1.104366
1.00000	-34.264847	1.553462	-1.88E-16	1.80E-28	1.70E-16	-1.403700

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-34.264847	-1.295560	1.57E-16	1.80E-28	1.54E-16	-1.274749
0.25000	-34.264847	-0.583305	7.06E-17	1.80E-28	1.26E-16	-1.039891
0.50000	-34.264847	0.128951	-1.56E-17	1.80E-28	1.19E-16	-0.983096
0.75000	-34.264847	0.841206	-1.02E-16	1.80E-28	1.34E-16	-1.104366
1.00000	-34.264847	1.553462	-1.88E-16	1.80E-28	1.70E-16	-1.403700

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-34.264847	-1.082122	1.31E-16	1.68E-28	1.35E-16	-1.114207
0.25000	-34.264847	-0.624243	7.56E-17	1.68E-28	1.09E-16	-0.900912
0.50000	-34.264847	-0.166365	2.01E-17	1.68E-28	9.71E-17	-0.802085
0.75000	-34.264847	0.291514	-3.53E-17	1.68E-28	9.90E-17	-0.817729
1.00000	-34.264847	0.749392	-9.08E-17	1.68E-28	1.15E-16	-0.947842

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-34.264847	-1.082122	1.31E-16	1.68E-28	1.35E-16	-1.114207
0.25000	-34.264847	-0.624243	7.56E-17	1.68E-28	1.09E-16	-0.900912
0.50000	-34.264847	-0.166365	2.01E-17	1.68E-28	9.71E-17	-0.802085
0.75000	-34.264847	0.291514	-3.53E-17	1.68E-28	9.90E-17	-0.817729
1.00000	-34.264847	0.749392	-9.08E-17	1.68E-28	1.15E-16	-0.947842

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-17.132423	-0.946594	1.15E-16	1.07E-28	1.04E-16	-0.862133
0.25000	-17.132423	-0.234338	2.84E-17	1.07E-28	8.65E-17	-0.714516
0.50000	-17.132423	0.477917	-5.79E-17	1.07E-28	9.02E-17	-0.744964
0.75000	-17.132423	1.190173	-1.44E-16	1.07E-28	1.15E-16	-0.953475
1.00000	-17.132423	1.902428	-2.30E-16	1.07E-28	1.62E-16	-1.340050

F R A M E E L E M E N T I N T E R N A L F O R C E S

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-17.132423	-0.946594	1.15E-16	1.07E-28	1.04E-16	-0.862133
0.25000	-17.132423	-0.234338	2.84E-17	1.07E-28	8.65E-17	-0.714516
0.50000	-17.132423	0.477917	-5.79E-17	1.07E-28	9.02E-17	-0.744964
0.75000	-17.132423	1.190173	-1.44E-16	1.07E-28	1.15E-16	-0.953475
1.00000	-17.132423	1.902428	-2.30E-16	1.07E-28	1.62E-16	-1.340050

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-19.036026	-0.775810	9.40E-17	1.03E-28	9.09E-17	-0.750356
0.25000	-19.036026	-0.313307	3.79E-17	1.03E-28	7.44E-17	-0.614217
0.50000	-19.036026	0.149197	-1.81E-17	1.03E-28	7.19E-17	-0.593703
0.75000	-19.036026	0.611700	-7.41E-17	1.03E-28	8.34E-17	-0.688815
1.00000	-19.036026	1.074204	-1.30E-16	1.03E-28	1.09E-16	-0.899553

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-19.036026	-0.775810	9.40E-17	1.03E-28	9.09E-17	-0.750356
0.25000	-19.036026	-0.313307	3.79E-17	1.03E-28	7.44E-17	-0.614217
0.50000	-19.036026	0.149197	-1.81E-17	1.03E-28	7.19E-17	-0.593703
0.75000	-19.036026	0.611700	-7.41E-17	1.03E-28	8.34E-17	-0.688815
1.00000	-19.036026	1.074204	-1.30E-16	1.03E-28	1.09E-16	-0.899553

ELEM 28 ========== LENGTH = 1.000000

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-34.264847	-21.519141	2.61E-15	1.80E-28	1.70E-16	-1.403700
0.25000	-34.264847	-20.594134	2.49E-15	1.80E-28	-4.68E-16	3.860460
0.50000	-34.264847	-19.669127	2.38E-15	1.80E-28	-1.08E-15	8.893367
0.75000	-34.264847	-18.744119	2.27E-15	1.80E-28	-1.66E-15	13.695023
1.00000	-34.264847	-17.819112	2.16E-15	1.80E-28	-2.21E-15	18.265427

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-34.264847	-21.519141	2.61E-15	1.80E-28	1.70E-16	-1.403700
0.25000	-34.264847	-20.594134	2.49E-15	1.80E-28	-4.68E-16	3.860460
0.50000	-34.264847	-19.669127	2.38E-15	1.80E-28	-1.08E-15	8.893367
0.75000	-34.264847	-18.744119	2.27E-15	1.80E-28	-1.66E-15	13.695023
1.00000	-34.264847	-17.819112	2.16E-15	1.80E-28	-2.21E-15	18.265427

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-34.264847	-20.234407	2.45E-15	1.68E-28	1.15E-16	-0.947842
0.25000	-34.264847	-19.639759	2.38E-15	1.68E-28	-4.89E-16	4.036428
0.50000	-34.264847	-19.045112	2.31E-15	1.68E-28	-1.07E-15	8.872037

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
0.75000	-34.264847	-18.450464	2.23E-15	1.68E-28	-1.64E-15	13.558984
1.00000	-34.264847	-17.855817	2.16E-15	1.68E-28	-2.19E-15	18.097270

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-34.264847	-20.234407	2.45E-15	1.68E-28	1.15E-16	-0.947842
0.25000	-34.264847	-19.639759	2.38E-15	1.68E-28	-4.89E-16	4.036428
0.50000	-34.264847	-19.045112	2.31E-15	1.68E-28	-1.07E-15	8.872037
0.75000	-34.264847	-18.450464	2.23E-15	1.68E-28	-1.64E-15	13.558984
1.00000	-34.264847	-17.855817	2.16E-15	1.68E-28	-2.19E-15	18.097270

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-17.132423	-12.558198	1.52E-15	1.07E-28	1.62E-16	-1.340050
0.25000	-17.132423	-11.633191	1.41E-15	1.07E-28	-2.04E-16	1.683874
0.50000	-17.132423	-10.708184	1.30E-15	1.07E-28	-5.42E-16	4.476546
0.75000	-17.132423	-9.783177	1.18E-15	1.07E-28	-8.52E-16	7.037966
1.00000	-17.132423	-8.858170	1.07E-15	1.07E-28	-1.13E-15	9.368134

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-17.132423	-12.558198	1.52E-15	1.07E-28	1.62E-16	-1.340050
0.25000	-17.132423	-11.633191	1.41E-15	1.07E-28	-2.04E-16	1.683874
0.50000	-17.132423	-10.708184	1.30E-15	1.07E-28	-5.42E-16	4.476546
0.75000	-17.132423	-9.783177	1.18E-15	1.07E-28	-8.52E-16	7.037966
1.00000	-17.132423	-8.858170	1.07E-15	1.07E-28	-1.13E-15	9.368134

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-19.036026	-12.292483	1.49E-15	1.03E-28	1.09E-16	-0.899553
0.25000	-19.036026	-11.691829	1.42E-15	1.03E-28	-2.54E-16	2.098486
0.50000	-19.036026	-11.091175	1.34E-15	1.03E-28	-5.99E-16	4.946361
0.75000	-19.036026	-10.490521	1.27E-15	1.03E-28	-9.26E-16	7.644074
1.00000	-19.036026	-9.889867	1.20E-15	1.03E-28	-1.23E-15	10.191622

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-19.036026	-12.292483	1.49E-15	1.03E-28	1.09E-16	-0.899553
0.25000	-19.036026	-11.691829	1.42E-15	1.03E-28	-2.54E-16	2.098486
0.50000	-19.036026	-11.091175	1.34E-15	1.03E-28	-5.99E-16	4.946361
0.75000	-19.036026	-10.490521	1.27E-15	1.03E-28	-9.26E-16	7.644074
1.00000	-19.036026	-9.889867	1.20E-15	1.03E-28	-1.23E-15	10.191622

F R A M E E L E M E N T I N T E R N A L F O R C E S

ELEM 29 ========== LENGTH = 1.075000

COMB COMB1 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-34.264847	-88.997357	4.68E-14	1.80E-28	-5.39E-15	18.265427
0.25000	-34.264847	-88.002975	4.67E-14	1.80E-28	-1.80E-14	42.049847
0.50000	-34.264847	-87.008592	4.66E-14	1.80E-28	-3.05E-14	65.567026
0.75000	-34.264847	-86.014209	4.64E-14	1.80E-28	-4.30E-14	88.816965
1.00000	-34.264847	-85.019827	4.63E-14	1.80E-28	-5.54E-14	111.799664

COMB COMB1 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-34.264847	-88.997357	4.68E-14	1.80E-28	-5.39E-15	18.265427
0.25000	-34.264847	-88.002975	4.67E-14	1.80E-28	-1.80E-14	42.049847
0.50000	-34.264847	-87.008592	4.66E-14	1.80E-28	-3.05E-14	65.567026
0.75000	-34.264847	-86.014209	4.64E-14	1.80E-28	-4.30E-14	88.816965
1.00000	-34.264847	-85.019827	4.63E-14	1.80E-28	-5.54E-14	111.799664

COMB COMB2 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-34.264847	-80.473348	4.37E-14	1.68E-28	-5.19E-15	18.097270
0.25000	-34.264847	-79.834102	4.37E-14	1.68E-28	-1.69E-14	39.638583
0.50000	-34.264847	-79.194856	4.36E-14	1.68E-28	-2.87E-14	61.008100
0.75000	-34.264847	-78.555610	4.35E-14	1.68E-28	-4.04E-14	82.205819
1.00000	-34.264847	-77.916364	4.34E-14	1.68E-28	-5.20E-14	103.231740

COMB COMB2 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-34.264847	-80.473348	4.37E-14	1.68E-28	-5.19E-15	18.097270
0.25000	-34.264847	-79.834102	4.37E-14	1.68E-28	-1.69E-14	39.638583
0.50000	-34.264847	-79.194856	4.36E-14	1.68E-28	-2.87E-14	61.008100
0.75000	-34.264847	-78.555610	4.35E-14	1.68E-28	-4.04E-14	82.205819
1.00000	-34.264847	-77.916364	4.34E-14	1.68E-28	-5.20E-14	103.231740

COMB COMB3 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-17.132423	-56.432291	2.77E-14	1.07E-28	-2.97E-15	9.368134
0.25000	-17.132423	-55.437909	2.76E-14	1.07E-28	-1.04E-14	24.400692
0.50000	-17.132423	-54.443526	2.74E-14	1.07E-28	-1.78E-14	39.166010
0.75000	-17.132423	-53.449143	2.73E-14	1.07E-28	-2.52E-14	53.664087
1.00000	-17.132423	-52.454761	2.72E-14	1.07E-28	-3.25E-14	67.894925

COMB COMB3 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-17.132423	-56.432291	2.77E-14	1.07E-28	-2.97E-15	9.368134
0.25000	-17.132423	-55.437909	2.76E-14	1.07E-28	-1.04E-14	24.400692
0.50000	-17.132423	-54.443526	2.74E-14	1.07E-28	-1.78E-14	39.166010

F R A M E E L E M E N T I N T E R N A L F O R C E S

REL DIST	P	V2	V3	T	M2	M3
0.75000	-17.132423	-53.449143	2.73E-14	1.07E-28	-2.52E-14	53.664087
1.00000	-17.132423	-52.454761	2.72E-14	1.07E-28	-3.25E-14	57.894925

COMB COMB4 ---------- MAX

REL DIST	P	V2	V3	T	M2	M3
0.00000	-19.036026	-51.681605	2.68E-14	1.03E-28	-3.05E-15	10.191622
0.25000	-19.036026	-51.035902	2.67E-14	1.03E-28	-1.02E-14	23.994287
0.50000	-19.036026	-50.390199	2.66E-14	1.03E-28	-1.74E-14	37.623419
0.75000	-19.036026	-49.744496	2.66E-14	1.03E-28	-2.46E-14	51.079019
1.00000	-19.036026	-49.098793	2.65E-14	1.03E-28	-3.17E-14	64.361086

COMB COMB4 ---------- MIN

REL DIST	P	V2	V3	T	M2	M3
0.00000	-19.036026	-51.681605	2.68E-14	1.03E-28	-3.05E-15	10.191622
0.25000	-19.036026	-51.035902	2.67E-14	1.03E-28	-1.02E-14	23.994287
0.50000	-19.036026	-50.390199	2.66E-14	1.03E-28	-1.74E-14	37.623419
0.75000	-19.036026	-49.744496	2.66E-14	1.03E-28	-2.46E-14	51.079019
1.00000	-19.036026	-49.098793	2.65E-14	1.03E-28	-3.17E-14	64.361086

8. BOX 및 PIPE 수리계산서

BOX, PIPE 수 리 계 산 서

도 로 명 및 (STA.) : 0+442.5
하 천 명 :
구 조 물 번 호 : 1

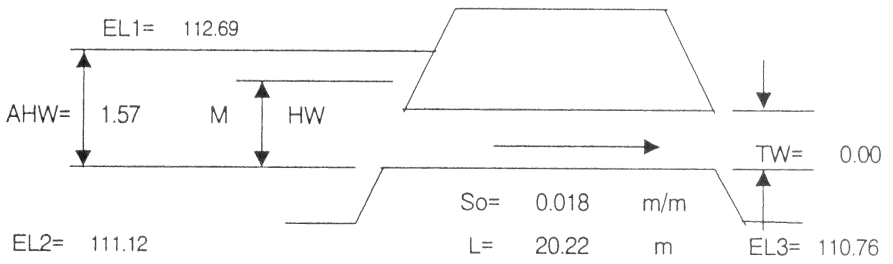
설계 기관 : 한국기술개발㈜
설 계 자 : 정 승 직
일 자 : 2003.8

수리 및 구조물에 대한 요약

유역면적A: ㎢ 설계생기빈도: 25 년
Qd = ㎥/sec
유달거리(L): m 표 고 차: m

합 리 식	표준유출식	강 우 구 역
Qd =0.278C IA	Qd=(RF)(LF)(FF)(Q)	
Tc = hr	RF = 0.00	수문지역: v
I= 173.00 mm/hr	LF = 0.00	강우구역: 부산
C = 0.80	FF = 0.00	
A = ㎢	Q = 0.00	

단 면 도



최대추정유속

횡단구조물 개 요 (시산형태)	Qd ㎥/sec	규 격	수 두 계 산									조 정 HW	유출부 유속 Vo	추 정 공사비	소 견
			유입부 조절		유출부 조절 = HW = H + ho - SoL										
			HW/D	HW	Ce	H	dc	(dc+D)/2	TW	ho	SoL	HW				
PIPE		1000													OK

요약 및 설계자 소견: 노면배수를 포함한 터널지하배수시설(맹암거 φ200mm)과 연결되는 본선횡단배수시설물로 유지관리를 고려한 설계기준에 의거 최소관경적용시설임

BOX, PIPE 수 리 계 산 서

도 로 명 및 (STA.) : 0+470
하 천 명 :
구 조 물 번 호 : 2

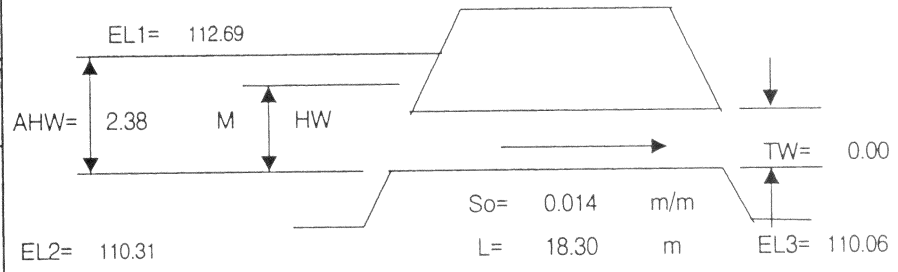
설계 기관 : 한국기술개발㈜
설 계 자 : 정 승 직
일 자 : 2003.8

수리 및 구조물에 대한 요약

유역면적A: ㎢ 설계생기빈도: 25 년
Qd = ㎥/sec
유달거리(L): m 표 고 차: m

합 리 식	표준유출식	강 우 구 역
Qd =0.278C IA	Qd=(RF)(LF)(FF)(Q)	
Tc = hr	RF = 0.00	수문지역: v
I= 173.00 mm/hr	LF = 0.00	강우구역: 부산
C = 0.80	FF = 0.00	
A = ㎢	Q = 0.00	

단 면 도



최대추정유속

횡단구조물 개 요 (시산형태)	Qd ㎥/sec	규 격	수 두 계 산										조 정	유출부 유속	추 정	소 견
			유입부 조절		유출부 조절 = HW = H + ho - SoL											
			HW/D	HW	Ce	H	dc	(dc+D)/2	TW	ho	SoL	HW	HW	Vo	공사비	
PIPE		1000														OK

요약 및 설계자 소견: 노면배수를 포함한 터널지하배수시설(맹암거 φ200mm)과 연결되는 본선횡단배수시설물로 유지관리를 고려한 설계기준에 의거 최소관경적용시설임

BOX, PIPE 수 리 계 산 서

도 로 명 및 (STA.) : 0+751
하 천 명 :
구 조 물 번 호 : 3

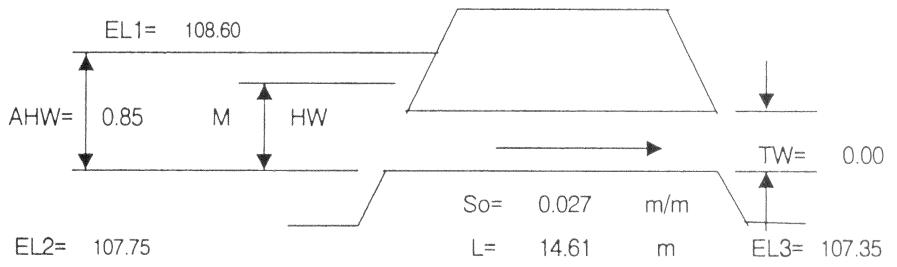
설계 기관 : 한국기술개발㈜
설 계 자 :정 승 직
일 자 2003.8

수리 및 구조물에 대한 요약

유역면적A: ㎢ 설계생기빈도: 25 년
Qd = ㎥/sec
유달거리(L): m 표 고 차: m

합 리 식	표준유출식	강 우 구 역
Qd =0.278C IA	Qd=(RF)(LF)(FF)(Q)	
Tc = hr	RF = 0.00	수문지역: v
I= 173.00 mm/hr	LF = 0.00	강우구역: 부산
C = 0.80	FF = 0.00	
A = ㎢	Q = 0.00	

단 면 도



최대추정유속

횡단구조물 개 요 (시산형태)	Qd ㎥/sec	규 격	수 두 계 산										조 정 HW	유출부 유속 Vo	추 정 공사비	소 견
			유입부 조절		유출부 조절 = HW = H + ho - SoL											
			HW/D	HW	Ce	H	dc	(dc+D)/2	TW	ho	SoL	HW				
PIPE		1000														OK

요약 및 설계자 소견: 노면배수를 포함한 터널지하배수시설(맹암거 φ200mm)과 연결되는 본선횡단배수시설물로 유지관리를 고려한 설계기준에 의거 최소관경적용시설임

BOX, PIPE 수 리 계 산 서

도 로 명 및 (STA.) : 0+760
하 천 명 :
구 조 물 번 호 : 4

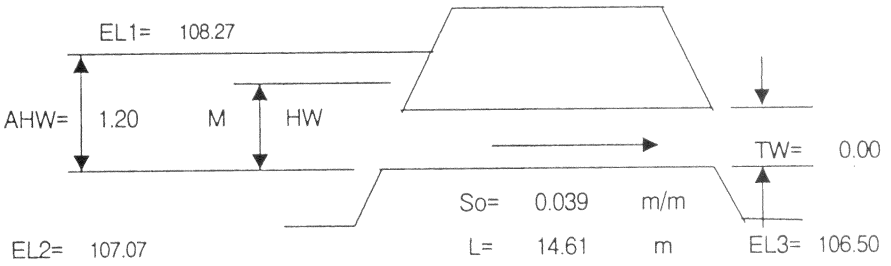
설계 기관 : 한국기술개발㈜
설 계 자 : 정 승 직
일 자 : 2003.8

수리 및 구조물에 대한 요약

유역면적A: ㎢ 설계생기빈도: 25 년
Qd = ㎥/sec
유달거리(L): m 표 고 차: m

합 리 식	표 준 유 출 식	강 우 구 역
Qd =0.278C IA	Qd=(RF)(LF)(FF)(Q)	
Tc = hr	RF = 0.00	수문지역: v
I= 173.00 mm/hr	LF = 0.00	강우구역: 부산
C = 0.80	FF = 0.00	
A = ㎢	Q = 0.00	

단 면 도



최대추정유속

횡단구조물 개 요 (시산형태)	Qd ㎥/sec	규 격	수 두 계 산										조 정 HW	유출부 유속 Vo	추 정 공사비	소 견
			유입부 조절		유출부 조절 = HW = H + ho - SoL											
			HW/D	HW	Ce	H	dc	(dc+D)/2	TW	ho	SoL	HW				
PIPE		1000														OK

요약 및 설계자 소견: 노면배수를 포함한 터널지하배수시설(맹암거 φ200mm)과 연결되는 본선횡단배수시설물로 유지관리를 고려한 설계기준에 의거 최소관경적용시설임