계약번호	제2012-2-303-201201-00호
문서번호	

자 료 번 호	
개 정 번 호	Rev.0(2015.4)

중앙선 도담~영천 복선전철 제5공구(시공10공구) 노반 기본 및 실시설계

구 조 계 산 서 (16/20)

제 출 목 적	
	기 성 신 청
	검 토/ 승 인
	설 계 변 경
	기본설계 준 공
○	실시설계 준 공
	시 공 준 공
	기 타 설 계 용

2015. 4.

확 인	작 성 자	검 토 자	승 인 자
		임 철수	
	이정선	임철수	최석운

한국철도시설공단 KOREA RAIL NETWORK AUTHORITY

시현기술단 SEOHYUN ENGINEERING

seoyeong | 주 | 서영엔지니어링

주식회사 동명기술공단

sunjin ENGINEERING & ARCHITECTURE

(주) 선구엔지니어링 SunKoo Engineering

중앙선 도담~영천 복선전철 제5공구(시공10공구)

노반 기본 및 실시설계

구 조 계 산 서 (16/20)

자료번호 :

개 정 현 황					
00	2015.4	실시설계 준공	이정선	임철수	최석운
개정 번호	일 자	개 정 사 유	작 성	검 토	승 인

중앙선 도담~영천 복선전철 제5공구 노반 기본 및 실시설계

C·O·N·T·E·N·T·S

구조계산서 1권

제1장 탑 리 제 1 교

1. 탑리제1교 ····· 1
1.1 상부공 ····· 3
1.1.1 PRECOM ····· 5
1.2 교대공 ····· 219
1.2.1 A1 ····· 221
1.2.2 A2 ····· 297
1.3 교각공 ····· 373
1.3.1 P1(P2) ····· 375
1.4 내진해석 ····· 489
1.5 가시설공 ····· 511
1.5.1 A1 버팀보 사보강 ····· 513
1.5.2 P1 버팀보 사보강 ····· 537
1.5.3 P2 버팀보 사보강 ····· 561
1.5.4 A2 버팀보 사보강 ····· 585

구조계산서 2권

제2장 탑 리 제 2 교

2. 탑리제2교 ····· 1
2.1 상부공 ····· 3
2.1.1 PSC ····· 5
2.2 교대공 ····· 131
2.2.1 A1 ····· 133
2.2.2 A2 ····· 227
2.3 교각공 ····· 321
2.3.1 P1(P2) ····· 323
2.3.2 P4(P3) ····· 437
2.4 내진해석 ····· 551
2.5 가시설공 ····· 571
2.5.1 P1,P2 버팀보 사보강 ····· 573

구조계산서 3권

제3장 탑 리 제 3 교

3. 탑리제3교 ····· 1
3.1 라멘공 ····· 3
3.2 옹벽공 ····· 369
3.2.1 A1(H=5.5m) 좌우측 ····· 371
3.2.2 A2(H=3.5m) 좌측 ····· 391
3.2.3 A2(H=3.0m) 우측 ····· 411
3.3 가시설공 ····· 431
3.3.1 A1 버팀보 ····· 433
3.3.2 A1 버팀보 사보강 ····· 457
3.3.3 A2 버팀보 ····· 481
3.3.4 A2 버팀보 사보강 ····· 505

구조계산서 4권

제4장 탑 리 제 4 교

4. 탑리제4교 ····· 1
4.1 상부공 ····· 3
4.1.1 WPC ····· 5
4.2 교대공 ····· 97
4.2.1 A1 ····· 99
4.2.2 A2 ····· 193
4.3 옹벽공 ····· 287
4.3.1 A1,A2(H=4.0m) ····· 289

제5장 산 운 교

5. 산운교 ····· 309
5.1 상부공 ····· 311
5.1.1 PSC ····· 313
5.1.2 SCP ····· 439

중앙선 도담~영천 복선전철 제5공구 노반 기본 및 실시설계

C·O·N·T·E·N·T·S

구조계산서 5권

5.2 교대공 ····· 3
5.2.1 A1 ····· 5
5.2.2 A2 ····· 81
5.3 교각공 ····· 157
5.3.1 P1 ····· 159
5.3.2 P3(P2~P4) ····· 271
5.3.3 P5 ····· 383
5.3.4 P6 ····· 495

구조계산서 6권

5.4 내진해석 ····· 3
5.5 가시설공 ····· 23
5.5.1 P1~P3,P5 버팀보 사보강 ····· 25
5.5.2 P4 버팀보 사보강 ····· 49

제6장 순 호 교

6. 순호교 ····· 73
6.1 상부공 ····· 75
6.1.1 PSC ····· 77
6.1.2 PSC-e ····· 203
6.2 교대공 ····· 383
6.2.1 A1 ····· 385
6.2.2 A2 ····· 461

구조계산서 7권

6.3 교각공 ····· 3
6.3.1 P2 ····· 5
6.3.1 P3(P4) ····· 119
6.3.1 P5(P1) ····· 233
6.4 내진해석 ····· 347
6.5 가시설공 ····· 367
6.5.1 P1,P2 버팀보 사보강 ····· 369
6.5.2 P5 버팀보 사보강 ····· 393

제7장 수 북 교

7. 수북교 ····· 417
7.1 상부공 ····· 419
7.1.1 PSC ····· 421

구조계산서 8권

7.2 교대공 ····· 3
7.2.1 A1 ····· 5
7.2.2 A2 ····· 81
7.3 교각공 ····· 157
7.3.1 P2(P1) ····· 159
7.4 내진해석 ····· 273
7.5 가시설공 ····· 293
7.5.1 P2 버팀보 사보강 ····· 295

제8장 파 전 제 1 교

8. 파전제1교 ····· 319
8.1 상부공 ····· 321
8.1.1 IPC ····· 323
8.1.2 RPF ····· 449

구조계산서 9권

8.1.3 PSC ····· 3
8.2 교대공 ····· 129
8.2.1 A1 ····· 131
8.2.2 A2 ····· 225
8.3 교각공 ····· 319
8.3.1 P2 ····· 321
8.3.1 P3(P1) ····· 433

중앙선 도담~영천 복선전철 제5공구 노반 기본 및 실시설계

C·O·N·T·E·N·T·S

구조계산서 10권

8.3.1 P4 ····3
8.3.1 P5 ····115
8.3.1 P6 ····227
8.4 내진해석 ····339
8.5 가시설공 ····359
8.5.1 P1,P2 버팀보 사보강 ····361
8.5.2 P3 버팀보 사보강 ····385
8.5.3 P4,P6 버팀보 사보강 ····409
8.5.4 P6 버팀보 사보강 ····433

구조계산서 11권

제9장 파 전 제 2 교

9. 파전제2교 ····1
9.1 상부공 ····3
9.1.1 PSC ····5
9.1.2 RPF ····131
9.2 교대공 ····289
9.2.1 A1 ····291
9.2.2 A2 ····385
9.3 교각공 ····479
9.3.1 P1 ····481

구조계산서 12권

9.3.2 P2 ····3
9.4 내진해석 ····115
9.5 가시설공 ····135
9.5.1 P1,P2 버팀보 사보강 ····137

제10장 파 전 제 3 교

10. 파전제3교 ····161
10.1 상부공 ····163
10.1.1 PSC(S1~S3) ····165
10.1.2 PSC(S4~S5,S7~S8) ····287

구조계산서 13권

10.1.3 RPF ····3
10.2 교대공 ····123
10.2.1 A1 ····125
10.2.2 A2 ····221
10.3 교각공 ····317
10.3.1 P1(P2) ····319
10.3.2 P3 ····419
10.3.3 P5 ····517

구조계산서 14권

10.3.4 P6 ····3
10.3.5 P7(P4) ····105
10.4 내진해석 ····205
10.5 가시설공 ····233
10.5.1 P4 버팀보 ····235
10.5.2 P4 버팀보 사보강 ····259
10.5.3 P5 버팀보 ····283
10.5.4 P5 버팀보 사보강 ····307
10.5.5 P7 버팀보 ····331
10.5.6 P7 버팀보 사보강 ····355

제11장 교 량 기 초

11. 교량기초 ····379
11.1 직접기초 연직지지력, 연직침하량(풍화대) ····381

구조계산서 15권

11.2 직접기초 연직지지력, 연직침하량(연 · 경암) ····3

중앙선 도담~영천 복선전철 제5공구 노반 기본 및 실시설계

C·O·N·T·E·N·T·S

11.3 말뚝기초 연직지지력, 연직침하량(풍화대) ……221
11.4 말뚝기초 연직지지력, 연직침하량(연 · 경암) …241
11.5 말뚝기초 수평지지력, 수평변위 ……285
11.6 교대 활동 검토 ……451

구조계산서 16권

제12장 구 교

12.1 학미 제3 ……3
12.2 학미 제4 ……147
12.3 탑리 제1 ……239
12.4 탑리 제2 ……331
12.5 탑리 제3 ……435

구조계산서 17권

12.6 탑리 제4 ……3
12.7 탑리 제5 ……117
12.8 탑리 제6 ……221
12.9 탑리 제7 ……335
12.10 산운 제1 ……439
12.11 산운 제2 ……553

구조계산서 18권

12.12 산운 제3 ……3
12.13 산운 제4 ……95
12.14 산운 제5 ……187
12.15 순호 제1 ……301
12.16 순호 제2 ……415

구조계산서 19권

12.17 파전 제1 ……3
12.18 파전 제2 ……117
12.19 파전 제3 ……231
12.20 파전 제4 ……345
12.21 파전 제5 ……459

구조계산서 20권

제13장 B(함)

13.1 B(함)산운제1 ……3
13.2 B(함)산운제2 ……299
13.3 B(함)산운제3~5 ……385
13.4 B(함)파전 ……471
13.5 B(함)연계, 탑리 ……631

제12장 구 교

중앙선 도담~영천 복선전철 제5공구 노반 기본 및 실시설계

12.1	C(함)학미	제 3
12.2	C(함)학미	제 4
12.3	C(함)탑리	제 1
12.4	C(함)탑리	제 2
12.5	C(함)탑리	제 3
12.6	C(함)탑리	제 4
12.7	C(함)탑리	제 5
12.8	C(함)탑리	제 6
12.9	C(함)탑리	제 7
12.10	C(함)산운	제 1
12.11	C(함)산운	제 2
12.12	C(함)산운	제 3
12.13	C(함)산운	제 4
12.14	C(함)산운	제 5
12.15	C(함)순호	제 1
12.16	C(함)순호	제 2
12.17	C(함)파전	제 1
12.18	C(함)파전	제 2
12.19	C(함)파전	제 3
12.20	C(함)파전	제 4
12.21	C(함)파전	제 5

C(함) 학미제3

- 4.0 x 4.50 x 1
- 토피 = 0.6m 이하

1. 설 계 조 건
2. 단 면 가 정
3. 해석모델 및 단면제원
4. 하중산정
5. 하중재하도
6. 하중계수 및 하중조합
7. INPUT DATA
8. OUTPUT
9. 단면력요약
10. 단 면 력 도
11. 단 면 검 토
12. 우각부 검토
13. 배력철근 검토
14. 사용성 검토
15. 기초지지력 검토
16. 주철근조립도
17. 날개벽 설계

1. 설계 조건

1) 구조물명 : c (함)

2) 구조형식 : 철근 콘크리트 구조

3) 설계하중 : KRL2012 (복 선)

4) 재료중량

- 철근 콘크리트(γ_c)	=	24.5	kN/m^3
- 무근 콘크리트(γ_{con})	=	23.0	kN/m^3
- 뒷채움 토사(γ_t)	=	20.0	kN/m^3
- 뒷채움 토사(γ_{sub})	=	11.0	kN/m^3
- 지하수(γ_w)	=	10.0	kN/m^3

5) 사용재료의 성질

- 콘크리트 설계기준 강도(fck)	=	30.0	MPa
- 콘크리트 탄성계수(Ec)	=	27537	MPa
- 철근의 항복강도(fy)	=	400.0	MPa
- 철근의 탄성계수(Es)	=	200000	MPa

6) 토 사

- 흙의 내부마찰각 (ϕ)	=	35.0	°
- 정지 토압계수 (Ko)	=	0.426	

7) 기 초 형 식 : 직접기초

8) 사 각(Skew) : 90.00 ° 연 장 (L) : 20.00 m

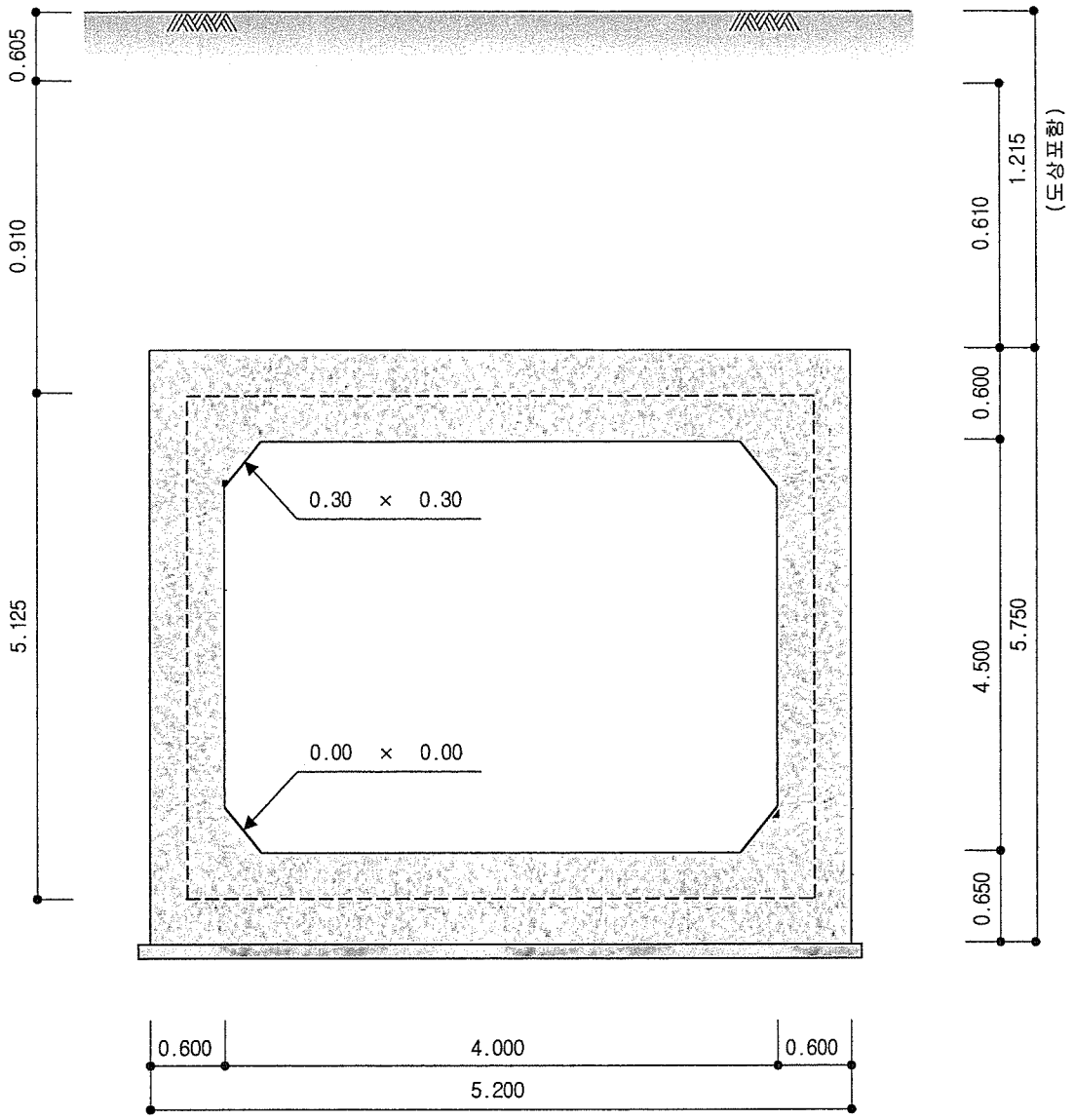
9) 설계방법

- 강도 설계법 : 부재 단면검토(슬래브, 벽체, 보, 기둥 등)
- 허용응력 설계법 : 사용성 검토(처짐, 균열, 우각부 검토)

10) 참고문헌

- 철도설계기준(노반편), 국토해양부, 2013
- 콘크리트 구조설계기준해설, 한국콘크리트 학회, 2012

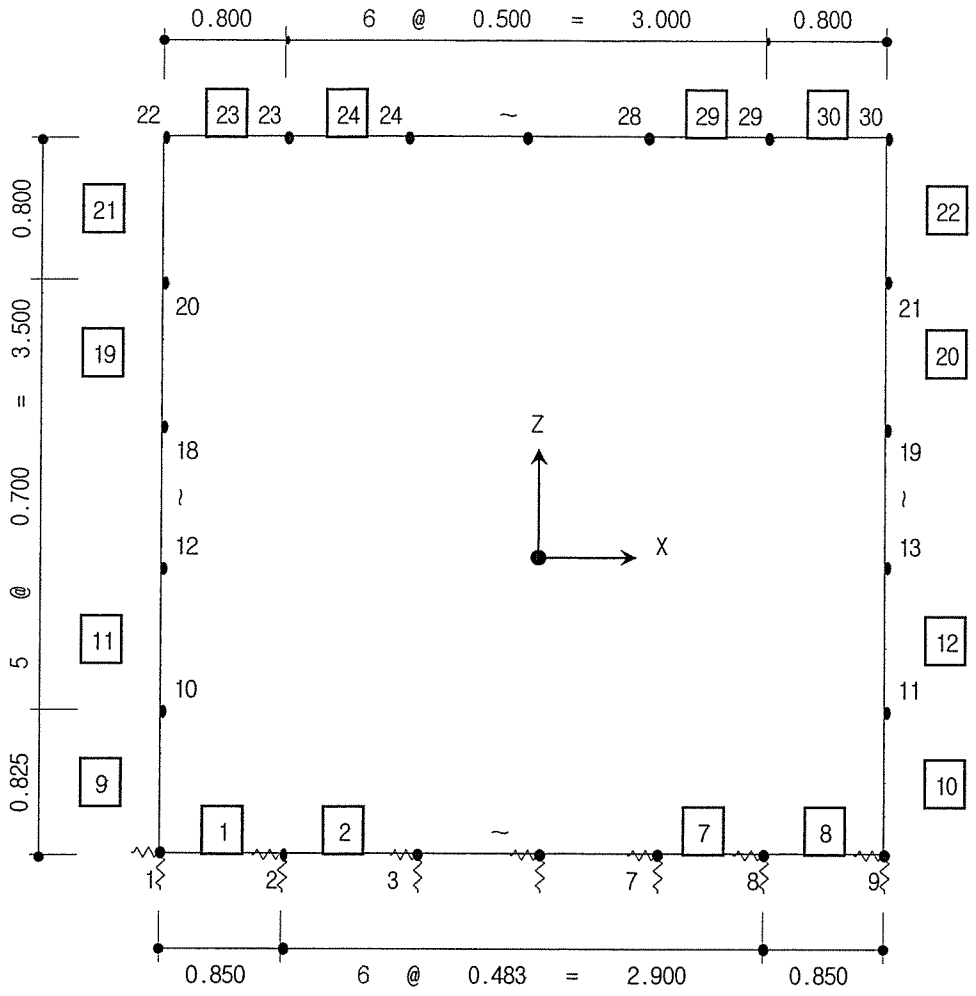
2. 단면 가정



※ 유효경간

Skew =	90.0	°					
Ln =	4.600	m					
Ls =	4.600	m					
Ls/B =	4.600	/	20.000	=	0.23	<	1.500
L =	4.600	m					

3. 해석모델 및 단면제원



1) 절점 좌표

Joint	좌 표			Joint	좌 표		
	X	Y	Z		X	Y	Z
1	0.000	0.000	0.000	13	4.600	0.000	1.525
2	0.850	0.000	0.000	14	0.000	0.000	2.225
3	1.333	0.000	0.000	15	4.600	0.000	2.225
4	1.817	0.000	0.000	16	0.000	0.000	2.925
5	2.300	0.000	0.000	17	4.600	0.000	2.925
6	2.783	0.000	0.000	18	0.000	0.000	3.625
7	3.267	0.000	0.000	19	4.600	0.000	3.625
8	3.750	0.000	0.000	20	0.000	0.000	4.325
9	4.600	0.000	0.000	21	4.600	0.000	4.325
10	0.000	0.000	0.825	22	0.000	0.000	5.125
11	4.600	0.000	0.825	23	0.800	0.000	5.125
12	0.000	0.000	1.525	24	1.300	0.000	5.125

Joint	좌 표			Joint	좌 표		
	X	Y	Z		X	Y	Z
25	1.800	0.000	5.125	28	3.300	0.000	5.125
26	2.300	0.000	5.125	29	3.800	0.000	5.125
27	2.800	0.000	5.125	30	4.600	0.000	5.125

2) 경계 조건

joint	spring계수 (kN/m²)		joint	spring계수 (kN/m²)	
	z방향(수직)	x방향(수평)		z방향(수직)	x방향(수평)
1 . 9	16592		3 ~ 7	11061	
2 . 8	15257				

3) 단면제원

Element	두께	폭	비 고
23 ~ 30	0.600	1.000	상부슬래브
1 ~ 8	0.650	1.000	하부슬래브
9 ~ 22	0.600	1.000	벽 체

4) 강역설정

(1) 강역설정기준(콘크리트구조설계기준 2012)

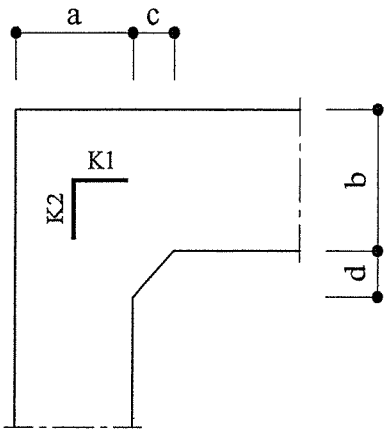
CASE 1 : 부재단부가 다른 부재와 접합할 때는 부재단에서 부재두께의 1/4 안쪽점에서 절점까지

CASE 2 : 부재가 그 축선에 대해 25° 이상 60° 미만인 경사진 헌치를 갖는 경우에는 부재두께가 1.5배가 되는 점에서 부터 절점까지

CASE 3 : 헌치의 경사가 60° 이상의 경우는 헌치의 시점에서 부재두께의 1/4 안쪽 점에서부터 절점까지

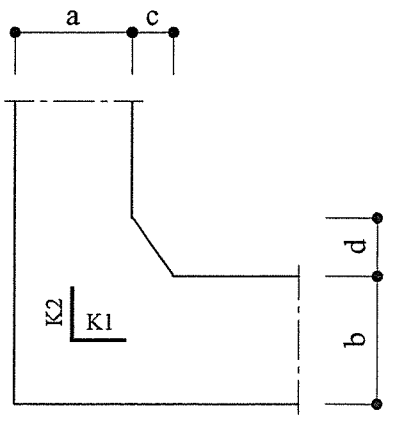
(2) 강역설정

- 절점 22 , 30



a =	600	mm	c =	300	mm
b =	600	mm	d =	300	mm
K1 =	300	mm	K2 =	300	mm

- 절점 1 , 9

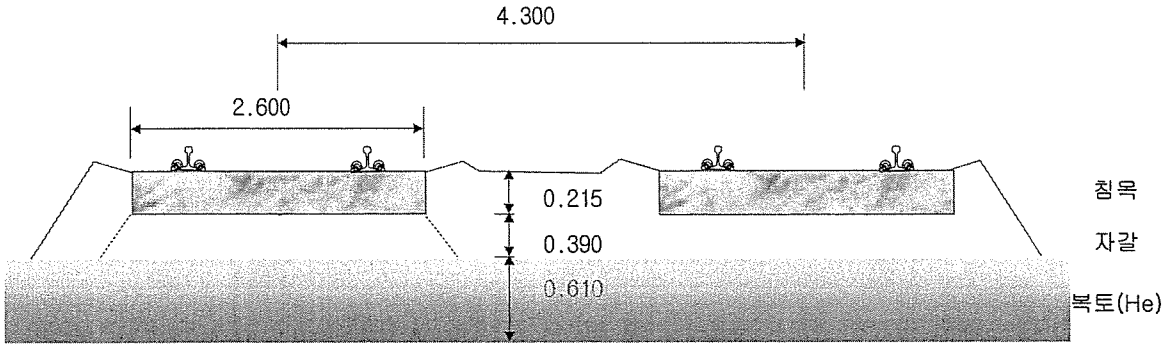


a =	600	mm	c =	0	mm
b =	650	mm	d =	0	mm
K1 =	138	mm	K2 =	175	mm

4. 하중산정

4.1 상시

1) 상부 고정하중(지하수 無)



① 하중 분포폭 산정 (b')

① He < 0.5m 경우 : b + d

b_1 = 2.600 + 0.390 = 2.990 m

② He ≥ 0.5m 경우 : c + b + (d + He)

b_2 = 4.300 + 2.600 + (0.390 + 0.610) = 14.590 m

여기서, He : 시공기면에서의 토피고(m)

a : 동륜간 축간거리(m) c : 복선선로 중심간격(m)

b : 침목길이(m) d : 침목하면의 도상두께(m)

H : 상부슬래브 두께

He ≥ 0.5 m

∴ b' = 14.590 m

② 구조물 자중 : 프로그램 상에서 Self Weight 기능을 이용하여 자동 고려

③ 궤도 중량

- 레일 : 레일당 1.5kN/m를 적용

q_1 = 4 × 1.500 / 14.590 = 0.411 kN/㎡

- 침목 : 고속철도용 5.0kN/m

q_2 = 5.000 × 2 / 14.590 = 0.685 kN/㎡

= 1.096 kN/㎡

④ 도상 (q_2)

TCL = 0.215 × 19.000 × 1.3 = 5.311 kN/㎡

HSB = 0.390 × 19.000 × 1.3 = 9.633 kN/㎡

= 14.944 kN/㎡

⑤ 복토하중 (q_3) = 20.000 × 0.610 = 12.200 kN/㎡

∴ $q_1 + q_2 + q_3$ = 1.096 + 14.944 + 12.200 = 28.240 kN/㎡

2) 활하중

① 활하중 산정 : KRL 2012

$$W_{HL} = \frac{2P}{a \times b'} = \frac{2\times(220+80x3)}{3.000 \times 14.590} = 21.019 \text{ kN/㎡}$$

∴ W = 21.019 kN/㎡

② 충격계수

1) 단선 (i_0) (철도설계기준 노반편(2013) p.5-7)

지 간 L (m)	0	5	10	20	30	40	50	70	100
충격계수 (i)	0.60	0.48	0.43	0.37	0.34	0.32	0.30	0.27	0.24

* 상기표에 없는 지간의 충격 계수는 보간법으로 구한다.

지 간 L (m) = 4.600 m

따라서 i_0 = 0.490 (보간법에 의하여 산정된 충격계수)

2) 구조물 상면의 복토높이에 따른 충격 계수

H ≥ 1.0일 경우 $i = io \cdot \{(2.5 - H)/1.5\}$

여기서, H ≤ 1.0 m 에서는 $i = i_o$

H ≥ 2.5 m 에서는 i = 0

따라서, 본 구조물의 H = 1.215 m i = 0.420

W_L = 21.019 ×(1 + 0.420) = 29.842 kN/㎡

③ 활하중에 의한 측압 (충격비고려)(철도설계기준 노반편(2013) p.5-6)

W_{LH} = 21.019 × 0.4 = 8.408 kN/㎡

3) 토 압

- 지하수가 없는 경우 작용 토압

q_1 = 0.426 ×(16.040 + 20.000 × 0.910) = 14.586 kN/㎡

q_2 = 14.586 + 0.426 ×(20.000 × 0.800) = 21.402 kN/㎡

q_3 = 21.402 + 0.426 ×(20.000 × 0.700) = 27.366 kN/㎡

q_4 = 27.366 + 0.426 ×(20.000 × 0.700) = 33.330 kN/㎡

q_5 = 33.330 + 0.426 ×(20.000 × 0.700) = 39.294 kN/㎡

q_6 = 39.294 + 0.426 ×(20.000 × 0.700) = 45.258 kN/㎡

q_7 = 45.258 + 0.426 ×(20.000 × 0.700) = 51.222 kN/㎡

q_8 = 51.222 + 0.426 ×(20.000 × 0.825) = 58.251 kN/㎡

- 시공중 편토압 산정 (지하수가 없는 경우 작용 토압)

q_1 = 0.426 ×(0.000 + 20.000 × 0.300) = 2.556 kN/㎡

q_2 = 2.556 + 0.426 ×(20.000 × 0.800) = 9.372 kN/㎡

q_3 = 9.372 + 0.426 ×(20.000 × 0.700) = 15.336 kN/㎡

q_4 = 15.336 + 0.426 ×(20.000 × 0.700) = 21.300 kN/㎡

q_5 = 21.300 + 0.426 ×(20.000 × 0.700) = 27.264 kN/㎡

q_6 = 27.264 + 0.426 ×(20.000 × 0.700) = 33.228 kN/㎡

q_7 = 33.228 + 0.426 ×(20.000 × 0.700) = 39.192 kN/㎡

q_8 = 39.192 + 0.426 ×(20.000 × 0.825) = 46.221 kN/㎡

4) 온도하중

토피가 1.0m 이상일 경우에는 온도변화를 고려치 않으며, 토피가 1.0m 이하일 경우에는 다음식을 따른다.

$t = a \times t_0$ = 0.390 × 15.0 = 5.850 ℃

t : 박스 구조물의 상부 슬래브에 작용하는 온도변화

a : 토피심도(m)에 따른 저감률 $a=1-h_0$ (h_0:토피심도)

t_0 : 지표면에서의 기본온도 변화

상부슬래브의 두께가 700mm 이상인 경우 $t_0 = \pm 10$℃

상부슬래브의 두께가 700mm 미만인 경우 $t_0 = \pm 15$℃

토피고 H < 1.0m 이하이므로 to = ±15℃(슬래브두께=600mm)

5) 건조수축

$$\Delta Tx = \frac{\varepsilon}{\alpha} = \frac{-0.00015}{0.00001} = -15\,^{\circ}C$$

6) 장대레일 하중

장대레일 종하중은 필요시에 고려하여야 하며, 1궤도당 10 kN/m로 하고 작용위치는 상부슬래브 축선으로 한다. (단, 토피가 1.0m 이상인 경우는 이를 무시한다.)

토피가 1.215 m 이므로 장대레일 하중을 무시한다.

H_r = 0.000 × 4 / 14.590 = 0.000 kN/㎡

7) 상시 지반반력 계수

지지 지반 N치 = 19

Eo = 2800 × N = 2800 × 19 = 53200

Kvo = 1 / 0.3 x α x Eo = 1 / 0.3 × 1 x 53200 = 177333

Bv = √ Av = √ (4.600 × 4.600) = 4.600

Kv = Kvo (Bv/0.3)^-3/4 = 22886 kN/㎡

22886 × (0.600 / 2 + 0.850 / 2) = 16592 kN/m² - 저판 단부 스프링

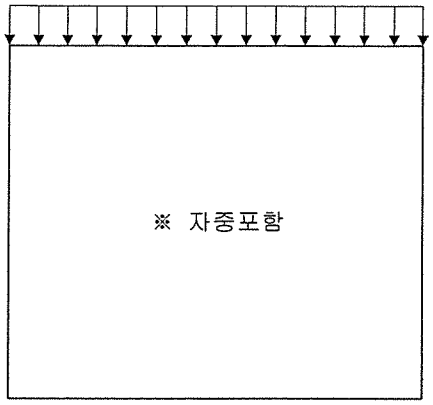
22886 × (0.850 / 2 + 0.483 / 2) = 15257 kN/m² - 저판 전단검토위치

22886 × (0.483 / 2 + 0.483 / 2) = 11061 kN/m² - 저판 중앙부 스프링

5. 하중재하도

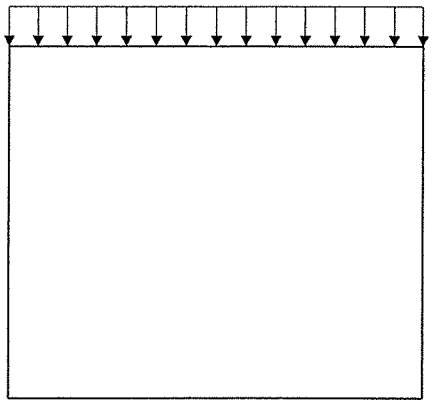
① 고정하중

W_D = 28.240 kN/㎡



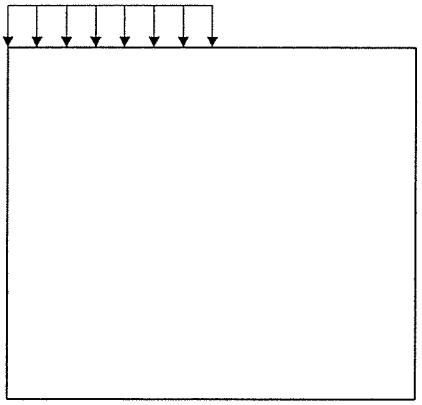
② 활하중(만재하)

W_L = 29.842 kN/㎡



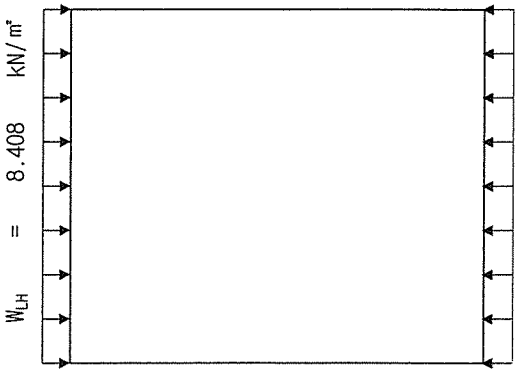
③ 활하중(편재하)

W_L = 29.842 kN/㎡



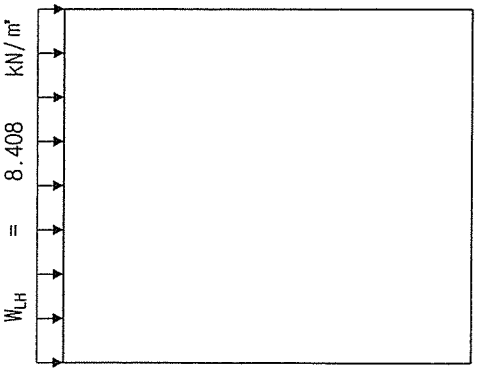
④ 활하중에 의한 측압(만재하)

W_{LH} = 8.408 kN/㎡

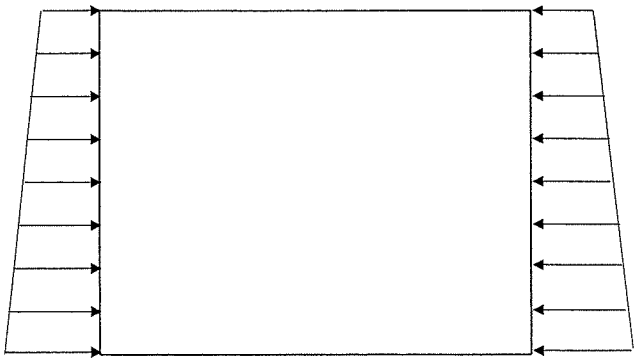


⑤ 활하중에 의한 측압(편재하)

W_{LH} = 8.408 kN/㎡



⑥ 수평토압(지하수 없는 경우)

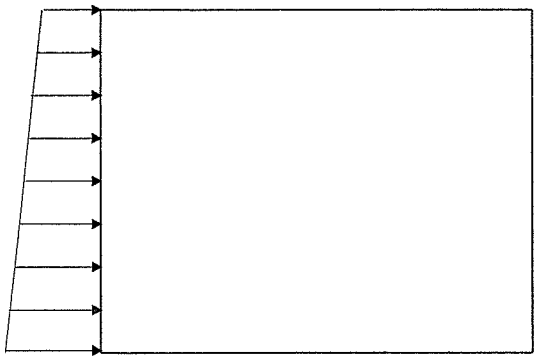


q_1 = 14.586 kN/㎡

q_7 = 58.251 kN/㎡

⑦ 편측토압(지하수 없는 경우)

q_1 = 2.556 kN/㎡



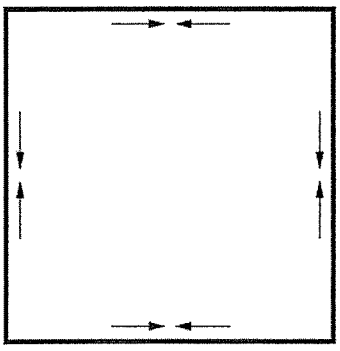
q_7 = 46.221 kN/㎡

⑧ 온도하중

△T = 5.85 °

⑨ 건조수축

△T = -15 °



⑩ 장대레일 종하중

Hr = 0.000 kN/m^2

6. 하중계수 및 하중조합

1) 극한하중 검토시

구분	고정하중	활하중		활하중 측압		수평토압 (지하수無)		온도하중		건조수축	장대레일	비고
				양측재하	편측재하	양측재하	편측재하					
		전경간	1/2	수평	수평	수평	수평	온도상승	온도하강			
	LC1	LC2	LC3	LC4	LC5	LC6	LC7	LC8	LC9	LC10	LC11	
1	1.35	1.85		1.85		1.6						
2	1.35	1.85		1.85		0.6						
3	1.35		1.85		1.85	1.6						
4	1.35		1.85		1.85	0.6						
5	1.6	1.60		1.60		1.6						
6	1.6	1.60		1.60		0.6						
7	1.6		1.6		1.6	1.6						
8	1.6		1.6		1.6	0.6						
9	1.35	1.40		1.40		1.6		1.35		1.35		
10	1.35	1.40		1.40		0.6		1.35		1.35		
11	1.35	1.40		1.40		1.6			1.35	1.35	1.40	
12	1.35	1.40		1.40		0.6			1.35	1.35	1.40	
13	1.35		1.40		1.40	1.6		1.35		1.35		
14	1.35		1.40		1.40	0.6		1.35		1.35		
15	1.35		1.40		1.40	1.6			1.35	1.35	1.4	
16	1.35		1.40		1.40	0.6			1.35	1.35	1.4	
17	1.35		1.85		1.85		1.60					
18	1.35		1.85		1.85		0.60					
19	1.60		1.60		1.60		1.60					
20	1.60		1.60		1.60		0.60					

2) 사용하중 검토시

구분	고정하중	활하중		활하중 측압		수평토압 (지하수無)		온도하중		건조수축	장대레일	비고
				양측재하	편측재하	양측재하	편측재하					
		전경간	1/2	수평	수평	수평	수평	온도상승	온도하강			
	LC1	LC2	LC3	LC4	LC5	LC6	LC7	LC8	LC9	LC10	LC11	
21	1.0	1.0		1.0		1.0						
22	1.0	1.0		1.0		0.5						
23	1.0		1.0		1.0	1.0						
24	1.0		1.0		1.0	0.5						
25	1.0	1.0		1.0		1.0		1.0			1.0	
26	1.0	1.0		1.0		0.5		1.0			1.0	
27	1.0	1.0		1.0		1.0			1.0	1.0	1.0	
28	1.0	1.0		1.0		0.5			1.0	1.0	1.0	
29	1.0		1.0		1.0	1.0		1.0			1.0	
30	1.0		1.0		1.0	0.5		1.0			1.0	
31	1.0		1.0		1.0	1.0			1.0	1.0	1.0	
32	1.0		1.0		1.0	0.5			1.0	1.0	1.0	
33	1.0					1.0						
34	1.0		1.0		1.0		1.0					
35	1.0		1.0		1.0		0.5					

7. INPUT DATA

```
*VERSION
   8.3.1

*UNIT    ; Unit System
; FORCE, LENGTH, HEAT, TEMPER
   KN   , M, J, C

*STRUCTYPE    ; Structure Type
; iSTYP, iMASS, iSMAS, bMASSOFFSET, bSELFWEIGHT, GRAV, TEMPER, bALIGNBEAM, bALIGNSLAB, bROTRIGID
     1, 1, 1, NO, YES, 9.806, 0, NO, NO, NO

*REBAR-MATL-CODE    ; Rebar Material Code
; CONC_CODE, CONC_MDB, SRC_CODE, SRC_MDB
 KS01-Civil(RC), SD300, KS01-Civil(RC), SD300

*NODE    ; Nodes
; iNO, X, Y, Z
     1, 0, 0, 0
     2, 0.85, 0, 0
     3, 1.742, 0, 0
     4, 2.633, 0, 0
     5, 3.525, 0, 0
     6, 4.417, 0, 0
     7, 5.308, 0, 0
     8, 6.2, 0, 0
     9, 7.05, 0, 0
    10, 0, 0, 0.825
    11, 7.05, 0, 0.825
    12, 0, 0, 1.525
    13, 7.05, 0, 1.525
    14, 0, 0, 2.225
    15, 7.05, 0, 2.225
    16, 0, 0, 2.925
    17, 7.05, 0, 2.925
    18, 0, 0, 3.625
    19, 7.05, 0, 3.625
    20, 0, 0, 4.325
    21, 7.05, 0, 4.325
    22, 0, 0, 5.125
    23, 0.8, 0, 5.125
    24, 1.708, 0, 5.125
    25, 2.617, 0, 5.125
    26, 3.525, 0, 5.125
    27, 4.433, 0, 5.125
    28, 5.342, 0, 5.125
    29, 6.25, 0, 5.125
    30, 7.05, 0, 5.125

*ELEMENT    ; Elements
; iEL, TYPE, iMAT, iPRO, iN1, iN2, ANGLE, iSUB, EXVAL, iOPT(EXVAL2) ; Frame  Element
; iEL, TYPE, iMAT, iPRO, iN1, iN2, ANGLE, iSUB, EXVAL, EXVAL2, bLMT ; Comp/Tens Truss
; iEL, TYPE, iMAT, iPRO, iN1, iN2, iN3, iN4, iSUB, iWID             ; Planar Element
; iEL, TYPE, iMAT, iPRO, iN1, iN2, iN3, iN4, iN5, iN6, iN7, iN8     ; Solid  Element
; iEL, TYPE, iMAT, iPRO, iN1, iN2, REF, RPX, RPY, RPZ, iSUB, EXVAL  ; Frame(Ref. Point)
     1, BEAM  ,    2,    2,    1,    2,  180
     2, BEAM  ,    2,    2,    2,    3,  180
     3, BEAM  ,    2,    2,    3,    4,  180
     4, BEAM  ,    2,    2,    4,    5,  180
     5, BEAM  ,    2,    2,    5,    6,  180
     6, BEAM  ,    2,    2,    6,    7,  180
     7, BEAM  ,    2,    2,    7,    8,  180
     8, BEAM  ,    2,    2,    8,    9,  180
     9, BEAM  ,    2,    3,    1,   10,  180
    10, BEAM  ,    2,    3,    9,   11,    0
    11, BEAM  ,    2,    3,   10,   12,  180
    12, BEAM  ,    2,    3,   11,   13,    0
    13, BEAM  ,    2,    3,   12,   14,  180
    14, BEAM  ,    2,    3,   13,   15,    0
    15, BEAM  ,    2,    3,   14,   16,  180
    16, BEAM  ,    2,    3,   15,   17,    0
    17, BEAM  ,    2,    3,   16,   18,  180
    18, BEAM  ,    2,    3,   17,   19,    0
    19, BEAM  ,    2,    3,   18,   20,  180
    20, BEAM  ,    2,    3,   19,   21,    0
    21, BEAM  ,    2,    3,   20,   22,  180
    22, BEAM  ,    2,    3,   21,   30,    0
    23, BEAM  ,    2,    1,   22,   23,    0
    24, BEAM  ,    2,    1,   23,   24,    0
    25, BEAM  ,    2,    1,   24,   25,    0
    26, BEAM  ,    2,    1,   25,   26,    0
    27, BEAM  ,    2,    1,   26,   27,    0
    28, BEAM  ,    2,    1,   27,   28,    0
    29, BEAM  ,    2,    1,   28,   29,    0
```

```
    30, BEAM ,    2,     1,    29,    30,     0

*MATERIAL    ; Material
; iMAT, TYPE, MNAME, SPHEAT, HEATCO, PLAST, TUNIT, bMASS, DAMPRATIO, [DATA1]          ; STEEL, CONC, USER
; iMAT, TYPE, MNAME, SPHEAT, HEATCO, PLAST, TUNIT, bMASS, DAMPRATIO, [DATA2], [DATA2] ; SRC
; [DATA1] : 1, DB, NAME, CODE
; [DATA1] : 2, ELAST, POISN, THERMAL, DEN, MASS
; [DATA1] : 3, Ex, Ey, Ez, Tx, Ty, Tz, Sxy, Sxz, Syz, Pxy, Pxz, Pyz, DEN, MASS   ; Orthotropic
; [DATA2] : 1, DB, NAME, CODE or 2, ELAST, POISN, THERMAL, DEN, MASS
    1, USER , STEEL              , 0, 0, , C, NO, 0, 2, 2.0000e+008,   0.3, 1.1700e-005, 76.8196,     0
    2, USER , CONC               , 0, 0, , C, NO, 0, 2, 2.7537e+007,  0.18, 1.0000e-005,  24.5,     0

*MATL-COLOR
; iMAT, W_R, W_G, W_B, HF_R, HF_G, HF_B, HE_R, HE_G, HE_B, bBLEND, FACT
    1, 255,   0,   0,    0, 255,   0,    0,   0, 255,  NO, 0.5
    2, 255,   0,   0,    0, 255,   0,    0,   0, 255,  NO, 0.5


*SECTION    ; Section
; iSEC, TYPE, SNAME, [OFFSET], bSD, SHAPE, [DATA1], [DATA2]                    ; 1st line - DB/USER
; iSEC, TYPE, SNAME, [OFFSET], bSD, SHAPE, BLT, D1, ..., D8, iCEL              ; 1st line - VALUE
;       AREA, ASy, ASz, Ixx, Iyy, Izz                                         ; 2nd line
;       CyP, CyM, CzP, CzM, QyB, QzB, PERI_OUT, PERI_IN, Cy, Cz               ; 3rd line
;       Y1, Y2, Y3, Y4, Z1, Z2, Z3, Z4, Zyy, Zzz                              ; 4th line
; iSEC, TYPE, SNAME, [OFFSET], bSD, SHAPE, ELAST, DEN, POIS, POIC, SF          ; 1st line - SRC
;       D1, D2, [SRC]                                                         ; 2nd line
; iSEC, TYPE, SNAME, [OFFSET], bSD, SHAPE, 1, DB, NAME1, NAME2, D1, D2         ; 1st line - COMBINED
; iSEC, TYPE, SNAME, [OFFSET], bSD, SHAPE, 2, D11, D12, D13, D14, D15, D21, D22, D23, D24
; iSEC, TYPE, SNAME, [OFFSET2], bSD, SHAPE, iyVAR, izVAR, STYPE                ; 1st line - TAPERED
;       DB, NAME1, NAME2                                                      ; 2nd line(STYPE=DB)
;       [DIM1], [DIM2]                                                        ; 2nd line(STYPE=USER)
;       D11, D12, D13, D14, D15, D16, D17, D18                                ; 2nd line(STYPE=VALUE)
;       AREA1, ASy1, ASz1, Ixx1, Iyy1, Izz1                                   ; 3rd line(STYPE=VALUE)
;       CyP1, CyM1, CzP1, CzM1, QyB1, QzB1, PERI_OUT1, PERI_IN1, Cy1, Cz1     ; 4th line(STYPE=VALUE)
;       Y11, Y12, Y13, Y14, Z11, Z12, Z13, Z14, Zyy1, Zyy2                    ; 5th line(STYPE=VALUE)
;       D21, D22, D23, D24, D25, D26, D27, D28                                ; 6th line(STYPE=VALUE)
;       AREA2, ASy2, ASz2, Ixx2, Iyy2, Izz2                                   ; 7th line(STYPE=VALUE)
;       CyP2, CyM2, CzP2, CzM2, QyB2, QzB2, PERI_OUT2, PERI_IN2, Cy2, Cz2     ; 8th line(STYPE=VALUE)
;       Y21, Y22, Y23, Y24, Z21, Z22, Z23, Z24, Zyy2, Zzz2                    ; 9th line(STYPE=VALUE)
;       OPT1, OPT2, [JOINT]                                                   ; 2nd line(STYPE=PSC)
;       ELAST, DEN, POIS, POIC                                                ; 2nd line(STYPE=PSC-CMPW)
;       bSHEARCHK, [SCHK-I], [SCHK-J], [WT-I], [WT-J], WI, WJ, bSYM, bSIDEHOLE ; 3rd line(STYPE=PSC)
;       bSHEARCHK, bSYM, bHUNCH, [CMPWEB-I], [CMPWEB-J]                       ; 3rd line(STYPE=PSC-CMPW)
;       bUSERDEFMESHSIZE, MESHSIZE, bUSERINPSTIFF, [STIFF-I], [STIFF-J]       ; 4th line(STYPE=PSC)
;       [SIZE-A]-i                                                            ; 5th line(STYPE=PSC)
;       [SIZE-B]-i                                                            ; 6th line(STYPE=PSC)
;       [SIZE-C]-i                                                            ; 7th line(STYPE=PSC)
;       [SIZE-D]-i                                                            ; 8th line(STYPE=PSC)
;       [SIZE-A]-i                                                            ; 9th line(STYPE=PSC)
;       [SIZE-B]-i                                                            ; 10th line(STYPE=PSC)
;       [SIZE-C]-i                                                            ; 11th line(STYPE=PSC)
;       [SIZE-D]-i                                                            ; 12th line(STYPE=PSC)
;       GN, CTC, Bc, Tc, Hh, EsEc, DsDc, Ps, Pc, bMULTI, EsEc-L, EsEc-S       ; 2nd line(STYPE=CMP-B/I)
;       SW_i, Hw_i, tw_i, B_i, Bf1_i, tf1_i, B2_i, Bf2_i, tf2_i               ; 3rd line(STYPE=CMP-B/I)
;       SW_i, Hw_i, tw_i, B_i, Bf1_i, tf1_i, B2_i, Bf2_i, tf2_i               ; 4th line(STYPE=CMP-B/I)
;       N1, N2, Hr, Hr2, tr1, tr2                                             ; 5th line(STYPE=CMP-B)
;       GN, CTC, Bc, Tc, Hh, EgdEsb, DgdDsb, Pgd, Psb, bSYM, SW_i, SW_i       ; 2nd line(STYPE=CMP-CI/CT)
;       OPT1, OPT2, [JOINT]                                                   ; 3rd line(STYPE=CMP-CI/CT)
;       [SIZE-A]-i                                                            ; 4th line(STYPE=CMP-CI/CT)
;       [SIZE-B]-i                                                            ; 5th line(STYPE=CMP-CI/CT)
;       [SIZE-C]-i                                                            ; 6th line(STYPE=CMP-CI/CT)
;       [SIZE-D]-i                                                            ; 7th line(STYPE=CMP-CI/CT)
;       [SIZE-A]-i                                                            ; 8th line(STYPE=CMP-CI/CT)
;       [SIZE-B]-i                                                            ; 9th line(STYPE=CMP-CI/CT)
;       [SIZE-C]-i                                                            ; 10th line(STYPE=CMP-CI/CT)
;       [SIZE-D]-i                                                            ; 11th line(STYPE=CMP-CI/CT)
; iSEC, TYPE, SNAME, [OFFSET], bSD, STYPE1, STYPE2                            ; 1st line - CONSTRUCT
;       SHAPE, ...(same with other type data from shape)                      ; Before (STYPE1)
;       SHAPE, ...(same with other type data from shape)                      ; After  (STYPE2)
; iSEC, TYPE, SNAME, [OFFSET], bSD, SHAPE                                     ; 1st line - COMPOSITE-SB
;       Hw, tw, B, Bf1, tf1, B2, Bf2, tf2                                     ; 2nd line
;       N1, N2, Hr, Hr2, tr1, tr2                                             ; 3rd line
;       SW, GN, CTC, Bc, Tc, Hh, EsEc, DsDc, Ps, Pc, bMulti, Elong, Esh       ; 4th line
; iSEC, TYPE, SNAME, [OFFSET], bSD, SHAPE                                     ; 1st line - COMPOSITE-SI
;       Hw, tw, B, tf1, B2, tf2                                               ; 2nd line
;       SW, GN, CTC, Bc, Tc, Hh, EsEc, DsDc, Ps, Pc, bMulti, Elong, Esh       ; 3rd line
; iSEC, TYPE, SNAME, [OFFSET], bSD, SHAPE                                     ; 1st line - COMPOSITE-CI/CT
;       OPT1, OPT2, [JOINT]                                                   ; 2nd line
;       [SIZE-A]                                                              ; 3rd line
;       [SIZE-B]                                                              ; 4th line
;       [SIZE-C]                                                              ; 5th line
;       [SIZE-D]                                                              ; 6th line
;       SW, GN, CTC, Bc, Tc, Hh, EgdEsb, DgdDsb, Pgd, Psb                     ; 7th line
; iSEC, TYPE, SNAME, [OFFSET], bSD, SHAPE                                     ; 1st line - PSC
;       OPT1, OPT2, [JOINT]                                                   ; 2nd line
;       bSHEARCHK, [SCHK], [WT], WIDTH, bSYM, bSIDEHOLE                       ; 3rd line
;       bUSERDEFMESHSIZE, MESHSIZE, bUSERINPSTIFF, [STIFF]                    ; 4th line
```

```
;       [SIZE-A]                                                                ; 5th line
;       [SIZE-B]                                                                ; 6th line
;       [SIZE-C]                                                                ; 7th line
;       [SIZE-D]                                                                ; 8th line
; [DATA1] : 1, DB, NAME or 2, D1, D2, D3, D4, D5, D6, D7, D8, D9, D10
; [DATA2] : CCSHAPE or iCEL or iN1, iN2
; [SRC]  : 1, DB, NAME1, NAME2 or 2, D1, D2, D3, D4, D5, D6, D7, D8, D9, D10, iN1, iN2
; [DIM1], [DIM2] : D1, D2, D3, D4, D5, D6, D7, D8
; [OFFSET] : OFFSET, iCENT, iREF, iHORZ, HUSER, iVERT, VUSER
; [OFFSET2]: OFFSET, iCENT, iREF, iHORZ, HUSERI, HUSERJ, iVERT, VUSERI, VUSERJ
; [JOINT]  :  8(1CELL, 2CELL), 13(3CELL),  9(PSCM),  8(PSCH), 9(PSCT),  2(PSCB), 0(nCELL),  2(nCEL2)
; [SIZE-A] :  6(1CELL, 2CELL), 10(3CELL), 10(PSCM),  6(PSCH), 8(PSCT), 10(PSCB), 5(nCELL), 11(nCEL2)
; [SIZE-B] :  6(1CELL, 2CELL), 12(3CELL),  6(PSCM),  6(PSCH), 8(PSCT),  6(PSCB), 8(nCELL), 18(nCEL2)
; [SIZE-C] : 10(1CELL, 2CELL), 13(3CELL),  9(PSCM), 10(PSCH), 7(PSCT),  8(PSCB), 0(nCELL), 11(nCEL2)
; [SIZE-D] :  8(1CELL, 2CELL), 13(3CELL),  6(PSCM),  7(PSCH), 8(PSCT),  5(PSCB), 0(nCELL), 18(nCEL2)
; [STIFF]  : AREA, ASy, ASz, Ixx, Iyy, Izz
; [SCHK]   : bAUTO_Z1, Z1, bAUTO_Z3, Z3
; [WT]     : bAUTO_TOR, TOR, bAUTO_SHR1, SHR1, bAUTO_SHR2, SHR2, bAUTO_SHR3, SHR3
; [CMPWEB] : EFD, LRF, A, B, H, T
   1, DBUSER    , TOPSLAB           , CC, 0, 0, 0, 0, 0, 0, YES, SB , 2, 0.6, 1, 0, 0, 0, 0, 0, 0, 0, 0
   2, DBUSER    , BOTSLAB           , CC, 0, 0, 0, 0, 0, 0, YES, SB , 2, 0.65, 1, 0, 0, 0, 0, 0, 0, 0, 0
   3, DBUSER    , WALL              , CC, 0, 0, 0, 0, 0, 0, YES, SB , 2, 0.6, 1, 0, 0, 0, 0, 0, 0, 0, 0

*SECT-COLOR
; iSEC, W_R, W_G, W_B, HF_R, HF_G, HF_B, HE_R, HE_G, HE_B, bBLEND, FACT
   1, 255,   0,   0,    0, 255,   0,    0,   0, 255,  NO, 0.5
   2, 255,   0,   0,    0, 255,   0,    0,   0, 255,  NO, 0.5
   3, 255,   0,   0,    0, 255,   0,    0,   0, 255,  NO, 0.5

*DGN-SECT
; iSEC, TYPE, SNAME, [OFFSET], bSD, SHAPE, [DATA1], [DATA2]                    ; 1st line - DB/USER
; iSEC, TYPE, SNAME, [OFFSET], bSD, SHAPE, BLT, D1, ..., D8, iCEL             ; 1st line - VALUE
;       AREA, ASy, ASz, Ixx, Iyy, Izz                                         ; 2nd line
;       CyP, CyM, CzP, CzM, QyB, QzB, PERI_OUT, PERI_IN, Cy, Cz               ; 3rd line
;       Y1, Y2, Y3, Y4, Z1, Z2, Z3, Z4, Zyy, Zzz                              ; 4th line
; iSEC, TYPE, SNAME, [OFFSET], bSD, SHAPE, ELAST, DEN, POIS, POIC, SF         ; 1st line - SRC
;       D1, D2, [SRC]                                                         ; 2nd line
; iSEC, TYPE, SNAME, [OFFSET], bSD, SHAPE, 1, DB, NAME1, NAME2, D1, D2        ; 1st line - COMBINED
; iSEC, TYPE, SNAME, [OFFSET], bSD, SHAPE, 2, D11, D12, D13, D14, D15, D21, D22, D23, D24
; iSEC, TYPE, SNAME, [OFFSET2], bSD, SHAPE, iyVAR, izVAR, STYPE               ; 1st line - TAPERED
;       DB, NAME1, NAME2                                                      ; 2nd line(STYPE=DB)
;       [DIM1], [DIM2]                                                        ; 2nd line(STYPE=USER)
;       D11, D12, D13, D14, D15, D16, D17, D18                                ; 2nd line(STYPE=VALUE)
;       AREA1, ASy1, ASz1, Ixx1, Iyy1, Izz1                                   ; 3rd line(STYPE=VALUE)
;       CyP1, CyM1, CzP1, CzM1, QyB1, QzB1, PERI_OUT1, PERI_IN1, Cy1, Cz1     ; 4th line(STYPE=VALUE)
;       Y11, Y12, Y13, Y14, Z11, Z12, Z13, Z14, Zyy1, Zyy2                    ; 5th line(STYPE=VALUE)
;       D21, D22, D23, D24, D25, D26, D27, D28                                ; 6th line(STYPE=VALUE)
;       AREA2, ASy2, ASz2, Ixx2, Iyy2, Izz2                                   ; 7th line(STYPE=VALUE)
;       CyP2, CyM2, CzP2, CzM2, QyB2, QzB2, PERI_OUT2, PERI_IN2, Cy2, Cz2     ; 8th line(STYPE=VALUE)
;       Y21, Y22, Y23, Y24, Z21, Z22, Z23, Z24, Zyy2, Zzz2                    ; 9th line(STYPE=VALUE)
;       OPT1, OPT2, [JOINT]                                                   ; 2nd line(STYPE=PSC)
;       ELAST, DEN, POIS, POIC                                                ; 2nd line(STYPE=PSC-CMPW)
;       bSHEARCHK, [SCHK-I], [SCHK-J], [WT-I], [WT-J], WI, WJ, bSYM, bSIDEHOLE ; 3rd line(STYPE=PSC)
;       bSHEARCHK, bSYM, bHUNCH, [CMPWEB-I], [CMPWEB-J]                       ; 3rd line(STYPE=PSC-CMPW)
;       bUSERDEFMESHSIZE, MESHSIZE, bUSERINPSTIFF, [STIFF-I], [STIFF-J]       ; 4th line(STYPE=PSC)
;       [SIZE-A]-i                                                            ; 5th line(STYPE=PSC)
;       [SIZE-B]-i                                                            ; 6th line(STYPE=PSC)
;       [SIZE-C]-i                                                            ; 7th line(STYPE=PSC)
;       [SIZE-D]-i                                                            ; 8th line(STYPE=PSC)
;       [SIZE-A]-i                                                            ; 9th line(STYPE=PSC)
;       [SIZE-B]-i                                                            ; 10th line(STYPE=PSC)
;       [SIZE-C]-i                                                            ; 11th line(STYPE=PSC)
;       [SIZE-D]-i                                                            ; 12th line(STYPE=PSC)
;       GN, CTC, Bc, Tc, Hh, EsEc, DsDc, Ps, Pc, bMULTI, EsEc-L, EsEc-S       ; 2nd line(STYPE=CMP-B/I)
;       SW_i, Hw_i, tw_i, B_i, Bf1_i, tf1_i, B2_i, Bf2_i, tf2_i               ; 3rd line(STYPE=CMP-B/I)
;       SW_i, Hw_i, tw_i, B_i, Bf1_i, tf1_i, B2_i, Bf2_i, tf2_i               ; 4th line(STYPE=CMP-B/I)
;       N1, N2, Hr, Hr2, tr1, tr2                                             ; 5th line(STYPE=CMP-B)
;       GN, CTC, Bc, Tc, Hh, EqdEsb, DqdDsb, Pqd, Psb, bSYM, SW_i, SW_i       ; 2nd line(STYPE=CMP-CI/CT)
;       OPT1, OPT2, [JOINT]                                                   ; 3rd line(STYPE=CMP-CI/CT)
;       [SIZE-A]-i                                                            ; 4th line(STYPE=CMP-CI/CT)
;       [SIZE-B]-i                                                            ; 5th line(STYPE=CMP-CI/CT)
;       [SIZE-C]-i                                                            ; 6th line(STYPE=CMP-CI/CT)
;       [SIZE-D]-i                                                            ; 7th line(STYPE=CMP-CI/CT)
;       [SIZE-A]-i                                                            ; 8th line(STYPE=CMP-CI/CT)
;       [SIZE-B]-i                                                            ; 9th line(STYPE=CMP-CI/CT)
;       [SIZE-C]-i                                                            ; 10th line(STYPE=CMP-CI/CT)
;       [SIZE-D]-i                                                            ; 11th line(STYPE=CMP-CI/CT)
; iSEC, TYPE, SNAME, [OFFSET], bSD, STYPE1, STYPE2                            ; 1st line - CONSTRUCT
;       SHAPE, ...(same with other type data from shape)                      ; Before (STYPE1)
;       SHAPE, ...(same with other type data from shape)                      ; After  (STYPE2)
; iSEC, TYPE, SNAME, [OFFSET], bSD, SHAPE                                     ; 1st line - COMPOSITE-SB
;       Hw, tw, B, Bf1, tf1, B2, Bf2, tf2                                     ; 2nd line
;       N1, N2, Hr, Hr2, tr1, tr2                                             ; 3rd line
;       SW, GN, CTC, Bc, Tc, Hh, EsEc, DsDc, Ps, Pc, bMulti, Elong, Esh       ; 4th line
; iSEC, TYPE, SNAME, [OFFSET], bSD, SHAPE                                     ; 1st line - COMPOSITE-SI
;       Hw, tw, B, tf1, B2, tf2                                               ; 2nd line
;       SW, GN, CTC, Bc, Tc, Hh, EsEc, DsDc, Ps, Pc, bMulti, Elong, Esh       ; 3rd line
```

```
; iSEC, TYPE, SNAME, [OFFSET], bSD, SHAPE                                  ; 1st line - COMPOSITE-CI/CT
;       OPT1, OPT2, [JOINT]                                                ; 2nd line
;       [SIZE-A]                                                           ; 3rd line
;       [SIZE-B]                                                           ; 4th line
;       [SIZE-C]                                                           ; 5th line
;       [SIZE-D]                                                           ; 6th line
;       SW, GN, CTC, Bc, Tc, Hh, EgdEsb, DgdDsb, Pgd, Psb                  ; 7th line
; iSEC, TYPE, SNAME, [OFFSET], bSD, SHAPE                                  ; 1st line - PSC
;       OPT1, OPT2, [JOINT]                                                ; 2nd line
;       bSHEARCHK, [SCHK], [WT], WIDTH, bSYM, bSIDEHOLE                    ; 3rd line
;       bUSERDEFMESHSIZE, MESHSIZE, bUSERINPSTIFF, [STIFF]                 ; 4th line
;       [SIZE-A]                                                           ; 5th line
;       [SIZE-B]                                                           ; 6th line
;       [SIZE-C]                                                           ; 7th line
;       [SIZE-D]                                                           ; 8th line
; [DATA1] : 1, DB, NAME or 2, D1, D2, D3, D4, D5, D6, D7, D8, D9, D10
; [DATA2] : CCSHAPE or iCEL or iN1, iN2
; [SRC]   : 1, DB, NAME1, NAME2 or 2, D1, D2, D3, D4, D5, D6, D7, D8, D9, D10, iN1, iN2
; [DIM1], [DIM2] : D1, D2, D3, D4, D5, D6, D7, D8
; [OFFSET] : OFFSET, iCENT, iREF, iHORZ, HUSER, iVERT, VUSER
; [OFFSET2]: OFFSET, iCENT, iREF, iHORZ, HUSERI, HUSERJ, iVERT, VUSERI, VUSERJ
; [JOINT]  :  8(1CELL, 2CELL), 13(3CELL),  9(PSCM),  8(PSCH), 9(PSCT),  2(PSCB), 0(nCELL),  2(nCEL2)
; [SIZE-A] :  6(1CELL, 2CELL), 10(3CELL), 10(PSCM),  6(PSCH), 8(PSCT), 10(PSCB), 5(nCELL), 11(nCEL2)
; [SIZE-B] :  6(1CELL, 2CELL), 12(3CELL),  6(PSCM),  6(PSCH), 8(PSCT),  6(PSCB), 8(nCELL), 18(nCEL2)
; [SIZE-C] : 10(1CELL, 2CELL), 13(3CELL),  9(PSCM), 10(PSCH), 7(PSCT),  8(PSCB), 0(nCELL), 11(nCEL2)
; [SIZE-D] :  8(1CELL, 2CELL), 13(3CELL),  6(PSCM),  7(PSCH), 8(PSCT),  5(PSCB), 0(nCELL), 18(nCEL2)
; [STIFF]  : AREA, ASy, ASz, Ixx, Iyy, Izz
; [SCHK]   : bAUTO_Z1, Z1, bAUTO_Z3, Z3
; [WT]     : bAUTO_TOR, TOR, bAUTO_SHR1, SHR1, bAUTO_SHR2, SHR2, bAUTO_SHR3, SHR3
; [CMPWEB] : EFD, LRF, A, B, H, T
   1, DBUSER    , TOPSLAB          , CC, 0, 0, 0, 0, 0, 0, YES, SB , 2, 0.6, 1, 0, 0, 0, 0, 0, 0, 0, 0
   2, DBUSER    , BOTSLAB          , CC, 0, 0, 0, 0, 0, 0, YES, SB , 2, 0.65, 1, 0, 0, 0, 0, 0, 0, 0, 0
   3, DBUSER    , WALL             , CC, 0, 0, 0, 0, 0, 0, YES, SB , 2, 0.6, 1, 0, 0, 0, 0, 0, 0, 0, 0


*STLDCASE    ; Static Load Cases
; LCNAME, LCTYPE, DESC
   LC1  , USER,
   LC2  , USER,
   LC3  , USER,
   LC4  , USER,
   LC5  , USER,
   LC6  , USER,
   LC7  , USER,
   LC8  , USER,
   LC9  , USER,
   LC10 , USER,
   LC11 , USER,
   NCOMB1, USER,
   NCOMB2, USER,
   NCOMB3, USER,
   NCOMB4, USER,
   NCOMB5, USER,
   NCOMB6, USER,
   NCOMB7, USER,
   NCOMB8, USER,
   NCOMB9, USER,
   NCOMB10, USER,
   NCOMB11, USER,
   NCOMB12, USER,
   NCOMB13, USER,
   NCOMB14, USER,
   NCOMB15, USER,
   NCOMB16, USER,
   NCOMB17, USER,
   NCOMB18, USER,
   NCOMB19, USER,
   NCOMB20, USER,
   NCOMB21, USER,
   NCOMB22, USER,
   NCOMB23, USER,
   NCOMB24, USER,
   NCOMB25, USER,
   NCOMB26, USER,
   NCOMB27, USER,
   NCOMB28, USER,
   NCOMB29, USER,
   NCOMB30, USER,
   NCOMB31, USER,
   NCOMB32, USER,
   NCOMB33, USER,
   NCOMB34, USER,
   NCOMB35, USER,


*SPRING    ; Point Spring Supports
; NODE_LIST, Type, SDx, SDy, SDz, SRx, SRy, SRz, GROUP, FROMTYPE, EFFAREA, Kx, Ky, Kz
```

```
; NODE_LIST, Type, Direction, Vx, Vy, Vz, Stiffness, GROUP, FROMTYPE, EFFAREA
; NODE_LIST, Type, Multi-Linear Type, Direction, Vx, Vy, Vz, ax, ay, bx, by, cx, cy, dx, dy, ex, ey, fx, fy, GROUP, FROMTYPE, EFFAREA
   1, LINEAR, 1e+014, 0, 0, 0, 0, 0, NO, 0, 0, 0, 0, 0, 0, 0, , 0, 0, 0, 0, 0
   3to7, COMP  ,  5, 0, 0, 0, 14815, , 0, 0, 0, 0, 0
   2 8, COMP  ,  5, 0, 0, 0, 14469, , 0, 0, 0, 0, 0
   1 9, COMP  ,  5, 0, 0, 0, 12046, , 0, 0, 0, 0, 0

*OFFSET    ; Beam End Offsets
; ELEM_LIST, TYPE, RGDXi, RGDYi, RGDZi, RGDXj, RGDYj, RGDZj, GROUP  ; TYPE=GLOBAL
; ELEM_LIST, TYPE, RGDi, RGDj, GROUP                                ; TYPE=ELEMENT
     1, ELEMENT, 0.1375, 0,
     8, ELEMENT, 0, 0.1375,
     9, ELEMENT, 0.175, 0,
    10, ELEMENT, 0.175, 0,
    21, ELEMENT, 0, 0.3,
    22, ELEMENT, 0, 0.3,
    23, ELEMENT, 0.3, 0,
    30, ELEMENT, 0, 0.3,

*USE-STLD, LC1

; *SELFWEIGHT, X, Y, Z, GROUP
*SELFWEIGHT, 0, 0, -1,

*BEAMLOAD    ; Element Beam Loads
; ELEM_LIST, CMD, TYPE, DIR, bPROJ, [ECCEN], [VALUE], GROUP
; ELEM_LIST, CMD, TYPE, TYPE, DIR, VX, VY, VZ, bPROJ, [ECCEN], [VALUE], GROUP
; [VALUE]       : D1, P1, D2, P2, D3, P3, D4, P4
; [ECCEN]       : bECCEN, ECCDIR, I-END, J-END, bJ-END
; [ADDITIONAL]  : bADDITIONAL, ADDITIONAL_I-END, ADDITIONAL_J-END, bADDITIONAL_J-END
    23, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -28.24, 1, -28.24, 0, 0, 0, 0, , NO, 0, 0, NO
    24, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -28.24, 1, -28.24, 0, 0, 0, 0, , NO, 0, 0, NO
    25, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -28.24, 1, -28.24, 0, 0, 0, 0, , NO, 0, 0, NO
    26, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -28.24, 1, -28.24, 0, 0, 0, 0, , NO, 0, 0, NO
    27, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -28.24, 1, -28.24, 0, 0, 0, 0, , NO, 0, 0, NO
    28, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -28.24, 1, -28.24, 0, 0, 0, 0, , NO, 0, 0, NO
    29, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -28.24, 1, -28.24, 0, 0, 0, 0, , NO, 0, 0, NO
    30, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -28.24, 1, -28.24, 0, 0, 0, 0, , NO, 0, 0, NO

; End of data for load case [LC1] ------------------------

*USE-STLD, LC2

*BEAMLOAD    ; Element Beam Loads
; ELEM_LIST, CMD, TYPE, DIR, bPROJ, [ECCEN], [VALUE], GROUP
; ELEM_LIST, CMD, TYPE, TYPE, DIR, VX, VY, VZ, bPROJ, [ECCEN], [VALUE], GROUP
; [VALUE]       : D1, P1, D2, P2, D3, P3, D4, P4
; [ECCEN]       : bECCEN, ECCDIR, I-END, J-END, bJ-END
; [ADDITIONAL]  : bADDITIONAL, ADDITIONAL_I-END, ADDITIONAL_J-END, bADDITIONAL_J-END
    23, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -29.302, 1, -29.302, 0, 0, 0, 0, , NO, 0, 0, NO
    24, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -29.302, 1, -29.302, 0, 0, 0, 0, , NO, 0, 0, NO
    25, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -29.302, 1, -29.302, 0, 0, 0, 0, , NO, 0, 0, NO
    26, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -29.302, 1, -29.302, 0, 0, 0, 0, , NO, 0, 0, NO
    27, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -29.302, 1, -29.302, 0, 0, 0, 0, , NO, 0, 0, NO
    28, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -29.302, 1, -29.302, 0, 0, 0, 0, , NO, 0, 0, NO
    29, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -29.302, 1, -29.302, 0, 0, 0, 0, , NO, 0, 0, NO
    30, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -29.302, 1, -29.302, 0, 0, 0, 0, , NO, 0, 0, NO

; End of data for load case [LC2] ------------------------

*USE-STLD, LC3

*BEAMLOAD    ; Element Beam Loads
; ELEM_LIST, CMD, TYPE, DIR, bPROJ, [ECCEN], [VALUE], GROUP
; ELEM_LIST, CMD, TYPE, TYPE, DIR, VX, VY, VZ, bPROJ, [ECCEN], [VALUE], GROUP
; [VALUE]       : D1, P1, D2, P2, D3, P3, D4, P4
; [ECCEN]       : bECCEN, ECCDIR, I-END, J-END, bJ-END
; [ADDITIONAL]  : bADDITIONAL, ADDITIONAL_I-END, ADDITIONAL_J-END, bADDITIONAL_J-END
    23, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -29.302, 1, -29.302, 0, 0, 0, 0, , NO, 0, 0, NO
    24, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -29.302, 1, -29.302, 0, 0, 0, 0, , NO, 0, 0, NO
    25, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -29.302, 1, -29.302, 0, 0, 0, 0, , NO, 0, 0, NO
    26, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -29.302, 1, -29.302, 0, 0, 0, 0, , NO, 0, 0, NO

; End of data for load case [LC3] ------------------------

*USE-STLD, LC4

*BEAMLOAD    ; Element Beam Loads
; ELEM_LIST, CMD, TYPE, DIR, bPROJ, [ECCEN], [VALUE], GROUP
; ELEM_LIST, CMD, TYPE, TYPE, DIR, VX, VY, VZ, bPROJ, [ECCEN], [VALUE], GROUP
; [VALUE]       : D1, P1, D2, P2, D3, P3, D4, P4
; [ECCEN]       : bECCEN, ECCDIR, I-END, J-END, bJ-END
; [ADDITIONAL]  : bADDITIONAL, ADDITIONAL_I-END, ADDITIONAL_J-END, bADDITIONAL_J-END
     9, BEAM   , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 8.408, 1, 8.408, 0, 0, 0, 0, , NO, 0, 0, NO
    10, BEAM   , UNILOAD, GX, NO , NO, aDir[1], , , , 0, -8.408, 1, -8.408, 0, 0, 0, 0, , NO, 0, 0, NO
    11, BEAM   , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 8.408, 1, 8.408, 0, 0, 0, 0, , NO, 0, 0, NO
    12, BEAM   , UNILOAD, GX, NO , NO, aDir[1], , , , 0, -8.408, 1, -8.408, 0, 0, 0, 0, , NO, 0, 0, NO
```

```
    13, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 8.408, 1, 8.408, 0, 0, 0, 0, , NO, 0, 0, NO
    14, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, -8.408, 1, -8.408, 0, 0, 0, 0, , NO, 0, 0, NO
    15, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 8.408, 1, 8.408, 0, 0, 0, 0, , NO, 0, 0, NO
    16, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, -8.408, 1, -8.408, 0, 0, 0, 0, , NO, 0, 0, NO
    17, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 8.408, 1, 8.408, 0, 0, 0, 0, , NO, 0, 0, NO
    18, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, -8.408, 1, -8.408, 0, 0, 0, 0, , NO, 0, 0, NO
    19, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 8.408, 1, 8.408, 0, 0, 0, 0, , NO, 0, 0, NO
    20, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, -8.408, 1, -8.408, 0, 0, 0, 0, , NO, 0, 0, NO
    21, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 8.408, 1, 8.408, 0, 0, 0, 0, , NO, 0, 0, NO
    22, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, -8.408, 1, -8.408, 0, 0, 0, 0, , NO, 0, 0, NO

; End of data for load case [LC4] ------------------------

*USE-STLD, LC5

*BEAMLOAD    ; Element Beam Loads
; ELEM_LIST, CMD, TYPE, DIR, bPROJ, [ECCEN], [VALUE], GROUP
; ELEM_LIST, CMD, TYPE, TYPE, DIR, VX, VY, VZ, bPROJ, [ECCEN], [VALUE], GROUP
; [VALUE]       : D1, P1, D2, P2, D3, P3, D4, P4
; [ECCEN]       : bECCEN, ECCDIR, I-END, J-END, bJ-END
; [ADDITIONAL]  : bADDITIONAL, ADDITIONAL_I-END, ADDITIONAL_J-END, bADDITIONAL_J-END
     9, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 8.408, 1, 8.408, 0, 0, 0, 0, , NO, 0, 0, NO
    11, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 8.408, 1, 8.408, 0, 0, 0, 0, , NO, 0, 0, NO
    13, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 8.408, 1, 8.408, 0, 0, 0, 0, , NO, 0, 0, NO
    15, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 8.408, 1, 8.408, 0, 0, 0, 0, , NO, 0, 0, NO
    17, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 8.408, 1, 8.408, 0, 0, 0, 0, , NO, 0, 0, NO
    19, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 8.408, 1, 8.408, 0, 0, 0, 0, , NO, 0, 0, NO
    21, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 8.408, 1, 8.408, 0, 0, 0, 0, , NO, 0, 0, NO

; End of data for load case [LC5] ------------------------

*USE-STLD, LC6

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST, CMD, TYPE, DIR, bPROJ, [ECCEN], [VALUE], GROUP
; ELEM LIST, CMD, TYPE, TYPE, DIR, VX, VY, VZ, bPROJ, [ECCEN], [VALUE], GROUP
; [VALUE]       : D1, P1, D2, P2, D3, P3, D4, P4
; [ECCEN]       : bECCEN, ECCDIR, I-END, J-END, bJ-END
; [ADDITIONAL]  : bADDITIONAL, ADDITIONAL I-END, ADDITIONAL J-END, bADDITIONAL J-END
     9, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 58.251, 1, 51.222, 0, 0, 0, 0, , NO, 0, 0, NO
    10, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, -58.251, 1, -51.222, 0, 0, 0, 0, , NO, 0, 0, NO
    11, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 51.222, 1, 45.258, 0, 0, 0, 0, , NO, 0, 0, NO
    12, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, -51.222, 1, -45.258, 0, 0, 0, 0, , NO, 0, 0, NO
    13, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 45.258, 1, 39.294, 0, 0, 0, 0, , NO, 0, 0, NO
    14, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, -45.258, 1, -39.294, 0, 0, 0, 0, , NO, 0, 0, NO
    15, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 39.294, 1, 33.33, 0, 0, 0, 0, , NO, 0, 0, NO
    16, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, -39.294, 1, -33.33, 0, 0, 0, 0, , NO, 0, 0, NO
    17, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 33.33, 1, 27.366, 0, 0, 0, 0, , NO, 0, 0, NO
    18, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, -33.33, 1, -27.366, 0, 0, 0, 0, , NO, 0, 0, NO
    19, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 27.366, 1, 21.402, 0, 0, 0, 0, , NO, 0, 0, NO
    20, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, -27.366, 1, -21.402, 0, 0, 0, 0, , NO, 0, 0, NO
    21, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 21.402, 1, 14.586, 0, 0, 0, 0, , NO, 0, 0, NO
    22, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, -21.402, 1, -14.586, 0, 0, 0, 0, , NO, 0, 0, NO

; End of data for load case [LC6] ------------------------

*USE-STLD, LC7

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST, CMD, TYPE, DIR, bPROJ, [ECCEN], [VALUE], GROUP
; ELEM LIST, CMD, TYPE, TYPE, DIR, VX, VY, VZ, bPROJ, [ECCEN], [VALUE], GROUP
; [VALUE]       : D1, P1, D2, P2, D3, P3, D4, P4
; [ECCEN]       : bECCEN, ECCDIR, I-END, J-END, bJ-END
; [ADDITIONAL]  : bADDITIONAL, ADDITIONAL I-END, ADDITIONAL J-END, bADDITIONAL J-END
     9, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 46.221, 1, 39.192, 0, 0, 0, 0, , NO, 0, 0, NO
    11, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 39.192, 1, 33.228, 0, 0, 0, 0, , NO, 0, 0, NO
    13, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 33.228, 1, 27.264, 0, 0, 0, 0, , NO, 0, 0, NO
    15, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 27.264, 1, 21.3, 0, 0, 0, 0, , NO, 0, 0, NO
    17, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 21.3, 1, 15.336, 0, 0, 0, 0, , NO, 0, 0, NO
    19, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 15.336, 1, 9.372, 0, 0, 0, 0, , NO, 0, 0, NO
    21, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 9.372, 1, 2.556, 0, 0, 0, 0, , NO, 0, 0, NO

; End of data for load case [LC7] ------------------------

*USE-STLD, LC8

*ELTEMPER    ; Element Temperatures
; ELEM LIST, TEMPER, GROUP
    23, 5.85,
    24, 5.85,
    25, 5.85,
    26, 5.85,
    27, 5.85,
    28, 5.85,
    29, 5.85,
    30, 5.85,
```

```
; End of data for load case [LC8] ------------------------

*USE-STLD. LC9

*ELTEMPER    ; Element Temperatures
; ELEM LIST. TEMPER. GROUP
    23. -5.85.
    24. -5.85.
    25. -5.85.
    26. -5.85.
    27. -5.85.
    28. -5.85.
    29. -5.85.
    30. -5.85.

; End of data for load case [LC9] ------------------------

*USE-STLD. LC10

*ELTEMPER    ; Element Temperatures
; ELEM LIST. TEMPER. GROUP
     1. -15.
     2. -15.
     3. -15.
     4. -15.
     5. -15.
     6. -15.
     7. -15.
     8. -15.
     9. -15.
    10. -15.
    11. -15.
    12. -15.
    13. -15.
    14. -15.
    15. -15.
    16. -15.
    17. -15.
    18. -15.
    19. -15.
    20. -15.
    21. -15.
    22. -15.
    23. -15.
    24. -15.
    25. -15.
    26. -15.
    27. -15.
    28. -15.
    29. -15.
    30. -15.

; End of data for load case [LC10] ------------------------

*USE-STLD. NCOMB1

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.35.

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. [ECCEN]. [VALUE]. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. [ECCEN]. [VALUE]. GROUP
; [VALUE]       : D1. P1. D2. P2. D3. P3. D4. P4
; [ECCEN]       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; [ADDITIONAL]  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM   . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 93.2016. 1. 81.9552. 0. 0. 0. 0. . NO. 0. 0. NO
     9. BEAM   . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM   . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -15.5548. 1. -15.5548. 0. 0. 0. 0. . NO. 0. 0. N(
    10. BEAM   . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -93.2016. 1. -81.9552. 0. 0. 0. 0. . NO. 0. 0. N(
    11. BEAM   . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 81.9552. 1. 72.4128. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM   . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM   . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -81.9552. 1. -72.4128. 0. 0. 0. 0. . NO. 0. 0. N(
    12. BEAM   . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -15.5548. 1. -15.5548. 0. 0. 0. 0. . NO. 0. 0. N(
    13. BEAM   . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 72.4128. 1. 62.8704. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM   . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM   . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -72.4128. 1. -62.8704. 0. 0. 0. 0. . NO. 0. 0. N(
    14. BEAM   . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -15.5548. 1. -15.5548. 0. 0. 0. 0. . NO. 0. 0. N(
    15. BEAM   . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 62.8704. 1. 53.328. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM   . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM   . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -15.5548. 1. -15.5548. 0. 0. 0. 0. . NO. 0. 0. N(
    16. BEAM   . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -62.8704. 1. -53.328. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM   . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM   . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 53.328. 1. 43.7856. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM   . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -53.328. 1. -43.7856. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM   . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -15.5548. 1. -15.5548. 0. 0. 0. 0. . NO. 0. 0. N(
    19. BEAM   . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 43.7856. 1. 34.2432. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM   . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
```

```
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -43.7856. 1. -34.2432. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -15.5548. 1. -15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 34.2432. 1. 23.3376. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -34.2432. 1. -23.3376. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -15.5548. 1. -15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -54.2087. 1. -54.2087. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -54.2087. 1. -54.2087. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -54.2087. 1. -54.2087. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -54.2087. 1. -54.2087. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -54.2087. 1. -54.2087. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -54.2087. 1. -54.2087. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -54.2087. 1. -54.2087. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -54.2087. 1. -54.2087. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO

; End of data for load case [NCOMB1] ------------------------

*USE-STLD. NCOMB2

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.35.

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. [ECCEN]. [VALUE]. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. [ECCEN]. [VALUE]. GROUP
; [VALUE]       : D1. P1. D2. P2. D3. P3. D4. P4
; [ECCEN]       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; [ADDITIONAL]  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 34.9506. 1. 30.7332. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -15.5548. 1. -15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -34.9506. 1. -30.7332. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 30.7332. 1. 27.1548. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -30.7332. 1. -27.1548. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -15.5548. 1. -15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 27.1548. 1. 23.5764. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -15.5548. 1. -15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -27.1548. 1. -23.5764. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 23.5764. 1. 19.998. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -23.5764. 1. -19.998. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -15.5548. 1. -15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 19.998. 1. 16.4196. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -19.998. 1. -16.4196. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -15.5548. 1. -15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 16.4196. 1. 12.8412. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -16.4196. 1. -12.8412. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -15.5548. 1. -15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 12.8412. 1. 8.7516. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -15.5548. 1. -15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -12.8412. 1. -8.7516. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -54.2087. 1. -54.2087. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -54.2087. 1. -54.2087. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -54.2087. 1. -54.2087. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -54.2087. 1. -54.2087. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -54.2087. 1. -54.2087. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -54.2087. 1. -54.2087. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -54.2087. 1. -54.2087. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -54.2087. 1. -54.2087. 0. 0. 0. 0. . NO. 0. 0. NO

; End of data for load case [NCOMB2] ------------------------

*USE-STLD. NCOMB3

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.35.
```

```
*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. [ECCEN]. [VALUE]. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. [ECCEN]. [VALUE]. GROUP
; [VALUE]       : D1. P1. D2. P2. D3. P3. D4. P4
; [ECCEN]       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; [ADDITIONAL]  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 93.2016. 1. 81.9552. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -93.2016. 1. -81.9552. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 81.9552. 1. 72.4128. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -81.9552. 1. -72.4128. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 72.4128. 1. 62.8704. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -72.4128. 1. -62.8704. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 62.8704. 1. 53.328. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -62.8704. 1. -53.328. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 53.328. 1. 43.7856. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -53.328. 1. -43.7856. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 43.7856. 1. 34.2432. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -43.7856. 1. -34.2432. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 34.2432. 1. 23.3376. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -34.2432. 1. -23.3376. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -54.2087. 1. -54.2087. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -54.2087. 1. -54.2087. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -54.2087. 1. -54.2087. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -54.2087. 1. -54.2087. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO

; End of data for load case [NCOMB3] ---------------------------

*USE-STLD. NCOMB4

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.35.

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. [ECCEN]. [VALUE]. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. [ECCEN]. [VALUE]. GROUP
; [VALUE]       : D1. P1. D2. P2. D3. P3. D4. P4
; [ECCEN]       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; [ADDITIONAL]  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 34.9506. 1. 30.7332. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -34.9506. 1. -30.7332. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 30.7332. 1. 27.1548. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -30.7332. 1. -27.1548. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 27.1548. 1. 23.5764. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -27.1548. 1. -23.5764. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 23.5764. 1. 19.998. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -23.5764. 1. -19.998. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 19.998. 1. 16.4196. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -19.998. 1. -16.4196. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 16.4196. 1. 12.8412. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -16.4196. 1. -12.8412. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 12.8412. 1. 8.7516. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -12.8412. 1. -8.7516. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -54.2087. 1. -54.2087. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -54.2087. 1. -54.2087. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -54.2087. 1. -54.2087. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -54.2087. 1. -54.2087. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
```

```
; End of data for load case [NCOMB4] ------------------------

*USE-STLD. NCOMB5

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.6.

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. [ECCEN]. [VALUE]. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. [ECCEN]. [VALUE]. GROUP
; [VALUE]       : D1. P1. D2. P2. D3. P3. D4. P4
; [ECCEN]       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; [ADDITIONAL]  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 93.2016. 1. 81.9552. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -93.2016. 1. -81.9552. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -13.4528. 1. -13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 81.9552. 1. 72.4128. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -13.4528. 1. -13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -81.9552. 1. -72.4128. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 72.4128. 1. 62.8704. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -72.4128. 1. -62.8704. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -13.4528. 1. -13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 62.8704. 1. 53.328. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -62.8704. 1. -53.328. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -13.4528. 1. -13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 53.328. 1. 43.7856. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -53.328. 1. -43.7856. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -13.4528. 1. -13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 43.7856. 1. 34.2432. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -43.7856. 1. -34.2432. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -13.4528. 1. -13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 34.2432. 1. 23.3376. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -34.2432. 1. -23.3376. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -13.4528. 1. -13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.184. 1. -45.184. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -46.8832. 1. -46.8832. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -46.8832. 1. -46.8832. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.184. 1. -45.184. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -46.8832. 1. -46.8832. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.184. 1. -45.184. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -46.8832. 1. -46.8832. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.184. 1. -45.184. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.184. 1. -45.184. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -46.8832. 1. -46.8832. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.184. 1. -45.184. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -46.8832. 1. -46.8832. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.184. 1. -45.184. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -46.8832. 1. -46.8832. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.184. 1. -45.184. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -46.8832. 1. -46.8832. 0. 0. 0. 0. . NO. 0. 0. NO

; End of data for load case [NCOMB5] ------------------------

*USE-STLD. NCOMB6

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.6.

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. [ECCEN]. [VALUE]. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. [ECCEN]. [VALUE]. GROUP
; [VALUE]       : D1. P1. D2. P2. D3. P3. D4. P4
; [ECCEN]       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; [ADDITIONAL]  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 34.9506. 1. 30.7332. 0. 0. 0. 0. . NO. 0. 0. NO
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -34.9506. 1. -30.7332. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -13.4528. 1. -13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 30.7332. 1. 27.1548. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -13.4528. 1. -13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -30.7332. 1. -27.1548. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 27.1548. 1. 23.5764. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -27.1548. 1. -23.5764. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -13.4528. 1. -13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 23.5764. 1. 19.998. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -13.4528. 1. -13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
```

```
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -23.5764. 1. -19.998. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 19.998. 1. 16.4196. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -19.998. 1. -16.4196. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -13.4528. 1. -13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 16.4196. 1. 12.8412. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -13.4528. 1. -13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -16.4196. 1. -12.8412. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 12.8412. 1. 8.7516. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -12.8412. 1. -8.7516. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -13.4528. 1. -13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -46.8832. 1. -46.8832. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.184. 1. -45.184. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -46.8832. 1. -46.8832. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.184. 1. -45.184. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.184. 1. -45.184. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -46.8832. 1. -46.8832. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.184. 1. -45.184. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -46.8832. 1. -46.8832. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -46.8832. 1. -46.8832. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.184. 1. -45.184. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -46.8832. 1. -46.8832. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.184. 1. -45.184. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -46.8832. 1. -46.8832. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.184. 1. -45.184. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -46.8832. 1. -46.8832. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.184. 1. -45.184. 0. 0. 0. 0. . NO. 0. 0. NO

; End of data for load case [NCOMB6] ------------------------

*USE-STLD. NCOMB7

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.6.

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. [ECCEN]. [VALUE]. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. [ECCEN]. [VALUE]. GROUP
; [VALUE]       : D1. P1. D2. P2. D3. P3. D4. P4
; [ECCEN]       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; [ADDITIONAL]  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 93.2016. 1. 81.9552. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -93.2016. 1. -81.9552. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 81.9552. 1. 72.4128. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -81.9552. 1. -72.4128. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 72.4128. 1. 62.8704. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -72.4128. 1. -62.8704. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 62.8704. 1. 53.328. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -62.8704. 1. -53.328. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 53.328. 1. 43.7856. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -53.328. 1. -43.7856. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 43.7856. 1. 34.2432. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -43.7856. 1. -34.2432. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 34.2432. 1. 23.3376. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -34.2432. 1. -23.3376. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -46.8832. 1. -46.8832. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.184. 1. -45.184. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -46.8832. 1. -46.8832. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.184. 1. -45.184. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.184. 1. -45.184. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -46.8832. 1. -46.8832. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -46.8832. 1. -46.8832. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.184. 1. -45.184. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.184. 1. -45.184. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.184. 1. -45.184. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.184. 1. -45.184. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.184. 1. -45.184. 0. 0. 0. 0. . NO. 0. 0. NO

; End of data for load case [NCOMB7] ------------------------

*USE-STLD. NCOMB8

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.6.

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. [ECCEN]. [VALUE]. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. [ECCEN]. [VALUE]. GROUP
```

```
; [VALUE]       : D1. P1. D2. P2. D3. P3. D4. P4
; [ECCEN]       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; [ADDITIONAL]  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 34.9506. 1. 30.7332. 0. 0. 0. 0. . NO. 0. 0. NO
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -34.9506. 1. -30.7332. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 30.7332. 1. 27.1548. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -30.7332. 1. -27.1548. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 27.1548. 1. 23.5764. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -27.1548. 1. -23.5764. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 23.5764. 1. 19.998. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -23.5764. 1. -19.998. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 19.998. 1. 16.4196. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -19.998. 1. -16.4196. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 16.4196. 1. 12.8412. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -16.4196. 1. -12.8412. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 12.8412. 1. 8.7516. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -12.8412. 1. -8.7516. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.184. 1. -45.184. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -46.8832. 1. -46.8832. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -46.8832. 1. -46.8832. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.184. 1. -45.184. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -46.8832. 1. -46.8832. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.184. 1. -45.184. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.184. 1. -45.184. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -46.8832. 1. -46.8832. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.184. 1. -45.184. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.184. 1. -45.184. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.184. 1. -45.184. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.184. 1. -45.184. 0. 0. 0. 0. . NO. 0. 0. NO

; End of data for load case [NCOMB8] ----------------------

*USE-STLD. NCOMB9

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.35.

*BEAMLOAD     ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. [ECCEN]. [VALUE]. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. [ECCEN]. [VALUE]. GROUP
; [VALUE]       : D1. P1. D2. P2. D3. P3. D4. P4
; [ECCEN]       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; [ADDITIONAL]  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 93.2016. 1. 81.9552. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -93.2016. 1. -81.9552. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -11.7712. 1. -11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 81.9552. 1. 72.4128. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -81.9552. 1. -72.4128. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -11.7712. 1. -11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 72.4128. 1. 62.8704. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -72.4128. 1. -62.8704. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -11.7712. 1. -11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 62.8704. 1. 53.328. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -11.7712. 1. -11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -62.8704. 1. -53.328. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 53.328. 1. 43.7856. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -11.7712. 1. -11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -53.328. 1. -43.7856. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 43.7856. 1. 34.2432. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -43.7856. 1. -34.2432. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -11.7712. 1. -11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 34.2432. 1. 23.3376. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -34.2432. 1. -23.3376. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -11.7712. 1. -11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -41.0228. 1. -41.0228. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -41.0228. 1. -41.0228. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -41.0228. 1. -41.0228. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -41.0228. 1. -41.0228. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -41.0228. 1. -41.0228. 0. 0. 0. 0. . NO. 0. 0. NO
```

```
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -41.0228. 1. -41.0228. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -41.0228. 1. -41.0228. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -41.0228. 1. -41.0228. 0. 0. 0. 0. . NO. 0. 0. NO

*ELTEMPER    ; Element Temperatures
; ELEM LIST. TEMPER. GROUP
    23. 7.8975.
    24. 7.8975.
    25. 7.8975.
    26. 7.8975.
    27. 7.8975.
    28. 7.8975.
    29. 7.8975.
    30. 7.8975.

; End of data for load case [NCOMB9] ------------------------

*USE-STLD. NCOMB10

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.35.

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. [ECCEN]. [VALUE]. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. [ECCEN]. [VALUE]. GROUP
; [VALUE]       : D1. P1. D2. P2. D3. P3. D4. P4
; [ECCEN]       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; [ADDITIONAL]  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 34.9506. 1. 30.7332. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -34.9506. 1. -30.7332. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -11.7712. 1. -11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 30.7332. 1. 27.1548. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -11.7712. 1. -11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -30.7332. 1. -27.1548. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 27.1548. 1. 23.5764. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -11.7712. 1. -11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -27.1548. 1. -23.5764. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 23.5764. 1. 19.998. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -11.7712. 1. -11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -23.5764. 1. -19.998. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 19.998. 1. 16.4196. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -11.7712. 1. -11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -19.998. 1. -16.4196. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 16.4196. 1. 12.8412. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -16.4196. 1. -12.8412. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -11.7712. 1. -11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 12.8412. 1. 8.7516. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -12.8412. 1. -8.7516. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -11.7712. 1. -11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -41.0228. 1. -41.0228. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -41.0228. 1. -41.0228. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -41.0228. 1. -41.0228. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -41.0228. 1. -41.0228. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -41.0228. 1. -41.0228. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -41.0228. 1. -41.0228. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -41.0228. 1. -41.0228. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -41.0228. 1. -41.0228. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO

*ELTEMPER    ; Element Temperatures
; ELEM LIST. TEMPER. GROUP
    23. 7.8975.
    24. 7.8975.
    25. 7.8975.
    26. 7.8975.
    27. 7.8975.
    28. 7.8975.
    29. 7.8975.
    30. 7.8975.
```

```
; End of data for load case [NCOMB10] ------------------------

*USE-STLD. NCOMB11

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.35.

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. [ECCEN]. [VALUE]. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. [ECCEN]. [VALUE]. GROUP
; [VALUE]       : D1. P1. D2. P2. D3. P3. D4. P4
; [ECCEN]       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; [ADDITIONAL]  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 93.2016. 1. 81.9552. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -93.2016. 1. -81.9552. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -11.7712. 1. -11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 81.9552. 1. 72.4128. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -81.9552. 1. -72.4128. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -11.7712. 1. -11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 72.4128. 1. 62.8704. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -72.4128. 1. -62.8704. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -11.7712. 1. -11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 62.8704. 1. 53.328. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -11.7712. 1. -11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -62.8704. 1. -53.328. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 53.328. 1. 43.7856. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -11.7712. 1. -11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -53.328. 1. -43.7856. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 43.7856. 1. 34.2432. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -43.7856. 1. -34.2432. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -11.7712. 1. -11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 34.2432. 1. 23.3376. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -34.2432. 1. -23.3376. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -11.7712. 1. -11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -41.0228. 1. -41.0228. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -41.0228. 1. -41.0228. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -41.0228. 1. -41.0228. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -41.0228. 1. -41.0228. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -41.0228. 1. -41.0228. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -41.0228. 1. -41.0228. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -41.0228. 1. -41.0228. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -41.0228. 1. -41.0228. 0. 0. 0. 0. . NO. 0. 0. NO

*ELTEMPER    ; Element Temperatures
; ELEM LIST. TEMPER. GROUP
     1. -20.25.
     2. -20.25.
     3. -20.25.
     4. -20.25.
     5. -20.25.
     6. -20.25.
     7. -20.25.
     8. -20.25.
     9. -20.25.
    10. -20.25.
    11. -20.25.
    12. -20.25.
    13. -20.25.
    14. -20.25.
    15. -20.25.
    16. -20.25.
    17. -20.25.
    18. -20.25.
    19. -20.25.
    20. -20.25.
    21. -20.25.
    22. -20.25.
    23. -28.1475.
    24. -28.1475.
    25. -28.1475.
    26. -28.1475.
```

```
    27. -28.1475.
    28. -28.1475.
    29. -28.1475.
    30. -28.1475.

; End of data for load case [NCOMB11] ------------------------

*USE-STLD. NCOMB12

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.35.

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. [ECCEN]. [VALUE]. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. [ECCEN]. [VALUE]. GROUP
; [VALUE]       : D1. P1. D2. P2. D3. P3. D4. P4
; [ECCEN]       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; [ADDITIONAL]  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 34.9506. 1. 30.7332. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -34.9506. 1. -30.7332. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -11.7712. 1. -11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 30.7332. 1. 27.1548. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -11.7712. 1. -11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -30.7332. 1. -27.1548. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 27.1548. 1. 23.5764. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -11.7712. 1. -11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -27.1548. 1. -23.5764. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 23.5764. 1. 19.998. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -11.7712. 1. -11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -23.5764. 1. -19.998. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 19.998. 1. 16.4196. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -11.7712. 1. -11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -19.998. 1. -16.4196. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 16.4196. 1. 12.8412. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -16.4196. 1. -12.8412. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -11.7712. 1. -11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 12.8412. 1. 8.7516. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -12.8412. 1. -8.7516. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -11.7712. 1. -11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -41.0228. 1. -41.0228. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -41.0228. 1. -41.0228. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -41.0228. 1. -41.0228. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -41.0228. 1. -41.0228. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -41.0228. 1. -41.0228. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -41.0228. 1. -41.0228. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -41.0228. 1. -41.0228. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -41.0228. 1. -41.0228. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO

*ELTEMPER    ; Element Temperatures
; ELEM LIST. TEMPER. GROUP
     1. -20.25.
     2. -20.25.
     3. -20.25.
     4. -20.25.
     5. -20.25.
     6. -20.25.
     7. -20.25.
     8. -20.25.
     9. -20.25.
    10. -20.25.
    11. -20.25.
    12. -20.25.
    13. -20.25.
    14. -20.25.
    15. -20.25.
    16. -20.25.
    17. -20.25.
    18. -20.25.
    19. -20.25.
    20. -20.25.
    21. -20.25.
    22. -20.25.
```

```
    23. -28.1475.
    24. -28.1475.
    25. -28.1475.
    26. -28.1475.
    27. -28.1475.
    28. -28.1475.
    29. -28.1475.
    30. -28.1475.

; End of data for load case [NCOMB12] ------------------------

*USE-STLD. NCOMB13

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.35.

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. [ECCEN]. [VALUE]. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. [ECCEN]. [VALUE]. GROUP
; [VALUE]       : D1. P1. D2. P2. D3. P3. D4. P4
; [ECCEN]       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; [ADDITIONAL]  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 93.2016. 1. 81.9552. 0. 0. 0. 0. . NO. 0. 0. NO
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -93.2016. 1. -81.9552. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 81.9552. 1. 72.4128. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -81.9552. 1. -72.4128. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 72.4128. 1. 62.8704. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -72.4128. 1. -62.8704. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 62.8704. 1. 53.328. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -62.8704. 1. -53.328. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 53.328. 1. 43.7856. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -53.328. 1. -43.7856. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 43.7856. 1. 34.2432. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -43.7856. 1. -34.2432. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 34.2432. 1. 23.3376. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -34.2432. 1. -23.3376. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -41.0228. 1. -41.0228. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -41.0228. 1. -41.0228. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -41.0228. 1. -41.0228. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -41.0228. 1. -41.0228. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO

*ELTEMPER    ; Element Temperatures
; ELEM LIST. TEMPER. GROUP
    23. 7.8975.
    24. 7.8975.
    25. 7.8975.
    26. 7.8975.
    27. 7.8975.
    28. 7.8975.
    29. 7.8975.
    30. 7.8975.

; End of data for load case [NCOMB13] ------------------------

*USE-STLD. NCOMB14

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.35.

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. [ECCEN]. [VALUE]. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. [ECCEN]. [VALUE]. GROUP
; [VALUE]       : D1. P1. D2. P2. D3. P3. D4. P4
; [ECCEN]       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; [ADDITIONAL]  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 34.9506. 1. 30.7332. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -34.9506. 1. -30.7332. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 30.7332. 1. 27.1548. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -30.7332. 1. -27.1548. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
```

```
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 27.1548. 1. 23.5764. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -27.1548. 1. -23.5764. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 23.5764. 1. 19.998. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -23.5764. 1. -19.998. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 19.998. 1. 16.4196. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -19.998. 1. -16.4196. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 16.4196. 1. 12.8412. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -16.4196. 1. -12.8412. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 12.8412. 1. 8.7516. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -12.8412. 1. -8.7516. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -41.0228. 1. -41.0228. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -41.0228. 1. -41.0228. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -41.0228. 1. -41.0228. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -41.0228. 1. -41.0228. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO

*ELTEMPER    ; Element Temperatures
; ELEM LIST. TEMPER. GROUP
    23. 7.8975.
    24. 7.8975.
    25. 7.8975.
    26. 7.8975.
    27. 7.8975.
    28. 7.8975.
    29. 7.8975.
    30. 7.8975.

; End of data for load case [NCOMB14] ------------------------

*USE-STLD. NCOMB15

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.35.

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. [ECCEN]. [VALUE]. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. [ECCEN]. [VALUE]. GROUP
; [VALUE]       : D1. P1. D2. P2. D3. P3. D4. P4
; [ECCEN]       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; [ADDITIONAL]  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 93.2016. 1. 81.9552. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -93.2016. 1. -81.9552. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 81.9552. 1. 72.4128. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -81.9552. 1. -72.4128. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 72.4128. 1. 62.8704. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -72.4128. 1. -62.8704. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 62.8704. 1. 53.328. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -62.8704. 1. -53.328. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 53.328. 1. 43.7856. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -53.328. 1. -43.7856. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 43.7856. 1. 34.2432. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -43.7856. 1. -34.2432. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 34.2432. 1. 23.3376. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -34.2432. 1. -23.3376. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -41.0228. 1. -41.0228. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -41.0228. 1. -41.0228. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -41.0228. 1. -41.0228. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -41.0228. 1. -41.0228. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO

*ELTEMPER    ; Element Temperatures
; ELEM LIST. TEMPER. GROUP
```

```
     1. -20.25.
     2. -20.25.
     3. -20.25.
     4. -20.25.
     5. -20.25.
     6. -20.25.
     7. -20.25.
     8. -20.25.
     9. -20.25.
    10. -20.25.
    11. -20.25.
    12. -20.25.
    13. -20.25.
    14. -20.25.
    15. -20.25.
    16. -20.25.
    17. -20.25.
    18. -20.25.
    19. -20.25.
    20. -20.25.
    21. -20.25.
    22. -20.25.
    23. -28.1475.
    24. -28.1475.
    25. -28.1475.
    26. -28.1475.
    27. -28.1475.
    28. -28.1475.
    29. -28.1475.
    30. -28.1475.

; End of data for load case [NCOMB15] ------------------------

*USE-STLD. NCOMB16

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.35.

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. [ECCEN]. [VALUE]. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. [ECCEN]. [VALUE]. GROUP
; [VALUE]       : D1. P1. D2. P2. D3. P3. D4. P4
; [ECCEN]       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; [ADDITIONAL]  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 34.9506. 1. 30.7332. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -34.9506. 1. -30.7332. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 30.7332. 1. 27.1548. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -30.7332. 1. -27.1548. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 27.1548. 1. 23.5764. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -27.1548. 1. -23.5764. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 23.5764. 1. 19.998. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -23.5764. 1. -19.998. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 19.998. 1. 16.4196. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -19.998. 1. -16.4196. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 16.4196. 1. 12.8412. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -16.4196. 1. -12.8412. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 12.8412. 1. 8.7516. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -12.8412. 1. -8.7516. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -41.0228. 1. -41.0228. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -41.0228. 1. -41.0228. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -41.0228. 1. -41.0228. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -41.0228. 1. -41.0228. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO

*ELTEMPER    ; Element Temperatures
; ELEM LIST. TEMPER. GROUP
     1. -20.25.
     2. -20.25.
     3. -20.25.
     4. -20.25.
     5. -20.25.
     6. -20.25.
     7. -20.25.
```

```
     8. -20.25.
     9. -20.25.
    10. -20.25.
    11. -20.25.
    12. -20.25.
    13. -20.25.
    14. -20.25.
    15. -20.25.
    16. -20.25.
    17. -20.25.
    18. -20.25.
    19. -20.25.
    20. -20.25.
    21. -20.25.
    22. -20.25.
    23. -28.1475.
    24. -28.1475.
    25. -28.1475.
    26. -28.1475.
    27. -28.1475.
    28. -28.1475.
    29. -28.1475.
    30. -28.1475.

; End of data for load case 'NCOMB16' ------------------------

*USE-STLD. NCOMB17

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.35.

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. 'ECCEN'. 'VALUE'. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. 'ECCEN'. 'VALUE'. GROUP
; 'VALUE'       : D1. P1. D2. P2. D3. P3. D4. P4
; 'ECCEN'       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; 'ADDITIONAL'  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 73.9536. 1. 62.7072. 0. 0. 0. 0. . NO. 0. 0. NO
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 62.7072. 1. 53.1648. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 53.1648. 1. 43.6224. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 43.6224. 1. 34.08. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 34.08. 1. 24.5376. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 24.5376. 1. 14.9952. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 14.9952. 1. 4.0896. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -54.2087. 1. -54.2087. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -54.2087. 1. -54.2087. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -54.2087. 1. -54.2087. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -54.2087. 1. -54.2087. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO

; End of data for load case 'NCOMB17' ------------------------

*USE-STLD. NCOMB18

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.35.

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. 'ECCEN'. 'VALUE'. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. 'ECCEN'. 'VALUE'. GROUP
; 'VALUE'       : D1. P1. D2. P2. D3. P3. D4. P4
; 'ECCEN'       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; 'ADDITIONAL'  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 27.7326. 1. 23.5152. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 23.5152. 1. 19.9368. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 19.9368. 1. 16.3584. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 16.3584. 1. 12.78. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 12.78. 1. 9.2016. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
```

```
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 9.2016. 1. 5.6232. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 5.6232. 1. 1.5336. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -54.2087. 1. -54.2087. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -54.2087. 1. -54.2087. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -54.2087. 1. -54.2087. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -54.2087. 1. -54.2087. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO

; End of data for load case [NCOMB18] ------------------------

*USE-STLD. NCOMB19

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.6.

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. [ECCEN]. [VALUE]. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. [ECCEN]. [VALUE]. GROUP
; [VALUE]       : D1. P1. D2. P2. D3. P3. D4. P4
; [ECCEN]       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; [ADDITIONAL]  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 73.9536. 1. 62.7072. 0. 0. 0. 0. . NO. 0. 0. NO
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 62.7072. 1. 53.1648. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 53.1648. 1. 43.6224. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 43.6224. 1. 34.08. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 34.08. 1. 24.5376. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 24.5376. 1. 14.9952. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 14.9952. 1. 4.0896. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -46.8832. 1. -46.8832. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.184. 1. -45.184. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -46.8832. 1. -46.8832. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.184. 1. -45.184. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.184. 1. -45.184. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -46.8832. 1. -46.8832. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.184. 1. -45.184. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -46.8832. 1. -46.8832. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.184. 1. -45.184. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.184. 1. -45.184. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.184. 1. -45.184. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.184. 1. -45.184. 0. 0. 0. 0. . NO. 0. 0. NO

; End of data for load case [NCOMB19] ------------------------

*USE-STLD. NCOMB20

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.6.

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. [ECCEN]. [VALUE]. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. [ECCEN]. [VALUE]. GROUP
; [VALUE]       : D1. P1. D2. P2. D3. P3. D4. P4
; [ECCEN]       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; [ADDITIONAL]  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 27.7326. 1. 23.5152. 0. 0. 0. 0. . NO. 0. 0. NO
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 23.5152. 1. 19.9368. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 19.9368. 1. 16.3584. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 16.3584. 1. 12.78. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 12.78. 1. 9.2016. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 9.2016. 1. 5.6232. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 5.6232. 1. 1.5336. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -46.8832. 1. -46.8832. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.184. 1. -45.184. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -46.8832. 1. -46.8832. 0. 0. 0. 0. . NO. 0. 0. NO
```

```
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.184. 1. -45.184. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -46.8832. 1. -46.8832. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.184. 1. -45.184. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -46.8832. 1. -46.8832. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.184. 1. -45.184. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.184. 1. -45.184. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.184. 1. -45.184. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.184. 1. -45.184. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.184. 1. -45.184. 0. 0. 0. 0. . NO. 0. 0. NO

; End of data for load case [NCOMB20] ----------

*USE-STLD. NCOMB21

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. [ECCEN]. [VALUE]. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. [ECCEN]. [VALUE]. GROUP
; [VALUE]       : D1. P1. D2. P2. D3. P3. D4. P4
; [ECCEN]       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; [ADDITIONAL]  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 58.251. 1. 51.222. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -58.251. 1. -51.222. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 51.222. 1. 45.258. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -51.222. 1. -45.258. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 45.258. 1. 39.294. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -45.258. 1. -39.294. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 39.294. 1. 33.33. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -39.294. 1. -33.33. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 33.33. 1. 27.366. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -33.33. 1. -27.366. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 27.366. 1. 21.402. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -27.366. 1. -21.402. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 21.402. 1. 14.586. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -21.402. 1. -14.586. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.302. 1. -29.302. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.302. 1. -29.302. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.302. 1. -29.302. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.302. 1. -29.302. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.302. 1. -29.302. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.302. 1. -29.302. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.302. 1. -29.302. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.302. 1. -29.302. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO

; End of data for load case [NCOMB21] ----------

*USE-STLD. NCOMB22

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. [ECCEN]. [VALUE]. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. [ECCEN]. [VALUE]. GROUP
; [VALUE]       : D1. P1. D2. P2. D3. P3. D4. P4
; [ECCEN]       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; [ADDITIONAL]  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 29.1255. 1. 25.611. 0. 0. 0. 0. . NO. 0. 0. NO
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -29.1255. 1. -25.611. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 25.611. 1. 22.629. 0. 0. 0. 0. . NO. 0. 0. NO
```

```
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -25.611. 1. -22.629. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 22.629. 1. 19.647. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -22.629. 1. -19.647. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 19.647. 1. 16.665. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -19.647. 1. -16.665. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 16.665. 1. 13.683. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -16.665. 1. -13.683. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.683. 1. 10.701. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -13.683. 1. -10.701. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 10.701. 1. 7.293. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -10.701. 1. -7.293. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.302. 1. -29.302. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.302. 1. -29.302. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.302. 1. -29.302. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.302. 1. -29.302. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.302. 1. -29.302. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.302. 1. -29.302. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.302. 1. -29.302. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.302. 1. -29.302. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO

; End of data for load case [NCOMB22] ----------------------------

*USE-STLD. NCOMB23

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. [ECCEN]. [VALUE]. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. [ECCEN]. [VALUE]. GROUP
; [VALUE]       : D1. P1. D2. P2. D3. P3. D4. P4
; [ECCEN]       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; [ADDITIONAL]  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 58.251. 1. 51.222. 0. 0. 0. 0. . NO. 0. 0. NO
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -58.251. 1. -51.222. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 51.222. 1. 45.258. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -51.222. 1. -45.258. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 45.258. 1. 39.294. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -45.258. 1. -39.294. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 39.294. 1. 33.33. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -39.294. 1. -33.33. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 33.33. 1. 27.366. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -33.33. 1. -27.366. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 27.366. 1. 21.402. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -27.366. 1. -21.402. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 21.402. 1. 14.586. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -21.402. 1. -14.586. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.302. 1. -29.302. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.302. 1. -29.302. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.302. 1. -29.302. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.302. 1. -29.302. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO

; End of data for load case [NCOMB23] ----------------------------
```

```
*USE-STLD. NCOMB24

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. [ECCEN]. [VALUE]. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. [ECCEN]. [VALUE]. GROUP
; [VALUE]       : D1. P1. D2. P2. D3. P3. D4. P4
; [ECCEN]       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; [ADDITIONAL]  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 29.1255. 1. 25.611. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -29.1255. 1. -25.611. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 25.611. 1. 22.629. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -25.611. 1. -22.629. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 22.629. 1. 19.647. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -22.629. 1. -19.647. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 19.647. 1. 16.665. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -19.647. 1. -16.665. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 16.665. 1. 13.683. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -16.665. 1. -13.683. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.683. 1. 10.701. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -13.683. 1. -10.701. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 10.701. 1. 7.293. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -10.701. 1. -7.293. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.302. 1. -29.302. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.302. 1. -29.302. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.302. 1. -29.302. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.302. 1. -29.302. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO

; End of data for load case [NCOMB24] ------------------------

*USE-STLD. NCOMB25

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. [ECCEN]. [VALUE]. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. [ECCEN]. [VALUE]. GROUP
; [VALUE]       : D1. P1. D2. P2. D3. P3. D4. P4
; [ECCEN]       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; [ADDITIONAL]  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 58.251. 1. 51.222. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -58.251. 1. -51.222. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 51.222. 1. 45.258. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -51.222. 1. -45.258. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 45.258. 1. 39.294. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -45.258. 1. -39.294. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 39.294. 1. 33.33. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -39.294. 1. -33.33. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 33.33. 1. 27.366. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -33.33. 1. -27.366. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 27.366. 1. 21.402. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -27.366. 1. -21.402. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 21.402. 1. 14.586. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -21.402. 1. -14.586. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
```

```
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.302. 1. -29.302. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.302. 1. -29.302. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.302. 1. -29.302. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.302. 1. -29.302. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.302. 1. -29.302. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.302. 1. -29.302. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.302. 1. -29.302. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.302. 1. -29.302. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO

*ELTEMPER    ; Element Temperatures
; ELEM LIST. TEMPER. GROUP
    23. 5.85.
    24. 5.85.
    25. 5.85.
    26. 5.85.
    27. 5.85.
    28. 5.85.
    29. 5.85.
    30. 5.85.

; End of data for load case [NCOMB25] ----------------------------

*USE-STLD. NCOMB26

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. [ECCEN]. [VALUE]. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. [ECCEN]. [VALUE]. GROUP
; [VALUE]       : D1. P1. D2. P2. D3. P3. D4. P4
; [ECCEN]       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; [ADDITIONAL]  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 29.1255. 1. 25.611. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -29.1255. 1. -25.611. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 25.611. 1. 22.629. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -25.611. 1. -22.629. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 22.629. 1. 19.647. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -22.629. 1. -19.647. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 19.647. 1. 16.665. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -19.647. 1. -16.665. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 16.665. 1. 13.683. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -16.665. 1. -13.683. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.683. 1. 10.701. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -13.683. 1. -10.701. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 10.701. 1. 7.293. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -10.701. 1. -7.293. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.302. 1. -29.302. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.302. 1. -29.302. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.302. 1. -29.302. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.302. 1. -29.302. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.302. 1. -29.302. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.302. 1. -29.302. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.302. 1. -29.302. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.302. 1. -29.302. 0. 0. 0. 0. . NO. 0. 0. NO

*ELTEMPER    ; Element Temperatures
```

```
; ELEM LIST. TEMPER. GROUP
    23. 5.85.
    24. 5.85.
    25. 5.85.
    26. 5.85.
    27. 5.85.
    28. 5.85.
    29. 5.85.
    30. 5.85.

; End of data for load case [NCOMB26] ------------------------

*USE-STLD. NCOMB27

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. [ECCEN]. [VALUE]. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. [ECCEN]. [VALUE]. GROUP
; [VALUE]       : D1. P1. D2. P2. D3. P3. D4. P4
; [ECCEN]       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; [ADDITIONAL]  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM   . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
     9. BEAM   . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 58.251. 1. 51.222. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM   . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -58.251. 1. -51.222. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM   . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM   . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM   . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 51.222. 1. 45.258. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM   . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM   . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -51.222. 1. -45.258. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM   . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM   . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 45.258. 1. 39.294. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM   . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM   . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -45.258. 1. -39.294. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM   . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 39.294. 1. 33.33. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM   . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM   . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -39.294. 1. -33.33. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM   . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM   . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 33.33. 1. 27.366. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM   . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM   . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM   . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -33.33. 1. -27.366. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM   . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM   . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 27.366. 1. 21.402. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM   . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -27.366. 1. -21.402. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM   . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM   . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM   . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 21.402. 1. 14.586. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM   . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -21.402. 1. -14.586. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM   . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM   . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM   . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.302. 1. -29.302. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM   . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM   . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.302. 1. -29.302. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM   . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.302. 1. -29.302. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM   . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM   . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM   . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.302. 1. -29.302. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM   . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM   . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.302. 1. -29.302. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM   . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM   . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.302. 1. -29.302. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM   . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.302. 1. -29.302. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM   . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM   . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.302. 1. -29.302. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM   . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO

*ELTEMPER    ; Element Temperatures
; ELEM LIST. TEMPER. GROUP
     1. -15.
     2. -15.
     3. -15.
     4. -15.
     5. -15.
     6. -15.
     7. -15.
     8. -15.
     9. -15.
    10. -15.
    11. -15.
    12. -15.
    13. -15.
    14. -15.
    15. -15.
    16. -15.
    17. -15.
```

```
     18. -15.
     19. -15.
     20. -15.
     21. -15.
     22. -15.
     23. -20.85.
     24. -20.85.
     25. -20.85.
     26. -20.85.
     27. -20.85.
     28. -20.85.
     29. -20.85.
     30. -20.85.

; End of data for load case 'NCOMB27' ------------------------

*USE-STLD. NCOMB28

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. 'ECCEN'. 'VALUE'. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. 'ECCEN'. 'VALUE'. GROUP
; 'VALUE'       : D1. P1. D2. P2. D3. P3. D4. P4
; 'ECCEN'       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; 'ADDITIONAL'  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 29.1255. 1. 25.611. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -29.1255. 1. -25.611. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 25.611. 1. 22.629. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -25.611. 1. -22.629. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 22.629. 1. 19.647. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -22.629. 1. -19.647. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 19.647. 1. 16.665. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -19.647. 1. -16.665. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 16.665. 1. 13.683. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -16.665. 1. -13.683. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.683. 1. 10.701. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -13.683. 1. -10.701. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 10.701. 1. 7.293. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -10.701. 1. -7.293. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.302. 1. -29.302. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.302. 1. -29.302. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.302. 1. -29.302. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.302. 1. -29.302. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.302. 1. -29.302. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.302. 1. -29.302. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.302. 1. -29.302. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.302. 1. -29.302. 0. 0. 0. 0. . NO. 0. 0. NO

*ELTEMPER    ; Element Temperatures
; ELEM LIST. TEMPER. GROUP
     1. -15.
     2. -15.
     3. -15.
     4. -15.
     5. -15.
     6. -15.
     7. -15.
     8. -15.
     9. -15.
    10. -15.
    11. -15.
    12. -15.
    13. -15.
```

```
    14. -15.
    15. -15.
    16. -15.
    17. -15.
    18. -15.
    19. -15.
    20. -15.
    21. -15.
    22. -15.
    23. -20.85.
    24. -20.85.
    25. -20.85.
    26. -20.85.
    27. -20.85.
    28. -20.85.
    29. -20.85.
    30. -20.85.

; End of data for load case [NCOMB28] ------------------------

*USE-STLD. NCOMB29

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. [ECCEN]. [VALUE]. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. [ECCEN]. [VALUE]. GROUP
; [VALUE]       : D1. P1. D2. P2. D3. P3. D4. P4
; [ECCEN]       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; [ADDITIONAL]  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 58.251. 1. 51.222. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -58.251. 1. -51.222. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 51.222. 1. 45.258. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -51.222. 1. -45.258. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 45.258. 1. 39.294. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -45.258. 1. -39.294. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 39.294. 1. 33.33. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -39.294. 1. -33.33. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 33.33. 1. 27.366. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -33.33. 1. -27.366. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 27.366. 1. 21.402. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -27.366. 1. -21.402. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 21.402. 1. 14.586. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -21.402. 1. -14.586. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.302. 1. -29.302. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.302. 1. -29.302. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.302. 1. -29.302. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.302. 1. -29.302. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO

*ELTEMPER    ; Element Temperatures
; ELEM LIST. TEMPER. GROUP
    23. 5.85.
    24. 5.85.
    25. 5.85.
    26. 5.85.
    27. 5.85.
    28. 5.85.
    29. 5.85.
    30. 5.85.

; End of data for load case [NCOMB29] ------------------------

*USE-STLD. NCOMB30

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. [ECCEN]. [VALUE]. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. [ECCEN]. [VALUE]. GROUP
; [VALUE]       : D1. P1. D2. P2. D3. P3. D4. P4
```

```
; [ECCEN]       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; [ADDITIONAL]  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 29.1255. 1. 25.611. 0. 0. 0. 0. . NO. 0. 0. NO
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -29.1255. 1. -25.611. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 25.611. 1. 22.629. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -25.611. 1. -22.629. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 22.629. 1. 19.647. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -22.629. 1. -19.647. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 19.647. 1. 16.665. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -19.647. 1. -16.665. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 16.665. 1. 13.683. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -16.665. 1. -13.683. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.683. 1. 10.701. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -13.683. 1. -10.701. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 10.701. 1. 7.293. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -10.701. 1. -7.293. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.302. 1. -29.302. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.302. 1. -29.302. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.302. 1. -29.302. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.302. 1. -29.302. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO

*ELTEMPER    ; Element Temperatures
; ELEM LIST. TEMPER. GROUP
    23. 5.85.
    24. 5.85.
    25. 5.85.
    26. 5.85.
    27. 5.85.
    28. 5.85.
    29. 5.85.
    30. 5.85.

; End of data for load case [NCOMB30] ------------------------

*USE-STLD. NCOMB31

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. [ECCEN]. [VALUE]. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. [ECCEN]. [VALUE]. GROUP
; [VALUE]       : D1. P1. D2. P2. D3. P3. D4. P4
; [ECCEN]       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; [ADDITIONAL]  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 58.251. 1. 51.222. 0. 0. 0. 0. . NO. 0. 0. NO
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -58.251. 1. -51.222. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 51.222. 1. 45.258. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -51.222. 1. -45.258. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 45.258. 1. 39.294. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -45.258. 1. -39.294. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 39.294. 1. 33.33. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -39.294. 1. -33.33. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 33.33. 1. 27.366. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -33.33. 1. -27.366. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 27.366. 1. 21.402. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -27.366. 1. -21.402. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 21.402. 1. 14.586. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -21.402. 1. -14.586. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.302. 1. -29.302. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.302. 1. -29.302. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.302. 1. -29.302. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
```

```
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.302. 1. -29.302. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO

*ELTEMPER    ; Element Temperatures
; ELEM LIST. TEMPER. GROUP
     1. -15.
     2. -15.
     3. -15.
     4. -15.
     5. -15.
     6. -15.
     7. -15.
     8. -15.
     9. -15.
    10. -15.
    11. -15.
    12. -15.
    13. -15.
    14. -15.
    15. -15.
    16. -15.
    17. -15.
    18. -15.
    19. -15.
    20. -15.
    21. -15.
    22. -15.
    23. -20.85.
    24. -20.85.
    25. -20.85.
    26. -20.85.
    27. -20.85.
    28. -20.85.
    29. -20.85.
    30. -20.85.

; End of data for load case [NCOMB31] ------------------------

*USE-STLD. NCOMB32

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. [ECCEN]. [VALUE]. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. [ECCEN]. [VALUE]. GROUP
; [VALUE]       : D1. P1. D2. P2. D3. P3. D4. P4
; [ECCEN]       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; [ADDITIONAL]  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 29.1255. 1. 25.611. 0. 0. 0. 0. . NO. 0. 0. NO
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -29.1255. 1. -25.611. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 25.611. 1. 22.629. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -25.611. 1. -22.629. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 22.629. 1. 19.647. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -22.629. 1. -19.647. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 19.647. 1. 16.665. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -19.647. 1. -16.665. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 16.665. 1. 13.683. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -16.665. 1. -13.683. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.683. 1. 10.701. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -13.683. 1. -10.701. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 10.701. 1. 7.293. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -10.701. 1. -7.293. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.302. 1. -29.302. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.302. 1. -29.302. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.302. 1. -29.302. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.302. 1. -29.302. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
```

```
*ELTEMPER    ; Element Temperatures
; ELEM LIST. TEMPER. GROUP
      1. -15.
      2. -15.
      3. -15.
      4. -15.
      5. -15.
      6. -15.
      7. -15.
      8. -15.
      9. -15.
     10. -15.
     11. -15.
     12. -15.
     13. -15.
     14. -15.
     15. -15.
     16. -15.
     17. -15.
     18. -15.
     19. -15.
     20. -15.
     21. -15.
     22. -15.
     23. -20.85.
     24. -20.85.
     25. -20.85.
     26. -20.85.
     27. -20.85.
     28. -20.85.
     29. -20.85.
     30. -20.85.

; End of data for load case 'NCOMB32' ------------------------

*USE-STLD. NCOMB33

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. 'ECCEN'. 'VALUE'. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. 'ECCEN'. 'VALUE'. GROUP
; 'VALUE'       : D1. P1. D2. P2. D3. P3. D4. P4
; 'ECCEN'       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; 'ADDITIONAL'  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 58.251. 1. 51.222. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -58.251. 1. -51.222. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 51.222. 1. 45.258. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -51.222. 1. -45.258. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 45.258. 1. 39.294. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -45.258. 1. -39.294. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 39.294. 1. 33.33. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -39.294. 1. -33.33. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 33.33. 1. 27.366. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -33.33. 1. -27.366. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 27.366. 1. 21.402. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -27.366. 1. -21.402. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 21.402. 1. 14.586. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -21.402. 1. -14.586. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO

; End of data for load case 'NCOMB33' ------------------------

*USE-STLD. NCOMB34

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. 'ECCEN'. 'VALUE'. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. 'ECCEN'. 'VALUE'. GROUP
; 'VALUE'       : D1. P1. D2. P2. D3. P3. D4. P4
; 'ECCEN'       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; 'ADDITIONAL'  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 46.221. 1. 39.192. 0. 0. 0. 0. . NO. 0. 0. NO
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 39.192. 1. 33.228. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
```

```
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 33.228. 1. 27.264. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 27.264. 1. 21.3. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 21.3. 1. 15.336. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.336. 1. 9.372. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 9.372. 1. 2.556. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.302. 1. -29.302. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.302. 1. -29.302. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.302. 1. -29.302. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.302. 1. -29.302. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO

; End of data for load case [NCOMB34] ------------------------

*USE-STLD. NCOMB35

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. [ECCEN]. [VALUE]. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. [ECCEN]. [VALUE]. GROUP
; [VALUE]       : D1. P1. D2. P2. D3. P3. D4. P4
; [ECCEN]       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; [ADDITIONAL]  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 23.1105. 1. 19.596. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 19.596. 1. 16.614. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 16.614. 1. 13.632. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.632. 1. 10.65. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 10.65. 1. 7.668. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 7.668. 1. 4.686. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 4.686. 1. 1.278. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.302. 1. -29.302. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.302. 1. -29.302. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.302. 1. -29.302. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.302. 1. -29.302. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO

; End of data for load case [NCOMB35] ------------------------


*LOADCOMB    ; Combinations
; NAME=NAME. KIND. ACTIVE. bES. iTYPE. DESC. iSERV-TYPE. nLCOMTYPE   ; line 1
;       ANAL1. LCNAME1. FACT1. ...                                  ; from line 2
   NAME=COMB1. GEN. INACTIVE. 0. 0. . 0. 0
        ST. LC1. 1.35. ST. LC2. 1.85. ST. LC4. 1.85. ST. LC6. 1.6
   NAME=COMB2. GEN. INACTIVE. 0. 0. . 0. 0
        ST. LC1. 1.35. ST. LC2. 1.85. ST. LC4. 1.85. ST. LC6. 0.6
   NAME=COMB3. GEN. INACTIVE. 0. 0. . 0. 0
        ST. LC1. 1.35. ST. LC3. 1.85. ST. LC5. 1.85. ST. LC6. 1.6
   NAME=COMB4. GEN. INACTIVE. 0. 0. . 0. 0
        ST. LC1. 1.35. ST. LC3. 1.85. ST. LC5. 1.85. ST. LC6. 0.6
   NAME=COMB5. GEN. INACTIVE. 0. 0. . 0. 0
        ST. LC1. 1.6. ST. LC2. 1.6. ST. LC4. 1.6. ST. LC6. 1.6
   NAME=COMB6. GEN. INACTIVE. 0. 0. . 0. 0
        ST. LC1. 1.6. ST. LC2. 1.6. ST. LC4. 1.6. ST. LC6. 0.6
   NAME=COMB7. GEN. INACTIVE. 0. 0. . 0. 0
        ST. LC1. 1.6. ST. LC3. 1.6. ST. LC5. 1.6. ST. LC6. 1.6
   NAME=COMB8. GEN. INACTIVE. 0. 0. . 0. 0
        ST. LC1. 1.6. ST. LC3. 1.6. ST. LC5. 1.6. ST. LC6. 0.6
   NAME=COMB9. GEN. INACTIVE. 0. 0. . 0. 0
        ST. LC1. 1.35. ST. LC2. 1.4. ST. LC4. 1.4. ST. LC6. 1.6. ST. LC8. 1.35
        ST. LC11. 1.35
```

```
NAME=COMB10. GEN. INACTIVE. 0. 0. . 0. 0
     ST. LC1. 1.35. ST. LC2. 1.4. ST. LC4. 1.4. ST. LC6. 0.6. ST. LC8. 1.35
     ST. LC11. 1.35
NAME=COMB11. GEN. INACTIVE. 0. 0. . 0. 0
     ST. LC1. 1.35. ST. LC2. 1.4. ST. LC4. 1.4. ST. LC6. 1.6. ST. LC9. 1.35
     ST. LC10. 1.35. ST. LC11. 1.4
NAME=COMB12. GEN. INACTIVE. 0. 0. . 0. 0
     ST. LC1. 1.35. ST. LC2. 1.4. ST. LC4. 1.4. ST. LC6. 0.6. ST. LC9. 1.35
     ST. LC10. 1.35. ST. LC11. 1.4
NAME=COMB13. GEN. INACTIVE. 0. 0. . 0. 0
     ST. LC1. 1.35. ST. LC3. 1.4. ST. LC5. 1.4. ST. LC6. 1.6. ST. LC8. 1.35
     ST. LC11. 1.35
NAME=COMB14. GEN. INACTIVE. 0. 0. . 0. 0
     ST. LC1. 1.35. ST. LC3. 1.4. ST. LC5. 1.4. ST. LC6. 0.6. ST. LC8. 1.35
     ST. LC11. 1.35
NAME=COMB15. GEN. INACTIVE. 0. 0. . 0. 0
     ST. LC1. 1.35. ST. LC3. 1.4. ST. LC5. 1.4. ST. LC6. 1.6. ST. LC9. 1.35
     ST. LC10. 1.35. ST. LC11. 1.4
NAME=COMB16. GEN. INACTIVE. 0. 0. . 0. 0
     ST. LC1. 1.35. ST. LC3. 1.4. ST. LC5. 1.4. ST. LC6. 0.6. ST. LC9. 1.35
     ST. LC10. 1.35. ST. LC11. 1.4
NAME=COMB17. GEN. INACTIVE. 0. 0. . 0. 0
     ST. LC1. 1.35. ST. LC3. 1.85. ST. LC5. 1.85. ST. LC7. 1.6
NAME=COMB18. GEN. INACTIVE. 0. 0. . 0. 0
     ST. LC1. 1.35. ST. LC3. 1.85. ST. LC5. 1.85. ST. LC7. 0.6
NAME=COMB19. GEN. INACTIVE. 0. 0. . 0. 0
     ST. LC1. 1.6. ST. LC3. 1.6. ST. LC5. 1.6. ST. LC7. 1.6
NAME=COMB20. GEN. INACTIVE. 0. 0. . 0. 0
     ST. LC1. 1.6. ST. LC3. 1.6. ST. LC5. 1.6. ST. LC7. 0.6
NAME=COMB21. GEN. INACTIVE. 0. 0. . 0. 0
     ST. LC1. 1. ST. LC2. 1. ST. LC4. 1. ST. LC6. 1
NAME=COMB22. GEN. INACTIVE. 0. 0. . 0. 0
     ST. LC1. 1. ST. LC2. 1. ST. LC4. 1. ST. LC6. 0.5
NAME=COMB23. GEN. INACTIVE. 0. 0. . 0. 0
     ST. LC1. 1. ST. LC3. 1. ST. LC5. 1. ST. LC6. 1
NAME=COMB24. GEN. INACTIVE. 0. 0. . 0. 0
     ST. LC1. 1. ST. LC3. 1. ST. LC5. 1. ST. LC6. 0.5
NAME=COMB25. GEN. INACTIVE. 0. 0. . 0. 0
     ST. LC1. 1. ST. LC2. 1. ST. LC4. 1. ST. LC6. 1. ST. LC8. 1. ST. LC11. 1
NAME=COMB26. GEN. INACTIVE. 0. 0. . 0. 0
     ST. LC1. 1. ST. LC2. 1. ST. LC4. 1. ST. LC6. 0.5. ST. LC8. 1
     ST. LC11. 1
NAME=COMB27. GEN. INACTIVE. 0. 0. . 0. 0
     ST. LC1. 1. ST. LC2. 1. ST. LC4. 1. ST. LC6. 1. ST. LC9. 1. ST. LC10. 1
     ST. LC11. 1
NAME=COMB28. GEN. INACTIVE. 0. 0. . 0. 0
     ST. LC1. 1. ST. LC2. 1. ST. LC4. 1. ST. LC6. 0.5. ST. LC9. 1
     ST. LC10. 1. ST. LC11. 1
NAME=COMB29. GEN. INACTIVE. 0. 0. . 0. 0
     ST. LC1. 1. ST. LC3. 1. ST. LC5. 1. ST. LC6. 1. ST. LC8. 1. ST. LC11. 1
NAME=COMB30. GEN. INACTIVE. 0. 0. . 0. 0
     ST. LC1. 1. ST. LC3. 1. ST. LC5. 1. ST. LC6. 0.5. ST. LC8. 1
     ST. LC11. 1
NAME=COMB31. GEN. INACTIVE. 0. 0. . 0. 0
     ST. LC1. 1. ST. LC3. 1. ST. LC5. 1. ST. LC6. 1. ST. LC9. 1. ST. LC10. 1
     ST. LC11. 1
NAME=COMB32. GEN. INACTIVE. 0. 0. . 0. 0
     ST. LC1. 1. ST. LC3. 1. ST. LC5. 1. ST. LC6. 0.5. ST. LC9. 1
     ST. LC10. 1. ST. LC11. 1
NAME=COMB33. GEN. INACTIVE. 0. 0. . 0. 0
     ST. LC1. 1. ST. LC6. 1
NAME=COMB34. GEN. INACTIVE. 0. 0. . 0. 0
     ST. LC1. 1. ST. LC3. 1. ST. LC5. 1. ST. LC7. 1
NAME=COMB35. GEN. INACTIVE. 0. 0. . 0. 0
     ST. LC1. 1. ST. LC3. 1. ST. LC5. 1. ST. LC7. 0.5
NAME=USD. GEN. ACTIVE. 0. 1. . 0. 0
     ST. NCOMB1. 1. ST. NCOMB2. 1. ST. NCOMB3. 1. ST. NCOMB4. 1
     ST. NCOMB5. 1. ST. NCOMB6. 1. ST. NCOMB7. 1. ST. NCOMB8. 1
     ST. NCOMB9. 1. ST. NCOMB10. 1. ST. NCOMB11. 1. ST. NCOMB12. 1
     ST. NCOMB13. 1. ST. NCOMB14. 1. ST. NCOMB15. 1. ST. NCOMB16. 1
     ST. NCOMB17. 1. ST. NCOMB18. 1. ST. NCOMB19. 1. ST. NCOMB20. 1
NAME=WSD. GEN. ACTIVE. 0. 1. . 0. 0
     ST. NCOMB21. 1. ST. NCOMB22. 1. ST. NCOMB23. 1. ST. NCOMB24. 1
     ST. NCOMB25. 1. ST. NCOMB26. 1. ST. NCOMB27. 1. ST. NCOMB28. 1
     ST. NCOMB29. 1. ST. NCOMB30. 1. ST. NCOMB31. 1. ST. NCOMB32. 1
     ST. NCOMB33. 1. ST. NCOMB34. 1. ST. NCOMB35. 1
NAME=NCOMB1. CONC. STRENGTH. 0. 0. . 0. 0
     ST. NCOMB1. 1
NAME=NCOMB2. CONC. STRENGTH. 0. 0. . 0. 0
     ST. NCOMB2. 1
NAME=NCOMB3. CONC. STRENGTH. 0. 0. . 0. 0
     ST. NCOMB3. 1
NAME=NCOMB4. CONC. STRENGTH. 0. 0. . 0. 0
     ST. NCOMB4. 1
NAME=NCOMB5. CONC. STRENGTH. 0. 0. . 0. 0
     ST. NCOMB5. 1
NAME=NCOMB6. CONC. STRENGTH. 0. 0. . 0. 0
```

```
      ST. NCOMB6. 1
   NAME=NCOMB7. CONC. STRENGTH. 0. 0. . 0. 0
      ST. NCOMB7. 1
   NAME=NCOMB8. CONC. STRENGTH. 0. 0. . 0. 0
      ST. NCOMB8. 1
   NAME=NCOMB9. CONC. STRENGTH. 0. 0. . 0. 0
      ST. NCOMB9. 1
   NAME=NCOMB10. CONC. STRENGTH. 0. 0. . 0. 0
      ST. NCOMB10. 1
   NAME=NCOMB11. CONC. STRENGTH. 0. 0. . 0. 0
      ST. NCOMB11. 1
   NAME=NCOMB12. CONC. STRENGTH. 0. 0. . 0. 0
      ST. NCOMB12. 1
   NAME=NCOMB13. CONC. STRENGTH. 0. 0. . 0. 0
      ST. NCOMB13. 1
   NAME=NCOMB14. CONC. STRENGTH. 0. 0. . 0. 0
      ST. NCOMB14. 1
   NAME=NCOMB15. CONC. STRENGTH. 0. 0. . 0. 0
      ST. NCOMB15. 1
   NAME=NCOMB16. CONC. STRENGTH. 0. 0. . 0. 0
      ST. NCOMB16. 1
   NAME=NCOMB17. CONC. STRENGTH. 0. 0. . 0. 0
      ST. NCOMB17. 1
   NAME=NCOMB18. CONC. STRENGTH. 0. 0. . 0. 0
      ST. NCOMB18. 1
   NAME=NCOMB19. CONC. STRENGTH. 0. 0. . 0. 0
      ST. NCOMB19. 1
   NAME=NCOMB20. CONC. STRENGTH. 0. 0. . 0. 0
      ST. NCOMB20. 1
   NAME=NCOMB21. CONC. STRENGTH. 0. 0. . 0. 0
      ST. NCOMB21. 1
   NAME=NCOMB22. CONC. STRENGTH. 0. 0. . 0. 0
      ST. NCOMB22. 1
   NAME=NCOMB23. CONC. STRENGTH. 0. 0. . 0. 0
      ST. NCOMB23. 1
   NAME=NCOMB24. CONC. STRENGTH. 0. 0. . 0. 0
      ST. NCOMB24. 1
   NAME=NCOMB25. CONC. STRENGTH. 0. 0. . 0. 0
      ST. NCOMB25. 1
   NAME=NCOMB26. CONC. STRENGTH. 0. 0. . 0. 0
      ST. NCOMB26. 1
   NAME=NCOMB27. CONC. STRENGTH. 0. 0. . 0. 0
      ST. NCOMB27. 1
   NAME=NCOMB28. CONC. STRENGTH. 0. 0. . 0. 0
      ST. NCOMB28. 1
   NAME=NCOMB29. CONC. STRENGTH. 0. 0. . 0. 0
      ST. NCOMB29. 1
   NAME=NCOMB30. CONC. STRENGTH. 0. 0. . 0. 0
      ST. NCOMB30. 1
   NAME=NCOMB31. CONC. STRENGTH. 0. 0. . 0. 0
      ST. NCOMB31. 1
   NAME=NCOMB32. CONC. STRENGTH. 0. 0. . 0. 0
      ST. NCOMB32. 1
   NAME=NCOMB33. CONC. STRENGTH. 0. 0. . 0. 0
      ST. NCOMB33. 1
   NAME=NCOMB34. CONC. STRENGTH. 0. 0. . 0. 0
      ST. NCOMB34. 1
   NAME=NCOMB35. CONC. STRENGTH. 0. 0. . 0. 0
      ST. NCOMB35. 1

*LOADCONST    ; Load Constribution for Nonlinear Load Case
; NAME=STLDCASE. DESC                                          ; 1st line
;      LCNAME1. LCTYPE1. FACTOR1. LCNAME2. LCTYPE2. FACTOR2. ...   ; from line 2
   NAME=NCOMB1.
      LC1. ST. 1.35. LC2. ST. 1.85. LC4. ST. 1.85. LC6. ST. 1.6
   NAME=NCOMB2.
      LC1. ST. 1.35. LC2. ST. 1.85. LC4. ST. 1.85. LC6. ST. 0.6
   NAME=NCOMB3.
      LC1. ST. 1.35. LC3. ST. 1.85. LC5. ST. 1.85. LC6. ST. 1.6
   NAME=NCOMB4.
      LC1. ST. 1.35. LC3. ST. 1.85. LC5. ST. 1.85. LC6. ST. 0.6
   NAME=NCOMB5.
      LC1. ST. 1.6. LC2. ST. 1.6. LC4. ST. 1.6. LC6. ST. 1.6
   NAME=NCOMB6.
      LC1. ST. 1.6. LC2. ST. 1.6. LC4. ST. 1.6. LC6. ST. 0.6
   NAME=NCOMB7.
      LC1. ST. 1.6. LC3. ST. 1.6. LC5. ST. 1.6. LC6. ST. 1.6
   NAME=NCOMB8.
      LC1. ST. 1.6. LC3. ST. 1.6. LC5. ST. 1.6. LC6. ST. 0.6
   NAME=NCOMB9.
      LC1. ST. 1.35. LC2. ST. 1.4. LC4. ST. 1.4. LC6. ST. 1.6. LC8. ST. 1.35
      LC11. ST. 1.35
   NAME=NCOMB10.
      LC1. ST. 1.35. LC2. ST. 1.4. LC4. ST. 1.4. LC6. ST. 0.6. LC8. ST. 1.35
      LC11. ST. 1.35
   NAME=NCOMB11.
      LC1. ST. 1.35. LC2. ST. 1.4. LC4. ST. 1.4. LC6. ST. 1.6. LC9. ST. 1.35
```

```
      LC10. ST. 1.35. LC11. ST. 1.4
   NAME=NCOMB12.
      LC1. ST. 1.35. LC2. ST. 1.4. LC4. ST. 1.4. LC6. ST. 0.6. LC9. ST. 1.35
      LC10. ST. 1.35. LC11. ST. 1.4
   NAME=NCOMB13.
      LC1. ST. 1.35. LC3. ST. 1.4. LC5. ST. 1.4. LC6. ST. 1.6. LC8. ST. 1.35
      LC11. ST. 1.35
   NAME=NCOMB14.
      LC1. ST. 1.35. LC3. ST. 1.4. LC5. ST. 1.4. LC6. ST. 0.6. LC8. ST. 1.35
      LC11. ST. 1.35
   NAME=NCOMB15.
      LC1. ST. 1.35. LC3. ST. 1.4. LC5. ST. 1.4. LC6. ST. 1.6. LC9. ST. 1.35
      LC10. ST. 1.35. LC11. ST. 1.4
   NAME=NCOMB16.
      LC1. ST. 1.35. LC3. ST. 1.4. LC5. ST. 1.4. LC6. ST. 0.6. LC9. ST. 1.35
      LC10. ST. 1.35. LC11. ST. 1.4
   NAME=NCOMB17.
      LC1. ST. 1.35. LC3. ST. 1.85. LC5. ST. 1.85. LC7. ST. 1.6
   NAME=NCOMB18.
      LC1. ST. 1.35. LC3. ST. 1.85. LC5. ST. 1.85. LC7. ST. 0.6
   NAME=NCOMB19.
      LC1. ST. 1.6. LC3. ST. 1.6. LC5. ST. 1.6. LC7. ST. 1.6
   NAME=NCOMB20.
      LC1. ST. 1.6. LC3. ST. 1.6. LC5. ST. 1.6. LC7. ST. 0.6
   NAME=NCOMB21.
      LC1. ST. 1. LC2. ST. 1. LC4. ST. 1. LC6. ST. 1
   NAME=NCOMB22.
      LC1. ST. 1. LC2. ST. 1. LC4. ST. 1. LC6. ST. 0.5
   NAME=NCOMB23.
      LC1. ST. 1. LC3. ST. 1. LC5. ST. 1. LC6. ST. 1
   NAME=NCOMB24.
      LC1. ST. 1. LC3. ST. 1. LC5. ST. 1. LC6. ST. 0.5
   NAME=NCOMB25.
      LC1. ST. 1. LC2. ST. 1. LC4. ST. 1. LC6. ST. 1. LC8. ST. 1. LC11. ST. 1
   NAME=NCOMB26.
      LC1. ST. 1. LC2. ST. 1. LC4. ST. 1. LC6. ST. 0.5. LC8. ST. 1
      LC11. ST. 1
   NAME=NCOMB27.
      LC1. ST. 1. LC2. ST. 1. LC4. ST. 1. LC6. ST. 1. LC9. ST. 1. LC10. ST. 1
      LC11. ST. 1
   NAME=NCOMB28.
      LC1. ST. 1. LC2. ST. 1. LC4. ST. 1. LC6. ST. 0.5. LC9. ST. 1
      LC10. ST. 1. LC11. ST. 1
   NAME=NCOMB29.
      LC1. ST. 1. LC3. ST. 1. LC5. ST. 1. LC6. ST. 1. LC8. ST. 1. LC11. ST. 1
   NAME=NCOMB30.
      LC1. ST. 1. LC3. ST. 1. LC5. ST. 1. LC6. ST. 0.5. LC8. ST. 1
      LC11. ST. 1
   NAME=NCOMB31.
      LC1. ST. 1. LC3. ST. 1. LC5. ST. 1. LC6. ST. 1. LC9. ST. 1. LC10. ST. 1
      LC11. ST. 1
   NAME=NCOMB32.
      LC1. ST. 1. LC3. ST. 1. LC5. ST. 1. LC6. ST. 0.5. LC9. ST. 1
      LC10. ST. 1. LC11. ST. 1
   NAME=NCOMB33.
      LC1. ST. 1. LC6. ST. 1
   NAME=NCOMB34.
      LC1. ST. 1. LC3. ST. 1. LC5. ST. 1. LC7. ST. 1
   NAME=NCOMB35.
      LC1. ST. 1. LC3. ST. 1. LC5. ST. 1. LC7. ST. 0.5

*LC-COLOR    ; Diagram Color for Load Case
; ANAL. LCNAME. iR1(ALL). iG1(ALL). iB1(ALL). iR2(MIN). iG2(MIN). iB2(MIN). iR3(MAX). iG2(MAX). iB2(MAX)
 CB. COMB1. 0. 128. 255. 212. 160. 255. 192. 128. 0
 CB. COMB2. 192. 192. 192. 255. 128. 0. 85. 192. 0
 CB. COMB3. 85. 0. 192. 255. 255. 87. 192. 128. 0
 CB. COMB4. 255. 255. 87. 0. 192. 128. 255. 87. 87
 CB. COMB5. 85. 0. 192. 192. 192. 0. 255. 0. 192
 CB. COMB6. 0. 128. 57. 192. 72. 0. 93. 255. 87
 CB. COMB7. 0. 128. 255. 85. 192. 0. 255. 0. 192
 CB. COMB8. 255. 160. 255. 93. 255. 87. 0. 192. 192
 CB. COMB9. 0. 157. 192. 0. 128. 255. 255. 160. 255
 CB. COMB10. 192. 192. 0. 160. 192. 255. 148. 87. 255
 CB. COMB11. 0. 192. 192. 255. 255. 87. 255. 192. 87
 CB. COMB12. 192. 72. 0. 0. 157. 192. 192. 128. 0
 CB. COMB13. 255. 87. 128. 0. 128. 192. 192. 192. 0
 CB. COMB14. 255. 87. 87. 0. 128. 128. 148. 87. 255
 CB. COMB15. 163. 255. 160. 255. 160. 255. 255. 192. 160
 CB. COMB16. 210. 210. 210. 255. 0. 128. 0. 192. 192
 CB. COMB17. 192. 0. 128. 0. 192. 192. 255. 255. 255
 CB. COMB18. 0. 157. 192. 160. 192. 255. 255. 0. 128
 CB. COMB19. 0. 128. 128. 192. 128. 0. 192. 128. 0
 CB. COMB20. 255. 0. 192. 255. 192. 160. 148. 87. 255
 CB. COMB21. 255. 0. 128. 255. 87. 87. 255. 255. 87
 CB. COMB22. 255. 0. 192. 163. 255. 160. 93. 255. 87
 CB. COMB23. 78. 0. 255. 255. 255. 255. 0. 192. 128
 CB. COMB24. 255. 255. 87. 192. 128. 0. 0. 157. 192
```

CB. COMB25. 192. 128. 0. 0. 128. 255. 163. 160. 255
CB. COMB26. 0. 128. 128. 0. 128. 57. 255. 0. 128
CB. COMB27. 163. 160. 255. 0. 128. 192. 0. 128. 255
CB. COMB28. 255. 0. 128. 255. 192. 87. 160. 192. 255
CB. COMB29. 163. 160. 255. 192. 0. 192. 148. 87. 255
CB. COMB30. 255. 0. 128. 78. 0. 255. 0. 192. 192
CB. COMB31. 148. 87. 255. 192. 192. 0. 160. 192. 255
CB. COMB32. 163. 160. 255. 192. 192. 192. 192. 128. 0
CB. COMB33. 210. 210. 210. 255. 128. 0. 255. 192. 87
CB. COMB34. 148. 87. 255. 192. 192. 0. 255. 192. 160
CB. COMB35. 212. 160. 255. 163. 160. 255. 0. 192. 192
CB. USD. 0. 192. 128. 255. 128. 0. 0. 157. 192
CB. WSD. 0. 192. 128. 192. 192. 192. 192. 72. 0
ST. LC1. 255. 192. 87. 93. 255. 87. 0. 157. 192
ST. LC2. 128. 192. 0. 93. 255. 87. 0. 128. 128
ST. LC3. 0. 128. 255. 192. 192. 192. 210. 210. 210
ST. LC4. 85. 0. 192. 0. 128. 57. 255. 128. 0
ST. LC5. 0. 192. 192. 255. 192. 160. 192. 192. 0
ST. LC6. 255. 87. 128. 160. 192. 255. 93. 255. 87
ST. LC7. 255. 87. 128. 0. 128. 128. 148. 87. 255
ST. LC8. 0. 128. 57. 160. 255. 255. 192. 192. 0
ST. LC9. 255. 128. 0. 146. 0. 255. 0. 192. 192
ST. LC10. 255. 87. 87. 0. 192. 192. 163. 255. 160
ST. LC11. 192. 192. 0. 210. 210. 210. 255. 128. 0
CBC. NCOMB1. 128. 192. 0. 0. 192. 192. 85. 0. 192
CBC. NCOMB2. 255. 192. 87. 85. 192. 0. 0. 128. 57
CBC. NCOMB3. 128. 192. 0. 255. 160. 255. 255. 0. 192
CBC. NCOMB4. 93. 255. 87. 192. 72. 0. 192. 192. 0
CBC. NCOMB5. 210. 210. 210. 160. 192. 255. 192. 192. 192
CBC. NCOMB6. 0. 128. 57. 0. 192. 128. 85. 192. 0
CBC. NCOMB7. 128. 192. 0. 192. 72. 0. 0. 192. 192
CBC. NCOMB8. 192. 0. 128. 255. 160. 255. 160. 255. 255
CBC. NCOMB9. 0. 128. 128. 192. 192. 192. 146. 0. 255
CBC. NCOMB10. 160. 192. 255. 160. 192. 255. 160. 255. 255
CBC. NCOMB11. 192. 72. 0. 255. 160. 255. 160. 192. 255
CBC. NCOMB12. 163. 255. 160. 210. 210. 210. 148. 87. 255
CBC. NCOMB13. 160. 192. 255. 85. 192. 0. 128. 192. 0
CBC. NCOMB14. 0. 128. 192. 0. 192. 128. 255. 255. 255
CBC. NCOMB15. 192. 128. 0. 85. 0. 192. 255. 0. 128
CBC. NCOMB16. 85. 192. 0. 163. 255. 160. 0. 157. 192
CBC. NCOMB17. 192. 192. 192. 163. 160. 255. 0. 192. 128
CBC. NCOMB18. 0. 128. 57. 163. 255. 160. 255. 160. 255
CBC. NCOMB19. 0. 192. 128. 255. 160. 255. 146. 0. 255
CBC. NCOMB20. 192. 72. 0. 85. 192. 0. 0. 192. 128
CBC. NCOMB21. 78. 0. 255. 212. 160. 255. 255. 255. 255
CBC. NCOMB22. 192. 0. 128. 255. 87. 128. 93. 255. 87
CBC. NCOMB23. 0. 157. 192. 0. 157. 192. 255. 87. 128
CBC. NCOMB24. 255. 0. 128. 148. 87. 255. 0. 128. 57
CBC. NCOMB25. 255. 128. 0. 85. 192. 0. 255. 0. 128
CBC. NCOMB26. 255. 255. 87. 255. 160. 255. 160. 192. 255
CBC. NCOMB27. 0. 192. 192. 192. 0. 128. 93. 255. 87
CBC. NCOMB28. 192. 128. 0. 255. 87. 128. 255. 160. 255
CBC. NCOMB29. 85. 192. 0. 192. 128. 0. 210. 210. 210
CBC. NCOMB30. 212. 160. 255. 255. 128. 0. 78. 0. 255
CBC. NCOMB31. 148. 87. 255. 255. 0. 128. 210. 210. 210
CBC. NCOMB32. 163. 255. 160. 85. 192. 0. 0. 128. 128
CBC. NCOMB33. 255. 0. 192. 163. 160. 255. 210. 210. 210
CBC. NCOMB34. 210. 210. 210. 192. 192. 192. 192. 72. 0
CBC. NCOMB35. 160. 192. 255. 0. 128. 128. 78. 0. 255
ST. NCOMB1. 160. 255. 255. 0. 157. 192. 255. 255. 87
ST. NCOMB2. 255. 255. 87. 255. 192. 87. 255. 87. 87
ST. NCOMB3. 255. 255. 255. 0. 192. 192. 0. 157. 192
ST. NCOMB4. 160. 255. 255. 0. 128. 128. 85. 0. 192
ST. NCOMB5. 148. 87. 255. 212. 160. 255. 93. 255. 87
ST. NCOMB6. 160. 192. 255. 212. 160. 255. 163. 255. 160
ST. NCOMB7. 255. 255. 255. 255. 255. 87. 85. 192. 0
ST. NCOMB8. 0. 192. 128. 255. 192. 160. 192. 192. 192
ST. NCOMB9. 255. 192. 87. 255. 192. 160. 0. 128. 255
ST. NCOMB10. 163. 160. 255. 160. 255. 255. 210. 210. 210
ST. NCOMB11. 163. 255. 160. 0. 128. 128. 255. 192. 160
ST. NCOMB12. 255. 87. 87. 0. 157. 192. 255. 0. 192
ST. NCOMB13. 163. 255. 160. 255. 0. 192. 192. 192. 192
ST. NCOMB14. 255. 0. 128. 0. 128. 57. 212. 160. 255
ST. NCOMB15. 255. 160. 255. 128. 192. 0. 192. 0. 192
ST. NCOMB16. 0. 128. 255. 255. 87. 87. 192. 72. 0
ST. NCOMB17. 0. 192. 192. 0. 192. 128. 146. 0. 255
ST. NCOMB18. 128. 192. 0. 255. 255. 87. 93. 255. 87
ST. NCOMB19. 0. 128. 255. 192. 128. 0. 160. 255. 255
ST. NCOMB20. 192. 128. 0. 0. 128. 255. 255. 255. 255
ST. NCOMB21. 0. 192. 128. 0. 128. 255. 255. 87. 128
ST. NCOMB22. 0. 128. 255. 85. 192. 0. 255. 255. 255
ST. NCOMB23. 212. 160. 255. 163. 160. 255. 0. 128. 57
ST. NCOMB24. 210. 210. 210. 78. 0. 255. 255. 160. 255
ST. NCOMB25. 0. 192. 192. 160. 192. 255. 0. 128. 192
ST. NCOMB26. 255. 192. 87. 192. 72. 0. 148. 87. 255
ST. NCOMB27. 128. 192. 0. 160. 192. 255. 192. 0. 128
ST. NCOMB28. 192. 0. 128. 192. 128. 0. 210. 210. 210

```
 ST. NCOMB29. 192. 192. 0. 192. 0. 128. 192. 128. 0
 ST. NCOMB30. 255. 128. 0. 0. 192. 128. 163. 160. 255
 ST. NCOMB31. 128. 192. 0. 0. 192. 128. 163. 255. 160
 ST. NCOMB32. 212. 160. 255. 255. 0. 128. 192. 0. 128
 ST. NCOMB33. 255. 192. 87. 160. 192. 255. 255. 0. 192
 ST. NCOMB34. 160. 192. 255. 255. 255. 87. 192. 192. 192
 ST. NCOMB35. 212. 160. 255. 146. 0. 255. 0. 157. 192

*ANAL-CTRL
; bARDC. bANRC. iITER. TOL. bCSECF. bTRS. bCRBAR. bTPF. bCSO. bSCS. bCLATS
   YES. YES. 20. 0.001. YES. YES. YES. NO. NO. NO. NO


*ENDDATA
        LC1. ST. 1. LC2. ST. 1. LC4. ST. 1. LC6. ST. 0.5. LC9. ST. 1
        LC10. ST. 1. LC11. ST. 1
   NAME=NCOMB29.
        LC1. ST. 1. LC3. ST. 1. LC5. ST. 1. LC6. ST. 1. LC8. ST. 1. LC11. ST. 1
   NAME=NCOMB30.
        LC1. ST. 1. LC3. ST. 1. LC5. ST. 1. LC6. ST. 0.5. LC8. ST. 1
        LC11. ST. 1
   NAME=NCOMB31.
        LC1. ST. 1. LC3. ST. 1. LC5. ST. 1. LC6. ST. 1. LC9. ST. 1. LC10. ST. 1
        LC11. ST. 1
   NAME=NCOMB32.
        LC1. ST. 1. LC3. ST. 1. LC5. ST. 1. LC6. ST. 0.5. LC9. ST. 1
        LC10. ST. 1. LC11. ST. 1
   NAME=NCOMB33.
        LC1. ST. 1. LC6. ST. 1
   NAME=NCOMB34.
        LC1. ST. 1. LC3. ST. 1. LC5. ST. 1. LC7. ST. 1
   NAME=NCOMB35.
        LC1. ST. 1. LC3. ST. 1. LC5. ST. 1. LC7. ST. 0.5

*LC-COLOR    ; Diagram Color for Load Case
; ANAL. LCNAME. iR1(ALL). iG1(ALL). iB1(ALL). iR2(MIN). iG2(MIN). iB2(MIN). iR3(MAX). iG2(MAX). iB2(MAX)
 CB. COMB1. 255. 0. 128. 255. 0. 128. 148. 87. 255
 CB. COMB2. 160. 192. 255. 255. 192. 160. 0. 128. 192
 CB. COMB3. 146. 0. 255. 160. 192. 255. 192. 128. 0
 CB. COMB4. 85. 192. 0. 212. 160. 255. 128. 192. 0
 CB. COMB5. 192. 0. 128. 0. 128. 57. 212. 160. 255
 CB. COMB6. 0. 128. 192. 212. 160. 255. 212. 160. 255
 CB. COMB7. 255. 0. 128. 0. 192. 192. 160. 192. 255
 CB. COMB8. 255. 192. 87. 192. 0. 192. 212. 160. 255
 CB. COMB9. 163. 160. 255. 192. 128. 0. 78. 0. 255
 CB. COMB10. 0. 128. 192. 85. 192. 0. 85. 0. 192
 CB. COMB11. 160. 192. 255. 93. 255. 87. 0. 157. 192
 CB. COMB12. 192. 192. 0. 255. 160. 255. 148. 87. 255
 CB. COMB13. 255. 128. 0. 255. 192. 87. 192. 0. 128
 CB. COMB14. 0. 128. 57. 255. 0. 128. 212. 160. 255
 CB. COMB15. 0. 192. 192. 0. 192. 128. 192. 0. 128
 CB. COMB16. 0. 128. 128. 255. 255. 87. 255. 128. 0
 CB. COMB17. 85. 192. 0. 255. 0. 192. 163. 255. 160
 CB. COMB18. 0. 128. 192. 128. 192. 0. 128. 192. 0
 CB. COMB19. 163. 160. 255. 146. 0. 255. 255. 87. 128
 CB. COMB20. 163. 255. 160. 160. 192. 255. 192. 192. 192
 CB. COMB21. 160. 255. 255. 0. 192. 128. 128. 192. 0
 CB. COMB22. 163. 255. 160. 192. 192. 192. 160. 192. 255
 CB. COMB23. 255. 192. 87. 0. 128. 255. 255. 87. 87
 CB. COMB24. 93. 255. 87. 192. 192. 0. 146. 0. 255
 CB. COMB25. 255. 0. 192. 255. 0. 192. 192. 72. 0
 CB. COMB26. 0. 192. 128. 255. 255. 87. 0. 128. 57
 CB. COMB27. 0. 157. 192. 0. 128. 255. 255. 0. 128
 CB. COMB28. 255. 192. 160. 0. 157. 192. 0. 192. 192
 CB. COMB29. 255. 128. 0. 192. 192. 0. 0. 192. 128
 CB. COMB30. 255. 160. 255. 0. 157. 192. 255. 87. 87
 CB. COMB31. 0. 192. 192. 160. 192. 255. 148. 87. 255
 CB. COMB32. 255. 128. 0. 146. 0. 255. 255. 255. 255
 CB. COMB33. 0. 157. 192. 0. 128. 57. 192. 72. 0
 CB. COMB34. 163. 255. 160. 212. 160. 255. 128. 192. 0
 CB. COMB35. 93. 255. 87. 0. 192. 128. 85. 192. 0
 CB. USD. 192. 192. 192. 160. 192. 255. 255. 128. 0
 CB. WSD. 0. 128. 57. 163. 255. 160. 160. 255. 255
 ST. LC1. 255. 255. 255. 163. 160. 255. 0. 128. 255
 ST. LC2. 255. 192. 160. 255. 0. 128. 0. 192. 192
 ST. LC3. 146. 0. 255. 78. 0. 255. 255. 192. 87
 ST. LC4. 255. 192. 87. 255. 128. 0. 0. 192. 128
 ST. LC5. 192. 192. 0. 0. 157. 192. 163. 160. 255
 ST. LC6. 255. 87. 128. 255. 87. 128. 255. 87. 87
 ST. LC7. 0. 128. 192. 255. 160. 255. 0. 128. 57
 ST. LC8. 255. 255. 87. 255. 0. 128. 192. 0. 192
 ST. LC9. 160. 255. 255. 255. 0. 192. 163. 255. 160
 ST. LC10. 78. 0. 255. 163. 160. 255. 255. 160. 255
 ST. LC11. 128. 192. 0. 255. 87. 128. 192. 192. 0
 CBC. NCOMB1. 160. 255. 255. 255. 255. 87. 0. 192. 128
 CBC. NCOMB2. 255. 255. 87. 0. 128. 255. 0. 128. 192
 CBC. NCOMB3. 0. 128. 57. 163. 160. 255. 255. 255. 87
```

```
CBC. NCOMB4. 93. 255. 87. 163. 160. 255. 146. 0. 255
CBC. NCOMB5. 163. 160. 255. 255. 192. 160. 78. 0. 255
CBC. NCOMB6. 0. 157. 192. 148. 87. 255. 192. 128. 0
CBC. NCOMB7. 85. 0. 192. 212. 160. 255. 128. 192. 0
CBC. NCOMB8. 192. 0. 128. 212. 160. 255. 0. 192. 128
CBC. NCOMB9. 255. 0. 128. 78. 0. 255. 160. 192. 255
CBC. NCOMB10. 255. 128. 0. 0. 128. 57. 255. 0. 128
CBC. NCOMB11. 163. 255. 160. 93. 255. 87. 255. 0. 192
CBC. NCOMB12. 212. 160. 255. 192. 0. 192. 0. 128. 255
CBC. NCOMB13. 255. 87. 128. 160. 192. 255. 146. 0. 255
CBC. NCOMB14. 192. 72. 0. 78. 0. 255. 255. 192. 160
CBC. NCOMB15. 85. 0. 192. 255. 255. 255. 78. 0. 255
CBC. NCOMB16. 212. 160. 255. 148. 87. 255. 128. 192. 0
CBC. NCOMB17. 0. 128. 192. 255. 87. 128. 0. 128. 128
CBC. NCOMB18. 0. 128. 255. 255. 0. 192. 255. 128. 0
CBC. NCOMB19. 128. 192. 0. 0. 128. 128. 85. 0. 192
CBC. NCOMB20. 255. 0. 192. 93. 255. 87. 255. 87. 87
CBC. NCOMB21. 255. 0. 128. 78. 0. 255. 148. 87. 255
CBC. NCOMB22. 192. 192. 0. 0. 128. 255. 85. 192. 0
CBC. NCOMB23. 163. 255. 160. 148. 87. 255. 192. 192. 192
CBC. NCOMB24. 192. 128. 0. 192. 192. 192. 192. 0. 128
CBC. NCOMB25. 192. 192. 192. 0. 192. 192. 0. 128. 255
CBC. NCOMB26. 255. 87. 128. 255. 87. 128. 128. 192. 0
CBC. NCOMB27. 255. 87. 128. 0. 128. 57. 255. 87. 128
CBC. NCOMB28. 85. 192. 0. 0. 128. 255. 210. 210. 210
CBC. NCOMB29. 163. 255. 160. 0. 192. 192. 192. 192. 0
CBC. NCOMB30. 93. 255. 87. 85. 192. 0. 255. 192. 160
CBC. NCOMB31. 146. 0. 255. 85. 192. 0. 255. 192. 160
CBC. NCOMB32. 146. 0. 255. 255. 192. 160. 78. 0. 255
CBC. NCOMB33. 255. 255. 255. 78. 0. 255. 163. 160. 255
CBC. NCOMB34. 163. 255. 160. 85. 192. 0. 255. 192. 87
CBC. NCOMB35. 163. 255. 160. 192. 128. 0. 255. 128. 0
ST. NCOMB1. 192. 192. 192. 160. 255. 255. 255. 192. 160
ST. NCOMB2. 0. 128. 128. 93. 255. 87. 192. 192. 192
ST. NCOMB3. 0. 128. 192. 212. 160. 255. 255. 160. 255
ST. NCOMB4. 255. 0. 192. 0. 128. 57. 255. 255. 255
ST. NCOMB5. 0. 192. 128. 0. 128. 192. 192. 0. 128
ST. NCOMB6. 192. 72. 0. 0. 128. 57. 85. 192. 0
ST. NCOMB7. 210. 210. 210. 192. 128. 0. 255. 0. 128
ST. NCOMB8. 255. 0. 128. 148. 87. 255. 0. 128. 57
ST. NCOMB9. 255. 192. 87. 0. 128. 255. 255. 192. 87
ST. NCOMB10. 192. 192. 192. 255. 160. 255. 128. 192. 0
ST. NCOMB11. 0. 192. 192. 146. 0. 255. 255. 255. 87
ST. NCOMB12. 255. 192. 160. 0. 157. 192. 255. 87. 87
ST. NCOMB13. 128. 192. 0. 85. 192. 0. 0. 192. 192
ST. NCOMB14. 255. 87. 87. 192. 128. 0. 192. 192. 192
ST. NCOMB15. 210. 210. 210. 160. 192. 255. 192. 128. 0
ST. NCOMB16. 78. 0. 255. 255. 128. 0. 78. 0. 255
ST. NCOMB17. 255. 192. 160. 0. 192. 128. 192. 128. 0
ST. NCOMB18. 255. 192. 160. 255. 0. 192. 0. 192. 192
ST. NCOMB19. 255. 87. 128. 163. 255. 160. 255. 87. 87
ST. NCOMB20. 192. 192. 0. 85. 0. 192. 255. 128. 0
ST. NCOMB21. 163. 160. 255. 148. 87. 255. 85. 0. 192
ST. NCOMB22. 255. 192. 160. 146. 0. 255. 255. 87. 87
ST. NCOMB23. 192. 0. 192. 0. 192. 128. 0. 157. 192
ST. NCOMB24. 148. 87. 255. 163. 160. 255. 255. 192. 87
ST. NCOMB25. 212. 160. 255. 148. 87. 255. 255. 87. 87
ST. NCOMB26. 192. 128. 0. 0. 128. 128. 0. 128. 57
ST. NCOMB27. 192. 0. 192. 0. 128. 255. 255. 192. 87
ST. NCOMB28. 0. 128. 128. 192. 192. 192. 85. 0. 192
ST. NCOMB29. 255. 192. 160. 0. 157. 192. 163. 255. 160
ST. NCOMB30. 255. 0. 128. 192. 0. 128. 0. 128. 128
ST. NCOMB31. 255. 87. 87. 85. 192. 0. 192. 72. 0
ST. NCOMB32. 160. 255. 255. 0. 157. 192. 192. 192. 192
ST. NCOMB33. 146. 0. 255. 255. 192. 87. 192. 72. 0
ST. NCOMB34. 255. 192. 87. 255. 128. 0. 255. 0. 192
ST. NCOMB35. 85. 192. 0. 210. 210. 210. 192. 192. 0

*ANAL-CTRL
; bARDC. bANRC. iITER. TOL. bCSECF. bTRS. bCRBAR. bTPF. bCSO. bSCS. bCLATS
   YES. YES. 20. 0.001. YES. YES. YES. NO. NO. NO. NO


*ENDDATA
```

8.OUPUT

FRAME ELEMENT FORCES

Elem	Load	Part	Axial (kN)	Shear-y (kN)	Shear-z (kN)	Torsion (kN · m)	Moment-y (kN · m)	Moment-z (kN · m)
1	USD(max)	I[1]	52.580	0.000	-213.030	0.00E+00	-108.450	0.000
1	USD(max)	1/4	52.580	0.000	-216.860	0.00E+00	-67.790	0.000
1	USD(max)	2/4	52.580	0.000	-220.680	0.00E+00	-26.440	0.000
1	USD(max)	3/4	52.580	0.000	-224.510	0.00E+00	20.240	0.000
1	USD(max)	J[2]	52.580	0.000	-228.340	0.00E+00	70.360	0.000
1	USD(min)	I[1]	-228.140	0.000	-278.710	0.00E+00	-282.260	0.000
1	USD(min)	1/4	-228.140	0.000	-283.250	0.00E+00	-235.950	0.000
1	USD(min)	2/4	-228.140	0.000	-287.790	0.00E+00	-188.960	0.000
1	USD(min)	3/4	-228.140	0.000	-292.330	0.00E+00	-141.280	0.000
1	USD(min)	J[2]	-228.140	0.000	-296.870	0.00E+00	-92.930	0.000
1	WSD(max)	I[1]	30.690	0.000	-121.880	0.00E+00	-82.720	0.000
1	WSD(max)	1/4	30.690	0.000	-124.720	0.00E+00	-52.880	0.000
1	WSD(max)	2/4	30.690	0.000	-127.550	0.00E+00	-22.530	0.000
1	WSD(max)	3/4	30.690	0.000	-130.390	0.00E+00	8.330	0.000
1	WSD(max)	J[2]	30.690	0.000	-133.230	0.00E+00	39.690	0.000
1	WSD(min)	I[1]	-140.930	0.000	-174.200	0.00E+00	-174.920	0.000
1	WSD(min)	1/4	-140.930	0.000	-177.030	0.00E+00	-143.640	0.000
1	WSD(min)	2/4	-140.930	0.000	-179.870	0.00E+00	-111.860	0.000
1	WSD(min)	3/4	-140.930	0.000	-182.710	0.00E+00	-79.560	0.000
1	WSD(min)	J[2]	-140.930	0.000	-185.540	0.00E+00	-46.770	0.000
2	USD(max)	I[2]	52.580	0.000	-141.700	0.00E+00	70.360	0.000
2	USD(max)	1/4	52.580	0.000	-144.290	0.00E+00	90.600	0.000
2	USD(max)	2/4	52.580	0.000	-146.890	0.00E+00	111.220	0.000
2	USD(max)	3/4	52.580	0.000	-149.490	0.00E+00	132.210	0.000
2	USD(max)	J[3]	52.580	0.000	-152.080	0.00E+00	153.570	0.000
2	USD(min)	I[2]	-228.140	0.000	-226.000	0.00E+00	-92.930	0.000
2	USD(min)	1/4	-228.140	0.000	-229.080	0.00E+00	-66.790	0.000
2	USD(min)	2/4	-228.140	0.000	-232.160	0.00E+00	-40.330	0.000
2	USD(min)	3/4	-228.140	0.000	-235.230	0.00E+00	-13.560	0.000
2	USD(min)	J[3]	-228.140	0.000	-238.310	0.00E+00	13.520	0.000
2	WSD(max)	I[2]	30.690	0.000	-76.610	0.00E+00	39.690	0.000
2	WSD(max)	1/4	30.690	0.000	-78.540	0.00E+00	52.370	0.000
2	WSD(max)	2/4	30.690	0.000	-80.460	0.00E+00	65.280	0.000
2	WSD(max)	3/4	30.690	0.000	-82.380	0.00E+00	78.420	0.000
2	WSD(max)	J[3]	30.690	0.000	-84.310	0.00E+00	91.800	0.000
2	WSD(min)	I[2]	-140.930	0.000	-141.250	0.00E+00	-46.770	0.000
2	WSD(min)	1/4	-140.930	0.000	-143.170	0.00E+00	-29.600	0.000
2	WSD(min)	2/4	-140.930	0.000	-145.100	0.00E+00	-12.190	0.000
2	WSD(min)	3/4	-140.930	0.000	-147.020	0.00E+00	5.450	0.000
2	WSD(min)	J[3]	-140.930	0.000	-148.940	0.00E+00	23.310	0.000
3	USD(max)	I[3]	52.580	0.000	-81.900	0.00E+00	153.570	0.000
3	USD(max)	1/4	52.580	0.000	-84.500	0.00E+00	165.370	0.000
3	USD(max)	2/4	52.580	0.000	-87.100	0.00E+00	177.540	0.000
3	USD(max)	3/4	52.580	0.000	-89.710	0.00E+00	190.090	0.000
3	USD(max)	J[4]	52.580	0.000	-92.310	0.00E+00	203.010	0.000
3	USD(min)	I[3]	-228.140	0.000	-180.870	0.00E+00	13.520	0.000
3	USD(min)	1/4	-228.140	0.000	-183.960	0.00E+00	35.070	0.000
3	USD(min)	2/4	-228.140	0.000	-187.040	0.00E+00	50.810	0.000
3	USD(min)	3/4	-228.140	0.000	-190.120	0.00E+00	63.250	0.000
3	USD(min)	J[4]	-228.140	0.000	-193.200	0.00E+00	76.000	0.000
3	WSD(max)	I[3]	30.690	0.000	-44.050	0.00E+00	91.800	0.000
3	WSD(max)	1/4	30.690	0.000	-45.970	0.00E+00	99.190	0.000
3	WSD(max)	2/4	30.690	0.000	-47.900	0.00E+00	106.820	0.000
3	WSD(max)	3/4	30.690	0.000	-49.830	0.00E+00	114.680	0.000
3	WSD(max)	J[4]	30.690	0.000	-51.760	0.00E+00	122.770	0.000
3	WSD(min)	I[3]	-140.930	0.000	-113.040	0.00E+00	23.310	0.000
3	WSD(min)	1/4	-140.930	0.000	-114.970	0.00E+00	37.110	0.000
3	WSD(min)	2/4	-140.930	0.000	-116.900	0.00E+00	47.440	0.000
3	WSD(min)	3/4	-140.930	0.000	-118.830	0.00E+00	54.000	0.000
3	WSD(min)	J[4]	-140.930	0.000	-120.750	0.00E+00	60.140	0.000
4	USD(max)	I[4]	52.580	0.000	-23.670	0.00E+00	203.010	0.000
4	USD(max)	1/4	52.580	0.000	-26.260	0.00E+00	206.530	0.000
4	USD(max)	2/4	52.580	0.000	-28.860	0.00E+00	210.440	0.000
4	USD(max)	3/4	52.580	0.000	-31.450	0.00E+00	214.710	0.000
4	USD(max)	J[5]	52.580	0.000	-34.050	0.00E+00	219.350	0.000
4	USD(min)	I[4]	-228.140	0.000	-131.790	0.00E+00	76.000	0.000
4	USD(min)	1/4	-228.140	0.000	-134.380	0.00E+00	81.640	0.000
4	USD(min)	2/4	-228.140	0.000	-136.980	0.00E+00	87.600	0.000
4	USD(min)	3/4	-228.140	0.000	-139.580	0.00E+00	93.870	0.000
4	USD(min)	J[5]	-228.140	0.000	-142.170	0.00E+00	100.460	0.000
4	WSD(max)	I[4]	30.690	0.000	-12.060	0.00E+00	122.770	0.000
4	WSD(max)	1/4	30.690	0.000	-13.980	0.00E+00	124.990	0.000
4	WSD(max)	2/4	30.690	0.000	-15.900	0.00E+00	127.430	0.000
4	WSD(max)	3/4	30.690	0.000	-17.830	0.00E+00	130.110	0.000

Elem	Load	Part	Axial (kN)	Shear-y (kN)	Shear-z (kN)	Torsion (kN · m)	Moment-y (kN · m)	Moment-z (kN · m)
4	WSD(max)	J[5]	30.690	0.000	-19.750	0.00E+00	133.020	0.000
4	WSD(min)	I[4]	-140.930	0.000	-80.910	0.00E+00	60.140	0.000
4	WSD(min)	1/4	-140.930	0.000	-82.830	0.00E+00	61.710	0.000
4	WSD(min)	2/4	-140.930	0.000	-84.760	0.00E+00	63.520	0.000
4	WSD(min)	3/4	-140.930	0.000	-86.680	0.00E+00	65.560	0.000
4	WSD(min)	J[5]	-140.930	0.000	-88.600	0.00E+00	67.820	0.000
5	USD(max)	I[5]	52.580	0.000	40.710	0.00E+00	219.350	0.000
5	USD(max)	1/4	52.580	0.000	37.630	0.00E+00	214.710	0.000
5	USD(max)	2/4	52.580	0.000	34.550	0.00E+00	217.140	0.000
5	USD(max)	3/4	52.580	0.000	31.480	0.00E+00	220.800	0.000
5	USD(max)	J[6]	52.580	0.000	28.400	0.00E+00	230.580	0.000
5	USD(min)	I[5]	-228.140	0.000	-79.470	0.00E+00	100.460	0.000
5	USD(min)	1/4	-228.140	0.000	-82.070	0.00E+00	99.900	0.000
5	USD(min)	2/4	-228.140	0.000	-84.660	0.00E+00	99.660	0.000
5	USD(min)	3/4	-228.140	0.000	-87.260	0.00E+00	99.730	0.000
5	USD(min)	J[6]	-228.140	0.000	-89.860	0.00E+00	100.110	0.000
5	WSD(max)	I[5]	30.690	0.000	25.470	0.00E+00	133.020	0.000
5	WSD(max)	1/4	30.690	0.000	23.550	0.00E+00	132.190	0.000
5	WSD(max)	2/4	30.690	0.000	21.630	0.00E+00	134.970	0.000
5	WSD(max)	3/4	30.690	0.000	19.710	0.00E+00	137.990	0.000
5	WSD(max)	J[6]	30.690	0.000	17.780	0.00E+00	144.110	0.000
5	WSD(min)	I[5]	-140.930	0.000	-44.350	0.00E+00	67.820	0.000
5	WSD(min)	1/4	-140.930	0.000	-46.280	0.00E+00	65.560	0.000
5	WSD(min)	2/4	-140.930	0.000	-48.200	0.00E+00	63.520	0.000
5	WSD(min)	3/4	-140.930	0.000	-50.120	0.00E+00	61.710	0.000
5	WSD(min)	J[6]	-140.930	0.000	-52.050	0.00E+00	60.140	0.000
6	USD(max)	I[6]	52.580	0.000	110.300	0.00E+00	230.580	0.000
6	USD(max)	1/4	52.580	0.000	107.220	0.00E+00	231.290	0.000
6	USD(max)	2/4	52.580	0.000	104.130	0.00E+00	232.370	0.000
6	USD(max)	3/4	52.580	0.000	101.050	0.00E+00	233.820	0.000
6	USD(max)	J[7]	52.580	0.000	97.970	0.00E+00	235.650	0.000
6	USD(min)	I[6]	-228.140	0.000	-18.920	0.00E+00	100.110	0.000
6	USD(min)	1/4	-228.140	0.000	-21.520	0.00E+00	93.200	0.000
6	USD(min)	2/4	-228.140	0.000	-24.120	0.00E+00	86.610	0.000
6	USD(min)	3/4	-228.140	0.000	-26.720	0.00E+00	78.890	0.000
6	USD(min)	J[7]	-228.140	0.000	-29.320	0.00E+00	68.550	0.000
6	WSD(max)	I[6]	30.690	0.000	69.030	0.00E+00	144.110	0.000
6	WSD(max)	1/4	30.690	0.000	67.100	0.00E+00	144.550	0.000
6	WSD(max)	2/4	30.690	0.000	65.180	0.00E+00	145.230	0.000
6	WSD(max)	3/4	30.690	0.000	63.250	0.00E+00	146.140	0.000
6	WSD(max)	J[7]	30.690	0.000	61.320	0.00E+00	147.280	0.000
6	WSD(min)	I[6]	-140.930	0.000	-2.690	0.00E+00	60.140	0.000
6	WSD(min)	1/4	-140.930	0.000	-4.620	0.00E+00	54.000	0.000
6	WSD(min)	2/4	-140.930	0.000	-6.550	0.00E+00	48.080	0.000
6	WSD(min)	3/4	-140.930	0.000	-8.470	0.00E+00	42.400	0.000
6	WSD(min)	J[7]	-140.930	0.000	-10.400	0.00E+00	36.960	0.000
7	USD(max)	I[7]	52.580	0.000	181.250	0.00E+00	235.650	0.000
7	USD(max)	1/4	52.580	0.000	178.170	0.00E+00	227.160	0.000
7	USD(max)	2/4	52.580	0.000	175.100	0.00E+00	219.040	0.000
7	USD(max)	3/4	52.580	0.000	172.020	0.00E+00	211.290	0.000
7	USD(max)	J[8]	52.580	0.000	168.940	0.00E+00	203.920	0.000
7	USD(min)	I[7]	-228.140	0.000	51.090	0.00E+00	68.550	0.000
7	USD(min)	1/4	-228.140	0.000	48.490	0.00E+00	49.960	0.000
7	USD(min)	2/4	-228.140	0.000	45.900	0.00E+00	31.680	0.000
7	USD(min)	3/4	-228.140	0.000	43.300	0.00E+00	13.710	0.000
7	USD(min)	J[8]	-228.140	0.000	40.710	0.00E+00	-3.940	0.000
7	WSD(max)	I[7]	30.690	0.000	113.410	0.00E+00	147.280	0.000
7	WSD(max)	1/4	30.690	0.000	111.490	0.00E+00	141.970	0.000
7	WSD(max)	2/4	30.690	0.000	109.570	0.00E+00	136.900	0.000
7	WSD(max)	3/4	30.690	0.000	107.650	0.00E+00	132.060	0.000
7	WSD(max)	J[8]	30.690	0.000	105.720	0.00E+00	127.450	0.000
7	WSD(min)	I[7]	-140.930	0.000	44.910	0.00E+00	36.960	0.000
7	WSD(min)	1/4	-140.930	0.000	42.980	0.00E+00	26.890	0.000
7	WSD(min)	2/4	-140.930	0.000	41.060	0.00E+00	17.060	0.000
7	WSD(min)	3/4	-140.930	0.000	39.140	0.00E+00	7.460	0.000
7	WSD(min)	J[8]	-140.930	0.000	37.220	0.00E+00	-1.900	0.000
8	USD(max)	I[8]	52.580	0.000	286.550	0.00E+00	203.920	0.000
8	USD(max)	1/4	52.580	0.000	282.010	0.00E+00	169.300	0.000
8	USD(max)	2/4	52.580	0.000	277.470	0.00E+00	140.250	0.000
8	USD(max)	3/4	52.580	0.000	272.930	0.00E+00	112.320	0.000
8	USD(max)	J[9]	52.580	0.000	268.400	0.00E+00	85.060	0.000
8	USD(min)	I[8]	-228.140	0.000	166.420	0.00E+00	-3.940	0.000
8	USD(min)	1/4	-228.140	0.000	162.590	0.00E+00	-47.230	0.000
8	USD(min)	2/4	-228.140	0.000	158.760	0.00E+00	-89.850	0.000
8	USD(min)	3/4	-228.140	0.000	154.930	0.00E+00	-134.300	0.000
8	USD(min)	J[9]	-228.140	0.000	151.100	0.00E+00	-182.510	0.000
8	WSD(max)	I[8]	30.690	0.000	179.230	0.00E+00	127.450	0.000
8	WSD(max)	1/4	30.690	0.000	176.400	0.00E+00	105.810	0.000
8	WSD(max)	2/4	30.690	0.000	173.560	0.00E+00	84.680	0.000
8	WSD(max)	3/4	30.690	0.000	170.720	0.00E+00	64.060	0.000

Elem	Load	Part	Axial (kN)	Shear-y (kN)	Shear-z (kN)	Torsion (kN · m)	Moment-y (kN · m)	Moment-z (kN · m)
8	WSD(max)	J[9]	30.690	0.000	167.890	0.00E+00	43.940	0.000
8	WSD(min)	I[8]	-140.930	0.000	122.880	0.00E+00	-1.900	0.000
8	WSD(min)	1/4	-140.930	0.000	120.040	0.00E+00	-25.380	0.000
8	WSD(min)	2/4	-140.930	0.000	117.210	0.00E+00	-55.960	0.000
8	WSD(min)	3/4	-140.930	0.000	114.370	0.00E+00	-86.620	0.000
8	WSD(min)	J[9]	-140.930	0.000	111.530	0.00E+00	-116.780	0.000
9	USD(max)	I[1]	-298.540	0.000	-91.150	0.00E+00	-122.700	0.000
9	USD(max)	1/4	-294.450	0.000	-83.610	0.00E+00	-108.500	0.000
9	USD(max)	2/4	-290.360	0.000	-76.200	0.00E+00	-95.520	0.000
9	USD(max)	3/4	-286.260	0.000	-68.930	0.00E+00	-75.500	0.000
9	USD(max)	J[10]	-282.170	0.000	-61.800	0.00E+00	-52.450	0.000
9	USD(min)	I[1]	-397.750	0.000	-231.020	0.00E+00	-280.820	0.000
9	USD(min)	1/4	-392.900	0.000	-213.490	0.00E+00	-248.660	0.000
9	USD(min)	2/4	-388.050	0.000	-196.310	0.00E+00	-218.690	0.000
9	USD(min)	3/4	-383.200	0.000	-179.500	0.00E+00	-190.850	0.000
9	USD(min)	J[10]	-378.350	0.000	-163.040	0.00E+00	-165.070	0.000
9	WSD(max)	I[1]	-183.020	0.000	-72.880	0.00E+00	-89.180	0.000
9	WSD(max)	1/4	-179.990	0.000	-66.820	0.00E+00	-72.020	0.000
9	WSD(max)	2/4	-176.960	0.000	-60.880	0.00E+00	-56.360	0.000
9	WSD(max)	3/4	-173.930	0.000	-55.050	0.00E+00	-42.170	0.000
9	WSD(max)	J[10]	-170.900	0.000	-49.330	0.00E+00	-29.410	0.000
9	WSD(min)	I[1]	-248.600	0.000	-141.090	0.00E+00	-175.510	0.000
9	WSD(min)	1/4	-245.560	0.000	-130.350	0.00E+00	-155.410	0.000
9	WSD(min)	2/4	-242.530	0.000	-119.820	0.00E+00	-136.680	0.000
9	WSD(min)	3/4	-239.500	0.000	-109.530	0.00E+00	-119.280	0.000
9	WSD(min)	J[10]	-236.470	0.000	-99.460	0.00E+00	-103.170	0.000
10	USD(max)	I[9]	-281.660	0.000	52.580	0.00E+00	55.280	0.000
10	USD(max)	1/4	-277.560	0.000	52.580	0.00E+00	46.740	0.000
10	USD(max)	2/4	-273.470	0.000	52.580	0.00E+00	38.200	0.000
10	USD(max)	3/4	-269.380	0.000	52.580	0.00E+00	29.650	0.000
10	USD(max)	J[11]	-265.290	0.000	52.580	0.00E+00	21.110	0.000
10	USD(min)	I[9]	-397.750	0.000	-208.850	0.00E+00	-181.670	0.000
10	USD(min)	1/4	-392.900	0.000	-191.320	0.00E+00	-149.770	0.000
10	USD(min)	2/4	-388.050	0.000	-174.140	0.00E+00	-120.640	0.000
10	USD(min)	3/4	-383.200	0.000	-157.330	0.00E+00	-102.430	0.000
10	USD(min)	J[11]	-378.350	0.000	-140.870	0.00E+00	-91.080	0.000
10	WSD(max)	I[9]	-183.020	0.000	30.690	0.00E+00	23.380	0.000
10	WSD(max)	1/4	-179.990	0.000	30.690	0.00E+00	18.400	0.000
10	WSD(max)	2/4	-176.960	0.000	30.690	0.00E+00	13.410	0.000
10	WSD(max)	3/4	-173.930	0.000	30.690	0.00E+00	8.420	0.000
10	WSD(max)	J[11]	-170.900	0.000	30.690	0.00E+00	3.430	0.000
10	WSD(min)	I[9]	-248.600	0.000	-129.110	0.00E+00	-116.090	0.000
10	WSD(min)	1/4	-245.560	0.000	-118.360	0.00E+00	-95.990	0.000
10	WSD(min)	2/4	-242.530	0.000	-107.840	0.00E+00	-77.610	0.000
10	WSD(min)	3/4	-239.500	0.000	-97.540	0.00E+00	-65.040	0.000
10	WSD(min)	J[11]	-236.470	0.000	-87.470	0.00E+00	-56.220	0.000
11	USD(max)	I[10]	-282.170	0.000	-61.800	0.00E+00	-52.450	0.000
11	USD(max)	1/4	-278.700	0.000	-54.260	0.00E+00	-30.470	0.000
11	USD(max)	2/4	-275.220	0.000	-46.890	0.00E+00	-11.370	0.000
11	USD(max)	3/4	-271.750	0.000	-39.670	0.00E+00	4.920	0.000
11	USD(max)	J[12]	-268.280	0.000	-32.600	0.00E+00	18.490	0.000
11	USD(min)	I[10]	-378.350	0.000	-163.040	0.00E+00	-165.070	0.000
11	USD(min)	1/4	-374.230	0.000	-145.730	0.00E+00	-139.560	0.000
11	USD(min)	2/4	-370.120	0.000	-131.360	0.00E+00	-116.310	0.000
11	USD(min)	3/4	-366.000	0.000	-118.710	0.00E+00	-100.300	0.000
11	USD(min)	J[12]	-361.890	0.000	-106.470	0.00E+00	-89.500	0.000
11	WSD(max)	I[10]	-170.900	0.000	-49.330	0.00E+00	-29.410	0.000
11	WSD(max)	1/4	-168.320	0.000	-43.300	0.00E+00	-17.230	0.000
11	WSD(max)	2/4	-165.750	0.000	-37.400	0.00E+00	-6.630	0.000
11	WSD(max)	3/4	-163.180	0.000	-31.620	0.00E+00	2.450	0.000
11	WSD(max)	J[12]	-160.610	0.000	-25.980	0.00E+00	10.040	0.000
11	WSD(min)	I[10]	-236.470	0.000	-99.460	0.00E+00	-103.170	0.000
11	WSD(min)	1/4	-233.900	0.000	-88.860	0.00E+00	-87.230	0.000
11	WSD(min)	2/4	-231.320	0.000	-79.080	0.00E+00	-72.700	0.000
11	WSD(min)	3/4	-228.750	0.000	-71.410	0.00E+00	-62.060	0.000
11	WSD(min)	J[12]	-226.180	0.000	-63.990	0.00E+00	-54.290	0.000
12	USD(max)	I[11]	-265.290	0.000	52.580	0.00E+00	21.110	0.000
12	USD(max)	1/4	-261.810	0.000	52.580	0.00E+00	11.910	0.000
12	USD(max)	2/4	-258.340	0.000	52.580	0.00E+00	16.950	0.000
12	USD(max)	3/4	-254.870	0.000	52.580	0.00E+00	27.530	0.000
12	USD(max)	J[13]	-251.390	0.000	52.580	0.00E+00	35.740	0.000
12	USD(min)	I[11]	-378.350	0.000	-140.870	0.00E+00	-91.080	0.000
12	USD(min)	1/4	-374.230	0.000	-123.550	0.00E+00	-80.190	0.000
12	USD(min)	2/4	-370.120	0.000	-106.650	0.00E+00	-70.660	0.000
12	USD(min)	3/4	-366.000	0.000	-90.170	0.00E+00	-62.460	0.000
12	USD(min)	J[13]	-361.890	0.000	-74.100	0.00E+00	-55.550	0.000
12	WSD(max)	I[11]	-170.900	0.000	30.690	0.00E+00	3.430	0.000
12	WSD(max)	1/4	-168.320	0.000	30.690	0.00E+00	-1.940	0.000
12	WSD(max)	2/4	-165.750	0.000	30.690	0.00E+00	3.110	0.000
12	WSD(max)	3/4	-163.180	0.000	30.690	0.00E+00	9.930	0.000

Elem	Load	Part	Axial (kN)	Shear-y (kN)	Shear-z (kN)	Torsion (kN · m)	Moment-y (kN · m)	Moment-z (kN · m)
12	WSD(max)	J[13]	-160.610	0.000	30.690	0.00E+00	15.260	0.000
12	WSD(min)	I[11]	-236.470	0.000	-87.470	0.00E+00	-56.220	0.000
12	WSD(min)	1/4	-233.900	0.000	-76.880	0.00E+00	-47.760	0.000
12	WSD(min)	2/4	-231.320	0.000	-66.550	0.00E+00	-40.340	0.000
12	WSD(min)	3/4	-228.750	0.000	-56.470	0.00E+00	-33.940	0.000
12	WSD(min)	J[13]	-226.180	0.000	-46.660	0.00E+00	-31.320	0.000
13	USD(max)	I[12]	-268.280	0.000	-32.600	0.00E+00	18.490	0.000
13	USD(max)	1/4	-264.810	0.000	-25.700	0.00E+00	29.390	0.000
13	USD(max)	2/4	-261.330	0.000	-18.950	0.00E+00	37.770	0.000
13	USD(max)	3/4	-257.860	0.000	-12.350	0.00E+00	46.510	0.000
13	USD(max)	J[14]	-254.390	0.000	-5.910	0.00E+00	52.820	0.000
13	USD(min)	I[12]	-361.890	0.000	-106.470	0.00E+00	-89.500	0.000
13	USD(min)	1/4	-357.770	0.000	-94.660	0.00E+00	-79.720	0.000
13	USD(min)	2/4	-353.650	0.000	-83.260	0.00E+00	-70.940	0.000
13	USD(min)	3/4	-349.540	0.000	-72.280	0.00E+00	-63.120	0.000
13	USD(min)	J[14]	-345.420	0.000	-61.710	0.00E+00	-56.240	0.000
13	WSD(max)	I[12]	-160.610	0.000	-25.980	0.00E+00	10.040	0.000
13	WSD(max)	1/4	-158.030	0.000	-20.470	0.00E+00	16.200	0.000
13	WSD(max)	2/4	-155.460	0.000	-15.090	0.00E+00	20.970	0.000
13	WSD(max)	3/4	-152.890	0.000	-9.840	0.00E+00	24.390	0.000
13	WSD(max)	J[14]	-150.320	0.000	-4.720	0.00E+00	26.510	0.000
13	WSD(min)	I[12]	-226.180	0.000	-63.990	0.00E+00	-54.290	0.000
13	WSD(min)	1/4	-223.610	0.000	-56.830	0.00E+00	-47.280	0.000
13	WSD(min)	2/4	-221.030	0.000	-49.940	0.00E+00	-41.020	0.000
13	WSD(min)	3/4	-218.460	0.000	-43.310	0.00E+00	-35.480	0.000
13	WSD(min)	J[14]	-215.890	0.000	-36.930	0.00E+00	-30.640	0.000
14	USD(max)	I[13]	-251.390	0.000	52.580	0.00E+00	35.740	0.000
14	USD(max)	1/4	-247.920	0.000	52.580	0.00E+00	42.080	0.000
14	USD(max)	2/4	-244.450	0.000	52.580	0.00E+00	46.460	0.000
14	USD(max)	3/4	-240.980	0.000	52.580	0.00E+00	48.690	0.000
14	USD(max)	J[15]	-237.500	0.000	52.580	0.00E+00	48.840	0.000
14	USD(min)	I[13]	-361.890	0.000	-74.100	0.00E+00	-55.550	0.000
14	USD(min)	1/4	-357.770	0.000	-58.460	0.00E+00	-60.380	0.000
14	USD(min)	2/4	-353.650	0.000	-43.220	0.00E+00	-65.330	0.000
14	USD(min)	3/4	-349.540	0.000	-28.920	0.00E+00	-70.290	0.000
14	USD(min)	J[15]	-345.420	0.000	-15.180	0.00E+00	-75.240	0.000
14	WSD(max)	I[13]	-160.610	0.000	30.690	0.00E+00	15.260	0.000
14	WSD(max)	1/4	-158.030	0.000	30.690	0.00E+00	19.150	0.000
14	WSD(max)	2/4	-155.460	0.000	30.690	0.00E+00	21.660	0.000
14	WSD(max)	3/4	-152.890	0.000	30.690	0.00E+00	24.390	0.000
14	WSD(max)	J[15]	-150.320	0.000	30.690	0.00E+00	26.510	0.000
14	WSD(min)	I[13]	-226.180	0.000	-46.660	0.00E+00	-31.320	0.000
14	WSD(min)	1/4	-223.610	0.000	-37.110	0.00E+00	-34.870	0.000
14	WSD(min)	2/4	-221.030	0.000	-27.820	0.00E+00	-38.420	0.000
14	WSD(min)	3/4	-218.460	0.000	-18.790	0.00E+00	-41.970	0.000
14	WSD(min)	J[15]	-215.890	0.000	-10.030	0.00E+00	-45.530	0.000
15	USD(max)	I[14]	-254.390	0.000	-5.910	0.00E+00	52.820	0.000
15	USD(max)	1/4	-250.910	0.000	0.920	0.00E+00	56.750	0.000
15	USD(max)	2/4	-247.440	0.000	13.820	0.00E+00	59.380	0.000
15	USD(max)	3/4	-243.970	0.000	26.670	0.00E+00	59.730	0.000
15	USD(max)	J[16]	-240.500	0.000	39.390	0.00E+00	57.830	0.000
15	USD(min)	I[14]	-345.420	0.000	-61.710	0.00E+00	-56.240	0.000
15	USD(min)	1/4	-341.310	0.000	-51.560	0.00E+00	-50.280	0.000
15	USD(min)	2/4	-337.190	0.000	-41.830	0.00E+00	-45.200	0.000
15	USD(min)	3/4	-333.070	0.000	-32.520	0.00E+00	-41.380	0.000
15	USD(min)	J[16]	-328.960	0.000	-23.630	0.00E+00	-43.900	0.000
15	WSD(max)	I[14]	-150.320	0.000	-4.720	0.00E+00	26.510	0.000
15	WSD(max)	1/4	-147.740	0.000	0.540	0.00E+00	28.260	0.000
15	WSD(max)	2/4	-145.170	0.000	8.790	0.00E+00	29.540	0.000
15	WSD(max)	3/4	-142.600	0.000	16.770	0.00E+00	29.600	0.000
15	WSD(max)	J[16]	-140.030	0.000	24.500	0.00E+00	28.440	0.000
15	WSD(min)	I[14]	-215.890	0.000	-36.930	0.00E+00	-30.640	0.000
15	WSD(min)	1/4	-213.320	0.000	-30.820	0.00E+00	-26.480	0.000
15	WSD(min)	2/4	-210.740	0.000	-24.970	0.00E+00	-22.960	0.000
15	WSD(min)	3/4	-208.170	0.000	-19.380	0.00E+00	-20.080	0.000
15	WSD(min)	J[16]	-205.600	0.000	-14.050	0.00E+00	-19.130	0.000
16	USD(max)	I[15]	-237.500	0.000	52.580	0.00E+00	48.840	0.000
16	USD(max)	1/4	-234.030	0.000	52.580	0.00E+00	47.880	0.000
16	USD(max)	2/4	-230.560	0.000	52.580	0.00E+00	46.590	0.000
16	USD(max)	3/4	-227.080	0.000	52.580	0.00E+00	43.350	0.000
16	USD(max)	J[17]	-223.610	0.000	52.580	0.00E+00	38.170	0.000
16	USD(min)	I[15]	-345.420	0.000	-15.180	0.00E+00	-75.240	0.000
16	USD(min)	1/4	-341.310	0.000	-2.410	0.00E+00	-80.190	0.000
16	USD(min)	2/4	-337.190	0.000	3.710	0.00E+00	-85.150	0.000
16	USD(min)	3/4	-333.070	0.000	9.680	0.00E+00	-90.100	0.000
16	USD(min)	J[17]	-328.960	0.000	15.490	0.00E+00	-97.620	0.000
16	WSD(max)	I[15]	-150.320	0.000	30.690	0.00E+00	26.510	0.000
16	WSD(max)	1/4	-147.740	0.000	30.690	0.00E+00	27.380	0.000
16	WSD(max)	2/4	-145.170	0.000	30.690	0.00E+00	27.040	0.000
16	WSD(max)	3/4	-142.600	0.000	30.690	0.00E+00	25.540	0.000

Elem	Load	Part	Axial (kN)	Shear-y (kN)	Shear-z (kN)	Torsion (kN · m)	Moment-y (kN · m)	Moment-z (kN · m)
16	WSD(max)	J[17]	-140.030	0.000	31.010	0.00E+00	22.910	0.000
16	WSD(min)	I[15]	-215.890	0.000	-10.030	0.00E+00	-45.530	0.000
16	WSD(min)	1/4	-213.320	0.000	-1.790	0.00E+00	-49.080	0.000
16	WSD(min)	2/4	-210.740	0.000	3.060	0.00E+00	-52.630	0.000
16	WSD(min)	3/4	-208.170	0.000	7.790	0.00E+00	-56.180	0.000
16	WSD(min)	J[17]	-205.600	0.000	12.390	0.00E+00	-61.010	0.000
17	USD(max)	I[16]	-240.500	0.000	39.390	0.00E+00	57.830	0.000
17	USD(max)	1/4	-237.020	0.000	51.700	0.00E+00	53.730	0.000
17	USD(max)	2/4	-233.550	0.000	63.590	0.00E+00	47.520	0.000
17	USD(max)	3/4	-230.080	0.000	75.070	0.00E+00	39.260	0.000
17	USD(max)	J[18]	-226.600	0.000	86.120	0.00E+00	29.030	0.000
17	USD(min)	I[16]	-328.960	0.000	-23.630	0.00E+00	-43.900	0.000
17	USD(min)	1/4	-324.840	0.000	-15.150	0.00E+00	-47.480	0.000
17	USD(min)	2/4	-320.730	0.000	-8.580	0.00E+00	-52.080	0.000
17	USD(min)	3/4	-316.610	0.000	-4.010	0.00E+00	-57.690	0.000
17	USD(min)	J[18]	-312.490	0.000	0.070	0.00E+00	-64.270	0.000
17	WSD(max)	I[16]	-140.030	0.000	24.500	0.00E+00	28.440	0.000
17	WSD(max)	1/4	-137.450	0.000	31.960	0.00E+00	25.960	0.000
17	WSD(max)	2/4	-134.880	0.000	39.160	0.00E+00	22.190	0.000
17	WSD(max)	3/4	-132.310	0.000	46.100	0.00E+00	17.180	0.000
17	WSD(max)	J[18]	-129.740	0.000	52.780	0.00E+00	10.980	0.000
17	WSD(min)	I[16]	-205.600	0.000	-14.050	0.00E+00	-19.130	0.000
17	WSD(min)	1/4	-203.030	0.000	-8.980	0.00E+00	-22.050	0.000
17	WSD(min)	2/4	-200.450	0.000	-4.920	0.00E+00	-25.740	0.000
17	WSD(min)	3/4	-197.880	0.000	-1.910	0.00E+00	-30.180	0.000
17	WSD(min)	J[18]	-195.310	0.000	0.970	0.00E+00	-35.340	0.000
18	USD(max)	I[17]	-223.610	0.000	52.580	0.00E+00	38.170	0.000
18	USD(max)	1/4	-220.140	0.000	61.030	0.00E+00	30.920	0.000
18	USD(max)	2/4	-216.670	0.000	70.200	0.00E+00	21.670	0.000
18	USD(max)	3/4	-213.190	0.000	78.950	0.00E+00	10.490	0.000
18	USD(max)	J[19]	-209.720	0.000	87.280	0.00E+00	-2.550	0.000
18	USD(min)	I[17]	-328.960	0.000	15.490	0.00E+00	-97.620	0.000
18	USD(min)	1/4	-324.840	0.000	21.140	0.00E+00	-106.210	0.000
18	USD(min)	2/4	-320.730	0.000	26.640	0.00E+00	-114.810	0.000
18	USD(min)	3/4	-316.610	0.000	28.300	0.00E+00	-123.400	0.000
18	USD(min)	J[19]	-312.490	0.000	28.300	0.00E+00	-131.990	0.000
18	WSD(max)	I[17]	-140.030	0.000	31.010	0.00E+00	22.910	0.000
18	WSD(max)	1/4	-137.450	0.000	37.000	0.00E+00	19.220	0.000
18	WSD(max)	2/4	-134.880	0.000	42.730	0.00E+00	14.510	0.000
18	WSD(max)	3/4	-132.310	0.000	48.200	0.00E+00	8.810	0.000
18	WSD(max)	J[19]	-129.740	0.000	53.410	0.00E+00	2.180	0.000
18	WSD(min)	I[17]	-205.600	0.000	12.390	0.00E+00	-61.010	0.000
18	WSD(min)	1/4	-203.030	0.000	16.860	0.00E+00	-66.380	0.000
18	WSD(min)	2/4	-200.450	0.000	20.290	0.00E+00	-71.750	0.000
18	WSD(min)	3/4	-197.880	0.000	20.290	0.00E+00	-77.130	0.000
18	WSD(min)	J[19]	-195.310	0.000	20.290	0.00E+00	-82.500	0.000
19	USD(max)	I[18]	-226.600	0.000	86.120	0.00E+00	29.030	0.000
19	USD(max)	1/4	-223.130	0.000	96.760	0.00E+00	23.950	0.000
19	USD(max)	2/4	-219.660	0.000	106.980	0.00E+00	20.830	0.000
19	USD(max)	3/4	-216.190	0.000	116.790	0.00E+00	16.630	0.000
19	USD(max)	J[20]	-212.710	0.000	126.170	0.00E+00	11.430	0.000
19	USD(min)	I[18]	-312.490	0.000	0.070	0.00E+00	-64.270	0.000
19	USD(min)	1/4	-308.380	0.000	3.960	0.00E+00	-71.790	0.000
19	USD(min)	2/4	-304.260	0.000	7.690	0.00E+00	-80.230	0.000
19	USD(min)	3/4	-300.150	0.000	11.260	0.00E+00	-89.560	0.000
19	USD(min)	J[20]	-296.030	0.000	14.680	0.00E+00	-99.750	0.000
19	WSD(max)	I[18]	-129.740	0.000	52.780	0.00E+00	10.980	0.000
19	WSD(max)	1/4	-127.160	0.000	59.200	0.00E+00	6.860	0.000
19	WSD(max)	2/4	-124.590	0.000	65.360	0.00E+00	5.010	0.000
19	WSD(max)	3/4	-122.020	0.000	71.260	0.00E+00	2.520	0.000
19	WSD(max)	J[20]	-119.450	0.000	76.890	0.00E+00	-0.560	0.000
19	WSD(min)	I[18]	-195.310	0.000	0.970	0.00E+00	-35.340	0.000
19	WSD(min)	1/4	-192.740	0.000	3.720	0.00E+00	-41.210	0.000
19	WSD(min)	2/4	-190.160	0.000	6.330	0.00E+00	-47.760	0.000
19	WSD(min)	3/4	-187.590	0.000	8.820	0.00E+00	-54.960	0.000
19	WSD(min)	J[20]	-185.020	0.000	11.180	0.00E+00	-62.790	0.000
20	USD(max)	I[19]	-209.720	0.000	87.280	0.00E+00	-2.550	0.000
20	USD(max)	1/4	-206.250	0.000	96.760	0.00E+00	-17.370	0.000
20	USD(max)	2/4	-202.770	0.000	106.980	0.00E+00	-33.900	0.000
20	USD(max)	3/4	-199.300	0.000	116.790	0.00E+00	-52.070	0.000
20	USD(max)	J[21]	-195.830	0.000	126.170	0.00E+00	-71.790	0.000
20	USD(min)	I[19]	-312.490	0.000	28.300	0.00E+00	-131.990	0.000
20	USD(min)	1/4	-308.380	0.000	28.300	0.00E+00	-140.590	0.000
20	USD(min)	2/4	-304.260	0.000	28.300	0.00E+00	-149.180	0.000
20	USD(min)	3/4	-300.150	0.000	28.300	0.00E+00	-157.770	0.000
20	USD(min)	J[21]	-296.030	0.000	28.300	0.00E+00	-166.370	0.000
20	WSD(max)	I[19]	-129.740	0.000	53.410	0.00E+00	2.180	0.000
20	WSD(max)	1/4	-127.160	0.000	59.200	0.00E+00	-5.340	0.000
20	WSD(max)	2/4	-124.590	0.000	65.360	0.00E+00	-13.710	0.000
20	WSD(max)	3/4	-122.020	0.000	71.260	0.00E+00	-22.870	0.000

Elem	Load	Part	Axial (kN)	Shear-y (kN)	Shear-z (kN)	Torsion (kN · m)	Moment-y (kN · m)	Moment-z (kN · m)
20	WSD(max)	J[21]	-119.450	0.000	76.890	0.00E+00	-32.780	0.000
20	WSD(min)	I[19]	-195.310	0.000	20.290	0.00E+00	-82.500	0.000
20	WSD(min)	1/4	-192.740	0.000	20.290	0.00E+00	-87.870	0.000
20	WSD(min)	2/4	-190.160	0.000	20.290	0.00E+00	-93.240	0.000
20	WSD(min)	3/4	-187.590	0.000	20.290	0.00E+00	-98.610	0.000
20	WSD(min)	J[21]	-185.020	0.000	20.290	0.00E+00	-103.980	0.000
21	USD(max)	I[20]	-212.710	0.000	126.170	0.00E+00	11.430	0.000
21	USD(max)	1/4	-208.740	0.000	132.620	0.00E+00	7.130	0.000
21	USD(max)	2/4	-204.770	0.000	138.860	0.00E+00	2.380	0.000
21	USD(max)	3/4	-200.810	0.000	144.880	0.00E+00	-2.790	0.000
21	USD(max)	J[22]	-196.840	0.000	150.690	0.00E+00	-8.360	0.000
21	USD(min)	I[20]	-296.030	0.000	14.680	0.00E+00	-99.750	0.000
21	USD(min)	1/4	-291.330	0.000	17.020	0.00E+00	-107.550	0.000
21	USD(min)	2/4	-286.620	0.000	19.290	0.00E+00	-121.400	0.000
21	USD(min)	3/4	-281.920	0.000	21.470	0.00E+00	-138.450	0.000
21	USD(min)	J[22]	-277.210	0.000	23.580	0.00E+00	-156.210	0.000
21	WSD(max)	I[20]	-119.450	0.000	76.890	0.00E+00	-0.560	0.000
21	WSD(max)	1/4	-116.510	0.000	80.760	0.00E+00	-3.090	0.000
21	WSD(max)	2/4	-113.570	0.000	84.490	0.00E+00	-5.890	0.000
21	WSD(max)	3/4	-110.630	0.000	88.090	0.00E+00	-8.930	0.000
21	WSD(max)	J[22]	-107.690	0.000	91.560	0.00E+00	-12.200	0.000
21	WSD(min)	I[20]	-185.020	0.000	11.180	0.00E+00	-62.790	0.000
21	WSD(min)	1/4	-182.080	0.000	12.780	0.00E+00	-68.760	0.000
21	WSD(min)	2/4	-179.140	0.000	14.320	0.00E+00	-77.860	0.000
21	WSD(min)	3/4	-176.200	0.000	15.790	0.00E+00	-88.640	0.000
21	WSD(min)	J[22]	-173.260	0.000	17.190	0.00E+00	-99.870	0.000
22	USD(max)	I[21]	-195.830	0.000	126.170	0.00E+00	-71.790	0.000
22	USD(max)	1/4	-191.860	0.000	132.620	0.00E+00	-86.800	0.000
22	USD(max)	2/4	-187.890	0.000	138.860	0.00E+00	-96.910	0.000
22	USD(max)	3/4	-183.920	0.000	144.880	0.00E+00	-104.920	0.000
22	USD(max)	J[30]	-179.950	0.000	150.690	0.00E+00	-113.300	0.000
22	USD(min)	I[21]	-296.030	0.000	28.300	0.00E+00	-166.370	0.000
22	USD(min)	1/4	-291.330	0.000	28.300	0.00E+00	-172.500	0.000
22	USD(min)	2/4	-286.620	0.000	28.300	0.00E+00	-178.640	0.000
22	USD(min)	3/4	-281.920	0.000	28.300	0.00E+00	-184.780	0.000
22	USD(min)	J[30]	-277.210	0.000	28.300	0.00E+00	-190.920	0.000
22	WSD(max)	I[21]	-119.450	0.000	76.890	0.00E+00	-32.780	0.000
22	WSD(max)	1/4	-116.510	0.000	80.760	0.00E+00	-40.300	0.000
22	WSD(max)	2/4	-113.570	0.000	84.490	0.00E+00	-48.160	0.000
22	WSD(max)	3/4	-110.630	0.000	88.090	0.00E+00	-56.340	0.000
22	WSD(max)	J[30]	-107.690	0.000	91.560	0.00E+00	-64.840	0.000
22	WSD(min)	I[21]	-185.020	0.000	20.290	0.00E+00	-103.980	0.000
22	WSD(min)	1/4	-182.080	0.000	20.290	0.00E+00	-107.810	0.000
22	WSD(min)	2/4	-179.140	0.000	20.290	0.00E+00	-111.650	0.000
22	WSD(min)	3/4	-176.200	0.000	20.290	0.00E+00	-115.490	0.000
22	WSD(min)	J[30]	-173.260	0.000	20.290	0.00E+00	-119.320	0.000
23	USD(max)	I[22]	-28.300	0.000	-162.050	0.00E+00	30.640	0.000
23	USD(max)	1/4	-28.300	0.000	-147.560	0.00E+00	49.990	0.000
23	USD(max)	2/4	-28.300	0.000	-133.060	0.00E+00	67.530	0.000
23	USD(max)	3/4	-28.300	0.000	-118.570	0.00E+00	83.280	0.000
23	USD(max)	J[23]	-28.300	0.000	-104.080	0.00E+00	98.870	0.000
23	USD(min)	I[22]	-163.770	0.000	-241.060	0.00E+00	-126.320	0.000
23	USD(min)	1/4	-163.770	0.000	-225.990	0.00E+00	-98.230	0.000
23	USD(min)	2/4	-163.770	0.000	-210.920	0.00E+00	-71.960	0.000
23	USD(min)	3/4	-163.770	0.000	-195.860	0.00E+00	-50.130	0.000
23	USD(min)	J[23]	-163.770	0.000	-180.790	0.00E+00	-29.990	0.000
23	WSD(max)	I[22]	-20.290	0.000	-93.640	0.00E+00	15.780	0.000
23	WSD(max)	1/4	-20.290	0.000	-87.790	0.00E+00	29.050	0.000
23	WSD(max)	2/4	-20.290	0.000	-81.940	0.00E+00	41.140	0.000
23	WSD(max)	3/4	-20.290	0.000	-76.080	0.00E+00	52.050	0.000
23	WSD(max)	J[23]	-20.290	0.000	-70.230	0.00E+00	61.790	0.000
23	WSD(min)	I[22]	-99.340	0.000	-150.660	0.00E+00	-79.940	0.000
23	WSD(min)	1/4	-99.340	0.000	-141.240	0.00E+00	-61.690	0.000
23	WSD(min)	2/4	-99.340	0.000	-131.830	0.00E+00	-44.630	0.000
23	WSD(min)	3/4	-99.340	0.000	-122.410	0.00E+00	-28.740	0.000
23	WSD(min)	J[23]	-99.340	0.000	-113.000	0.00E+00	-15.230	0.000
24	USD(max)	I[23]	-28.300	0.000	-104.080	0.00E+00	98.870	0.000
24	USD(max)	1/4	-28.300	0.000	-89.580	0.00E+00	112.560	0.000
24	USD(max)	2/4	-28.300	0.000	-75.090	0.00E+00	124.380	0.000
24	USD(max)	3/4	-28.300	0.000	-60.590	0.00E+00	134.310	0.000
24	USD(max)	J[24]	-28.300	0.000	-46.100	0.00E+00	142.360	0.000
24	USD(min)	I[23]	-163.770	0.000	-180.790	0.00E+00	-29.990	0.000
24	USD(min)	1/4	-163.770	0.000	-165.730	0.00E+00	-11.460	0.000
24	USD(min)	2/4	-163.770	0.000	-150.660	0.00E+00	5.460	0.000
24	USD(min)	3/4	-163.770	0.000	-135.590	0.00E+00	20.760	0.000
24	USD(min)	J[24]	-163.770	0.000	-120.530	0.00E+00	34.460	0.000
24	WSD(max)	I[23]	-20.290	0.000	-70.230	0.00E+00	61.790	0.000
24	WSD(max)	1/4	-20.290	0.000	-63.780	0.00E+00	70.350	0.000
24	WSD(max)	2/4	-20.290	0.000	-54.370	0.00E+00	77.740	0.000
24	WSD(max)	3/4	-20.290	0.000	-44.950	0.00E+00	83.940	0.000

Elem	Load	Part	Axial (kN)	Shear-y (kN)	Shear-z (kN)	Torsion (kN · m)	Moment-y (kN · m)	Moment-z (kN · m)
24	WSD(max)	J[24]	-20.290	0.000	-35.530	0.00E+00	88.970	0.000
24	WSD(min)	I[23]	-99.340	0.000	-113.000	0.00E+00	-15.230	0.000
24	WSD(min)	1/4	-99.340	0.000	-103.580	0.00E+00	-6.820	0.000
24	WSD(min)	2/4	-99.340	0.000	-94.160	0.00E+00	0.860	0.000
24	WSD(min)	3/4	-99.340	0.000	-84.750	0.00E+00	7.810	0.000
24	WSD(min)	J[24]	-99.340	0.000	-75.330	0.00E+00	14.030	0.000
25	USD(max)	I[24]	-28.300	0.000	-46.100	0.00E+00	142.360	0.000
25	USD(max)	1/4	-28.300	0.000	-31.610	0.00E+00	148.910	0.000
25	USD(max)	2/4	-28.300	0.000	-17.110	0.00E+00	155.080	0.000
25	USD(max)	3/4	-28.300	0.000	-2.620	0.00E+00	159.370	0.000
25	USD(max)	J[25]	-28.300	0.000	11.870	0.00E+00	161.770	0.000
25	USD(min)	I[24]	-163.770	0.000	-120.530	0.00E+00	34.460	0.000
25	USD(min)	1/4	-163.770	0.000	-105.460	0.00E+00	46.540	0.000
25	USD(min)	2/4	-163.770	0.000	-90.400	0.00E+00	57.020	0.000
25	USD(min)	3/4	-163.770	0.000	-75.330	0.00E+00	62.560	0.000
25	USD(min)	J[25]	-163.770	0.000	-60.260	0.00E+00	65.480	0.000
25	WSD(max)	I[24]	-20.290	0.000	-35.530	0.00E+00	88.970	0.000
25	WSD(max)	1/4	-20.290	0.000	-26.120	0.00E+00	93.020	0.000
25	WSD(max)	2/4	-20.290	0.000	-16.700	0.00E+00	96.640	0.000
25	WSD(max)	3/4	-20.290	0.000	-7.280	0.00E+00	99.080	0.000
25	WSD(max)	J[25]	-20.290	0.000	2.130	0.00E+00	100.350	0.000
25	WSD(min)	I[24]	-99.340	0.000	-75.330	0.00E+00	14.030	0.000
25	WSD(min)	1/4	-99.340	0.000	-65.910	0.00E+00	19.520	0.000
25	WSD(min)	2/4	-99.340	0.000	-56.500	0.00E+00	24.270	0.000
25	WSD(min)	3/4	-99.340	0.000	-47.080	0.00E+00	28.300	0.000
25	WSD(min)	J[25]	-99.340	0.000	-37.670	0.00E+00	31.590	0.000
26	USD(max)	I[25]	-28.300	0.000	11.870	0.00E+00	161.770	0.000
26	USD(max)	1/4	-28.300	0.000	26.370	0.00E+00	162.290	0.000
26	USD(max)	2/4	-28.300	0.000	40.860	0.00E+00	160.920	0.000
26	USD(max)	3/4	-28.300	0.000	55.360	0.00E+00	161.270	0.000
26	USD(max)	J[26]	-28.300	0.000	69.850	0.00E+00	162.210	0.000
26	USD(min)	I[25]	-163.770	0.000	-60.260	0.00E+00	65.480	0.000
26	USD(min)	1/4	-163.770	0.000	-45.200	0.00E+00	66.800	0.000
26	USD(min)	2/4	-163.770	0.000	-30.130	0.00E+00	66.510	0.000
26	USD(min)	3/4	-163.770	0.000	-15.070	0.00E+00	64.600	0.000
26	USD(min)	J[26]	-163.770	0.000	0.000	0.00E+00	61.090	0.000
26	WSD(max)	I[25]	-20.290	0.000	2.130	0.00E+00	100.350	0.000
26	WSD(max)	1/4	-20.290	0.000	11.550	0.00E+00	100.440	0.000
26	WSD(max)	2/4	-20.290	0.000	20.960	0.00E+00	99.350	0.000
26	WSD(max)	3/4	-20.290	0.000	30.380	0.00E+00	97.720	0.000
26	WSD(max)	J[26]	-20.290	0.000	39.800	0.00E+00	98.310	0.000
26	WSD(min)	I[25]	-99.340	0.000	-37.670	0.00E+00	31.590	0.000
26	WSD(min)	1/4	-99.340	0.000	-28.250	0.00E+00	34.150	0.000
26	WSD(min)	2/4	-99.340	0.000	-18.830	0.00E+00	35.980	0.000
26	WSD(min)	3/4	-99.340	0.000	-9.420	0.00E+00	37.080	0.000
26	WSD(min)	J[26]	-99.340	0.000	0.000	0.00E+00	37.440	0.000
27	USD(max)	I[26]	-28.300	0.000	69.850	0.00E+00	162.210	0.000
27	USD(max)	1/4	-28.300	0.000	77.750	0.00E+00	161.270	0.000
27	USD(max)	2/4	-28.300	0.000	85.650	0.00E+00	158.450	0.000
27	USD(max)	3/4	-28.300	0.000	93.550	0.00E+00	153.740	0.000
27	USD(max)	J[27]	-28.300	0.000	101.450	0.00E+00	147.150	0.000
27	USD(min)	I[26]	-163.770	0.000	0.000	0.00E+00	61.090	0.000
27	USD(min)	1/4	-163.770	0.000	12.890	0.00E+00	56.270	0.000
27	USD(min)	2/4	-163.770	0.000	25.780	0.00E+00	50.470	0.000
27	USD(min)	3/4	-163.770	0.000	38.670	0.00E+00	43.680	0.000
27	USD(min)	J[27]	-163.770	0.000	51.560	0.00E+00	35.900	0.000
27	WSD(max)	I[26]	-20.290	0.000	39.800	0.00E+00	98.310	0.000
27	WSD(max)	1/4	-20.290	0.000	45.650	0.00E+00	97.720	0.000
27	WSD(max)	2/4	-20.290	0.000	51.500	0.00E+00	95.960	0.000
27	WSD(max)	3/4	-20.290	0.000	57.350	0.00E+00	93.010	0.000
27	WSD(max)	J[27]	-20.290	0.000	63.210	0.00E+00	88.900	0.000
27	WSD(min)	I[26]	-99.340	0.000	0.000	0.00E+00	37.440	0.000
27	WSD(min)	1/4	-99.340	0.000	5.850	0.00E+00	37.080	0.000
27	WSD(min)	2/4	-99.340	0.000	11.700	0.00E+00	35.980	0.000
27	WSD(min)	3/4	-99.340	0.000	17.560	0.00E+00	34.150	0.000
27	WSD(min)	J[27]	-99.340	0.000	23.410	0.00E+00	31.590	0.000
28	USD(max)	I[27]	-28.300	0.000	101.450	0.00E+00	147.150	0.000
28	USD(max)	1/4	-28.300	0.000	110.500	0.00E+00	138.670	0.000
28	USD(max)	2/4	-28.300	0.000	119.860	0.00E+00	128.320	0.000
28	USD(max)	3/4	-28.300	0.000	129.220	0.00E+00	116.070	0.000
28	USD(max)	J[28]	-28.300	0.000	138.590	0.00E+00	101.950	0.000
28	USD(min)	I[27]	-163.770	0.000	51.560	0.00E+00	35.900	0.000
28	USD(min)	1/4	-163.770	0.000	64.450	0.00E+00	27.130	0.000
28	USD(min)	2/4	-163.770	0.000	77.340	0.00E+00	17.380	0.000
28	USD(min)	3/4	-163.770	0.000	89.880	0.00E+00	6.640	0.000
28	USD(min)	J[28]	-163.770	0.000	97.780	0.00E+00	-5.090	0.000
28	WSD(max)	I[27]	-20.290	0.000	63.210	0.00E+00	88.900	0.000
28	WSD(max)	1/4	-20.290	0.000	69.060	0.00E+00	83.600	0.000
28	WSD(max)	2/4	-20.290	0.000	74.910	0.00E+00	77.120	0.000
28	WSD(max)	3/4	-20.290	0.000	80.760	0.00E+00	69.470	0.000

Elem	Load	Part	Axial (kN)	Shear-y (kN)	Shear-z (kN)	Torsion (kN · m)	Moment-y (kN · m)	Moment-z (kN · m)
28	WSD(max)	J[28]	-20.290	0.000	86.620	0.00E+00	60.650	0.000
28	WSD(min)	I[27]	-99.340	0.000	23.410	0.00E+00	31.590	0.000
28	WSD(min)	1/4	-99.340	0.000	29.260	0.00E+00	28.300	0.000
28	WSD(min)	2/4	-99.340	0.000	35.120	0.00E+00	21.220	0.000
28	WSD(min)	3/4	-99.340	0.000	40.970	0.00E+00	13.380	0.000
28	WSD(min)	J[28]	-99.340	0.000	46.820	0.00E+00	4.800	0.000
29	USD(max)	I[28]	-28.300	0.000	138.590	0.00E+00	101.950	0.000
29	USD(max)	1/4	-28.300	0.000	147.950	0.00E+00	85.940	0.000
29	USD(max)	2/4	-28.300	0.000	157.320	0.00E+00	68.050	0.000
29	USD(max)	3/4	-28.300	0.000	166.680	0.00E+00	48.280	0.000
29	USD(max)	J[29]	-28.300	0.000	180.790	0.00E+00	26.620	0.000
29	USD(min)	I[28]	-163.770	0.000	97.780	0.00E+00	-5.090	0.000
29	USD(min)	1/4	-163.770	0.000	105.680	0.00E+00	-18.760	0.000
29	USD(min)	2/4	-163.770	0.000	113.580	0.00E+00	-33.860	0.000
29	USD(min)	3/4	-163.770	0.000	121.490	0.00E+00	-49.940	0.000
29	USD(min)	J[29]	-163.770	0.000	129.390	0.00E+00	-67.010	0.000
29	WSD(max)	I[28]	-20.290	0.000	86.620	0.00E+00	60.650	0.000
29	WSD(max)	1/4	-20.290	0.000	92.470	0.00E+00	50.640	0.000
29	WSD(max)	2/4	-20.290	0.000	98.320	0.00E+00	39.460	0.000
29	WSD(max)	3/4	-20.290	0.000	104.170	0.00E+00	27.100	0.000
29	WSD(max)	J[29]	-20.290	0.000	113.000	0.00E+00	13.570	0.000
29	WSD(min)	I[28]	-99.340	0.000	46.820	0.00E+00	4.800	0.000
29	WSD(min)	1/4	-99.340	0.000	52.670	0.00E+00	-4.500	0.000
29	WSD(min)	2/4	-99.340	0.000	58.530	0.00E+00	-14.540	0.000
29	WSD(min)	3/4	-99.340	0.000	64.380	0.00E+00	-25.310	0.000
29	WSD(min)	J[29]	-99.340	0.000	70.230	0.00E+00	-36.810	0.000
30	USD(max)	I[29]	-28.300	0.000	180.790	0.00E+00	26.620	0.000
30	USD(max)	1/4	-28.300	0.000	195.860	0.00E+00	3.080	0.000
30	USD(max)	2/4	-28.300	0.000	210.920	0.00E+00	-20.020	0.000
30	USD(max)	3/4	-28.300	0.000	225.990	0.00E+00	-43.380	0.000
30	USD(max)	J[30]	-28.300	0.000	241.060	0.00E+00	-68.360	0.000
30	USD(min)	I[29]	-163.770	0.000	129.390	0.00E+00	-67.010	0.000
30	USD(min)	1/4	-163.770	0.000	137.290	0.00E+00	-85.060	0.000
30	USD(min)	2/4	-163.770	0.000	145.190	0.00E+00	-104.110	0.000
30	USD(min)	3/4	-163.770	0.000	153.090	0.00E+00	-124.140	0.000
30	USD(min)	J[30]	-163.770	0.000	160.990	0.00E+00	-145.160	0.000
30	WSD(max)	I[29]	-20.290	0.000	113.000	0.00E+00	13.570	0.000
30	WSD(max)	1/4	-20.290	0.000	122.410	0.00E+00	-1.150	0.000
30	WSD(max)	2/4	-20.290	0.000	131.830	0.00E+00	-17.040	0.000
30	WSD(max)	3/4	-20.290	0.000	141.240	0.00E+00	-34.100	0.000
30	WSD(max)	J[30]	-20.290	0.000	150.660	0.00E+00	-52.350	0.000
30	WSD(min)	I[29]	-99.340	0.000	70.230	0.00E+00	-36.810	0.000
30	WSD(min)	1/4	-99.340	0.000	76.080	0.00E+00	-49.040	0.000
30	WSD(min)	2/4	-99.340	0.000	81.930	0.00E+00	-62.000	0.000
30	WSD(min)	3/4	-99.340	0.000	87.790	0.00E+00	-75.700	0.000
30	WSD(min)	J[30]	-99.340	0.000	93.640	0.00E+00	-90.120	0.000

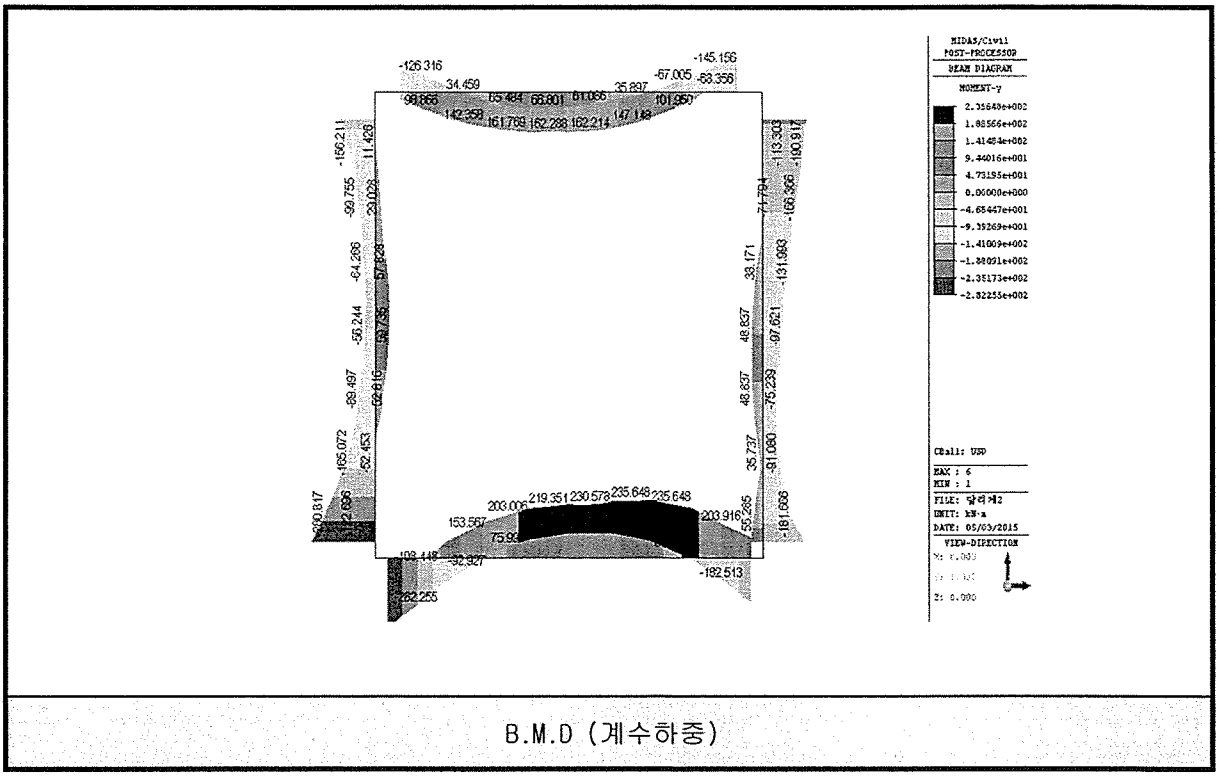
9. 단면력 요약

구분	위치	부재	극한하중			사용하중	비고
			Mu(kN · m)	Su(kN)	Pu(kN)	M(kN · m)	
상부슬래브	단부	23,30	-145.16	241.06	-	-90.12	
	중앙부	26,27	162.29	101.45	-	100.44	
벽체	상단부 (축력최대)	21.22	-89.51	150.69	-296.03	-0.56	
	상단부 (모멘트최대)	21,22	-190.92	150.69	-235.97	-119.32	
	중앙부 (축력최대)	15,16	33.35	52.58	-345.42	29.60	
	중앙부 (모멘트최대)	15,16	-97.62	-61.71	-287.72	-61.01	
	하단부 (축력최대)	9,10	-181.67	-231.02	-397.75	23.38	
	하단부 (모멘트최대)	9,10	-280.82	-231.02	-334.08	-175.51	
하부슬래브	단부	1,8	-282.26	296.87	-	-174.92	
	중앙부	4,5	230.58	142.17	-	144.11	

-'전단력과 사용하중 상태에서의 모멘트는 선택 부재에서의 최대값 적용

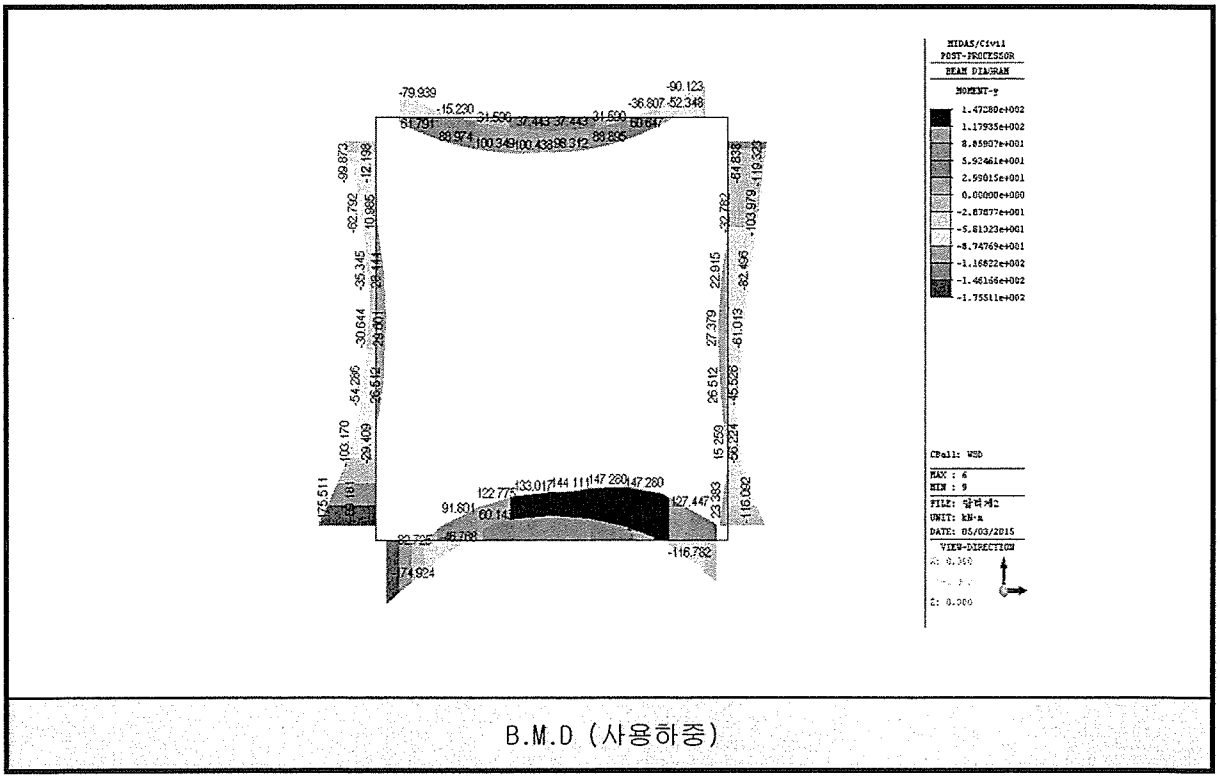
10. 단면력도

(1) 극한하중 모멘트도



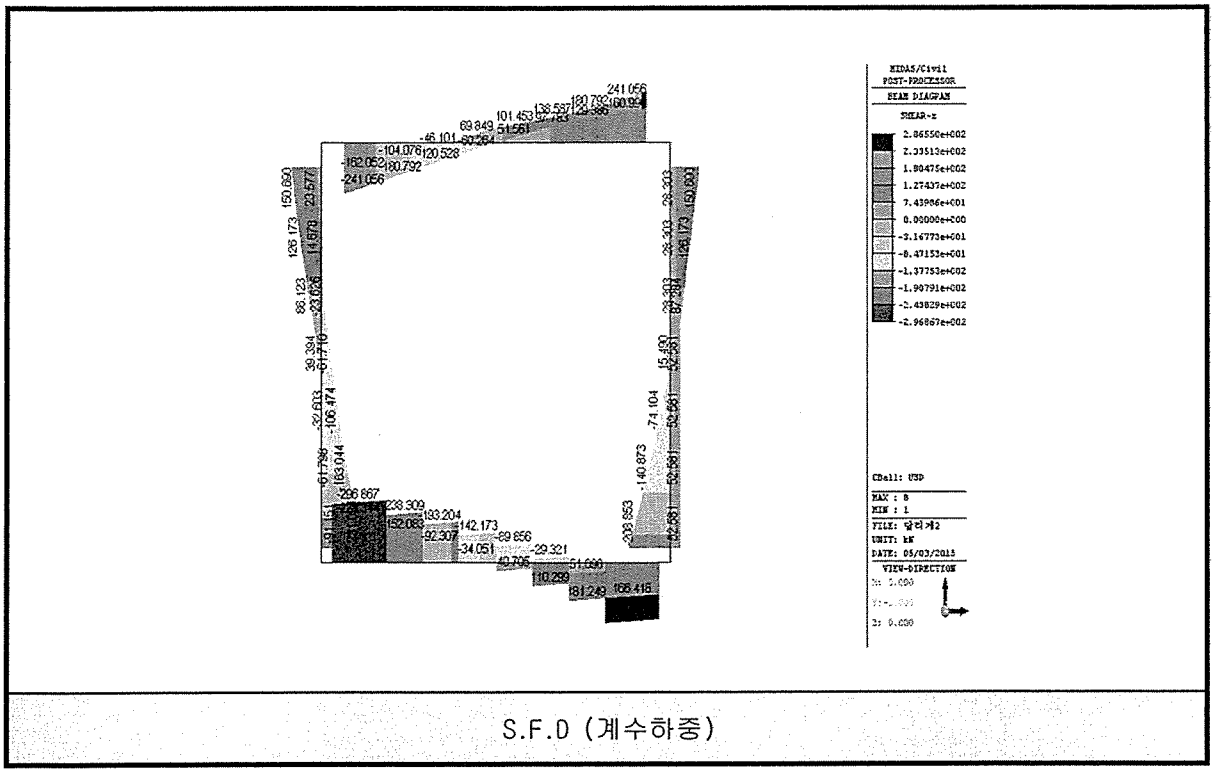
B.M.D (계수하중)

(2) 사용하중 모멘트도



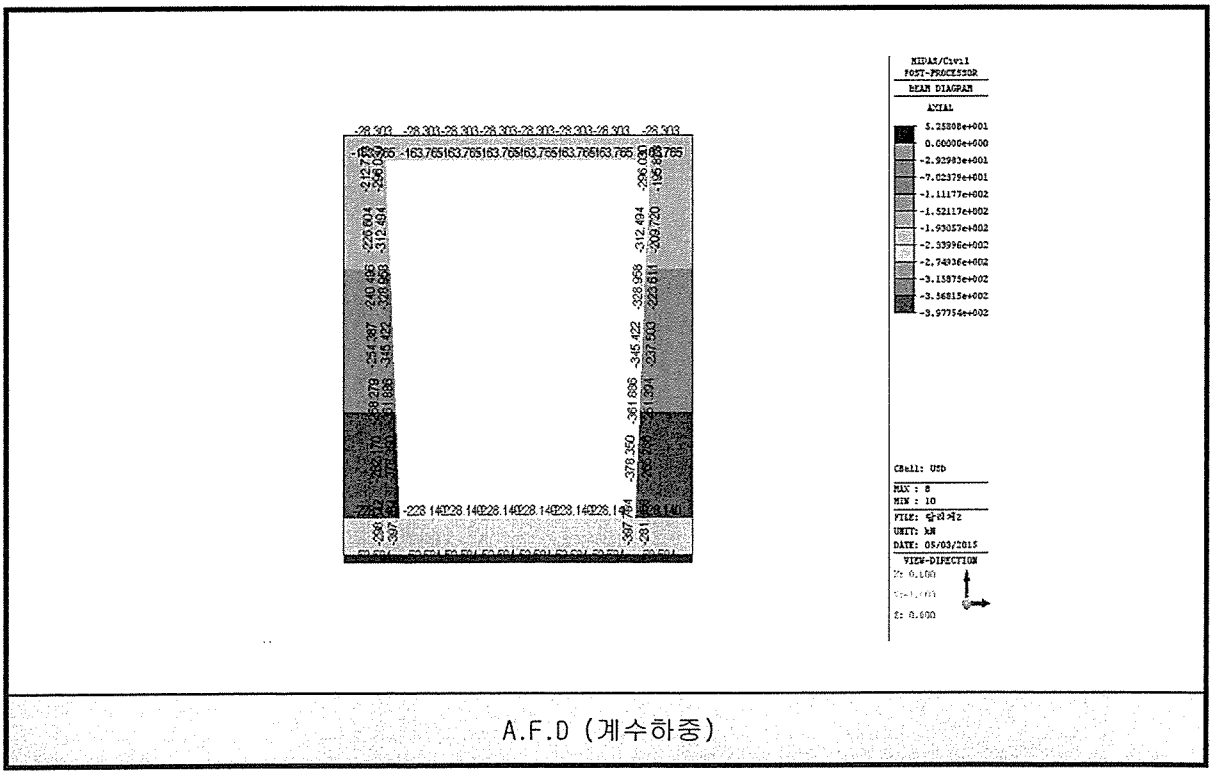
B.M.D (사용하중)

(3) 극한하중 전단력도



S.F.D (계수하중)

(4) 극한하중 축력도



A.F.D (계수하중)

11. 단면검토

① 상부 슬래브 단부

* 검토 조건

pmin = max(0.25√fck / fy, 1.4/fy) = 0.00350

fck (Mpa)	fy (Mpa)	β1	Φf	Φv	Mo (kN.m)
30.0	400.0	0.836	0.900	0.850	90.120
B (mm)	H (mm)	d (mm)	피복 (mm)	Mu (kN.m)	Su (kN)
1000.0	700.0	600.0	100.0	145.160	241.060

전단설계시 단면의 유효높이 ds = 500.0 d1' = 100 d2' = 0

* 휨모멘트 검토

공칭강도시 등가응력깊이 a = (As×fy) / (0.85×fck×B) = 35.953 mm

최외단 인장철근 변형률 εt = 0.03885 ≥ 0.004 ----- ∴ O.K.

여기서 εt = 0.003×(H - a/β1 - Dc_min) / (a/β1)

0.005 ≤ εt 이므로 인장지배단면, Φf = 0.900 를 적용한다.

ⓐ 필요철근량 및 철근비 검토

Mu / Φ = As×fy / (d - a/2) ---------- (1)

a = As×fy / (0.85×fck×b) ---------- (2)

式(2)를 式(1)에 대입하여 2차방정식으로 As를 구한다.

$$\frac{fy^2}{2\times 0.85\times fck\times b}\times As^2 - fy\times d\times As + \frac{Mu}{\Phi} = 0$$

필요 철근량 req.As = 678.047 mm^2

사용철근비 : Puse = As / (B × D) = 0.00382

최대철근비 : Pmax = 0.714 x k1 x Φx (fck / fy) x {600 / (600 + fy)} = 0.02283

최소철근비 :
- Pmin = 1.4 / fy = 0.00350
- Pmin = 0.25 √fck / fy = 0.00342
- 적용 = 0.0035

As(req) = 678.047 mm^2 As(min) = 2100.000 mm^2

4/3×As(req) = 904.062 mm^2 ※ As = 904.062 mm^2

사용철근량 = H19 × 8ea = 2292.000 ㎟ ----- ∴ O.K.

ⓑ 휨강도 검토

ØMn = Øf · fy · As · (D - a/2) = 480239230 N · mm

= 480.239 kN · m > 145.160 kN · m ----- ∴ O.K. [사용률 = 3.308]

* 전단력 검토

Øv · Vc = Øv · 1/6 · √fck · B · d / 1000 = 387.970 kN

1/2 x Φv x Vc = 193.985 kN ≤ Vu ≤Φv x Vc ∴ 최소전단 철근을 배근하는것이 좋다.

▣ 사용성 검토 (균열방지 인장철근 간격검토)

ⓐ 응력산정

fs = M / [As x (d - χ/3)]

= 90.12 × 1000000 / [2292×(600 - 123.635/3)]

= 70.365 Mpa

χ = -nAs/b + nAs/b√[1 + 2bd/(nAs)]

= -7 × 2292/1000 + 7 × 2292/1000 × √[(1 + 2×1000×600/(7×2292)]

= 123.635 mm

사용철근량 = 2292.000 mm^2 (철근도심 : 100 mm)

1단 H19 @ 125 (= 2292 ㎟)

ⓑ 철근의 최대 중심간격

Cc = 100 - 19 / 2 = 90.50 mm

여기서 Cc ; 인장철근이나 긴장재의 표면과 콘크리트 표면사이의 두께(mm)

Smin : 375 x (210 / fs) - 2.5 x Cc = 375 × (210 / 70.365) - 2.5 × 90.5 = 892.908 mm

300 x (210 / fs) = 300 × (210 / 70.365) = 895.326 mm

Sa는 작은 값인 892.908 mm 를 적용

S = 125.00 ≤ Sa (= 892.908 mm) ----- ∴ O.K.

② 상부슬래브 중앙부

* 검토 조건

pmin = max(0.25√fck / fy, 1.4/fy) = 0.00350

fck (Mpa)	fy (Mpa)	β1	Φf	Φv	Mo (kN.m)
30.0	400.0	0.836	0.900	0.850	100.440
B (mm)	H (mm)	d (mm)	피복 (mm)	Mu (kN.m)	Vu (kN)
1000.0	600.0	500.0	100.0	162.290	101.450

전단설계시 단면의 유효높이 ds = 500.0 d1' = 100 d2' = 0

* 휨모멘트 검토

공칭강도시 등가응력깊이 a = (As×fy) / (0.85×fck×B) = 35.953 mm

최외단 인장철근 변형률 εt = 0.03188 ≥ 0.004 ----- ∴ O.K.

여기서 εt = 0.003×(H - a/β1 - Dc_min) / (a/β1)

0.005 ≤ εt 이므로 인장지배단면, Φf = 0.900 를 적용한다.

ⓐ 필요철근량 및 철근비 검토

Mu / Φ = As×fy / (d - a/2) ---------- (1)

a = As×fy / (0.85×fck×b) ---------- (2)

式(2)를 式(1)에 대입하여 2차방정식으로 As를 구한다.

$$\frac{fy^2}{2\times 0.85\times fck\times b}\times As^2 - fy\times d\times As + \frac{Mu}{\Phi} = 0$$

필요 철근량 req.As = 914.736 mm^2

사용철근비 : Puse = As / (B × D) = 0.00458

최대철근비 : Pmax = 0.714 x k1 x Φx (fck / fy) x {600 / (600 + fy)} = 0.02283

최소철근비 :
- Pmin = 1.4 / fy = 0.00350
- Pmin = 0.25 √fck / fy = 0.00342
- 적용 = 0.0035

As(req) = 914.736 mm^2 As(min) = 1750.000 mm^2

4/3×As(req) = 1219.649 mm^2 ※ As = 1219.649 mm^2

사용철근량 = H19 × 8ea = 2292.000 ㎟ ----- ∴ O.K.

ⓑ 휨강도 검토

ØMn = Ø f · fy · As · (D - a/2) = 397727230 N · mm

= 397.727 kN · m > 162.290 kN · m ----- ∴ O.K. [사용률 = 2.451]

* 전단력 검토

Øv · Vc = Øv · 1/6 · √fck · B · d / 1000 = 387.970 kN

∴ 전단철근이 필요없음.

▣ 사용성 검토 (균열방지 인장철근 간격검토)

ⓐ 응력산정

fs = M / [As x (d - χ/3)]

= 100.44 × 1000000 / [2292×(500 - 111.633/3)]

= 94.691 Mpa

χ = -nAs/b + nAs/b√[1 + 2bd/(nAs)]

= -7 × 2292/1000 + 7 × 2292/1000 × √[(1 + 2×1000×500/(7×2292)]

= 111.633 mm

사용철근량 = 2292.000 mm^2 (철근도심 : 100 mm)

1단 H19 @ 125 (= 2292 ㎟)

ⓑ 철근의 최대 중심간격

Cc = 100 - 19 / 2 = 90.50 mm

여기서 Cc ; 인장철근이나 긴장재의 표면과 콘크리트 표면사이의 두께(mm)

Smin : 375 x (210 / fs) - 2.5 x Cc = 375 × (210 / 94.691) - 2.5 × 90.5 = 605.402 mm

300 x (210 / fs) = 300 × (210 / 94.691) = 665.321 mm

Sa는 작은 값인 605.402 mm 를 적용

S = 125.00 ≤ Sa (= 605.402 mm) ----- ∴ O.K.

③ 하부슬래브 단부

* 검토 조건

pmin = max(0.25√fck / fy, 1.4/fy) = 0.00350

fck (Mpa)	fy (Mpa)	β1	Φf	Φv	Mo (kN.m)
30.0	400.0	0.836	0.900	0.850	174.920
B (mm)	H (mm)	d (mm)	피복 (mm)	Mu (kN.m)	Vu (kN)
1000.0	650.0	550.0	100.0	282.260	296.870

전단설계시 단면의 유효높이 ds = 550.0 d1' = 100 d2' = 0

* 휨모멘트 검토

공칭강도시 등가응력깊이 a = (As×fy) / (0.85×fck×B) = 35.953 mm

최외단 인장철근 변형률 εt = 0.03537 ≥ 0.004 ----- ∴ O.K

여기서 εt = 0.003×(H - a/β1 - Dc_min) / (a/β1)

0.005 ≤ εt 이므로 인장지배단면, Φf = 0.900 를 적용한다.

ⓐ 필요철근량 및 철근비 검토

Mu / Φ = As×fy / (d - a/2) ---------- (1)

a = As×fy / (0.85×fck×b) ---------- (2)

式(2)를 式(1)에 대입하여 2차방정식으로 As를 구한다.

$$\frac{fy^2}{2\times 0.85\times fck\times b}\times As^2 - fy\times d\times As + \frac{Mu}{\Phi} = 0$$

필요 철근량 req.As = 1455.777 mm^2

사용철근비 : Puse = As / (B × D) = 0.00417

최대철근비 : Pmax = 0.714 x k1 x Φx (fck / fy) x {600 / (600 + fy)} = 0.02283

최소철근비 : Pmin = 1.4 / fy = 0.00350
Pmin = 0.25 √fck / fy = 0.00342
적용 = 0.0035

As(req) = 1455.777 mm^2 As(min) = 1925.000 mm^2

4/3×As(req) = 1941.036 mm^2 ※ As = 1925.000 mm^2

사용철근량 = H19 × 8ea = 2292.000 ㎟ ----- ∴ O.K.

ⓑ 휨강도 검토

ØMn = Øf · fy · As · (D - a/2) = 438983230 N · mm

= 438.983 kN · m > 282.260 kN · m ----- ∴ O.K [사용률 = 1.555]

* 전단력 검토

Øv · Vc = Øv · 1/6 · √fck · B · d / 1000 = 426.767 kN

1/2 x Φv x Vc = 213.384 kN ≤ Vu ≤Φv x Vc ∴ 최소전단 철근을 배근하는것이 좋다.

▣ 사용성 검토 (균열방지 인장철근 간격검토)

ⓐ 응력산정

fs = M / [As x (d - χ/3)]

= 174.92 × 1000000 / [2292×(550 - 117.769/3)]

= 149.424 Mpa

χ = -nAs/b + nAs/b√[1 + 2bd/(nAs)]

= -7 × 2292/1000 + 7 × 2292/1000 × √[(1 + 2×1000×550/(7×2292)]

= 117.769 mm

사용철근량 = 2292.000 mm^2 (철근도심 : 100 mm)

1단 H19 @ 125 (= 2292 ㎟)

ⓑ 철근의 최대 중심간격

Cc = 100 - 19 / 2 = 90.50 mm

여기서 Cc ; 인장철근이나 긴장재의 표면과 콘크리트 표면사이의 두께(mm)

Smin : 375 x (210 / fs) - 2.5 x Cc = 375 × (210 / 149.424) - 2.5 × 90.5 = 300.772 mm

300 x (210 / fs) = 300 × (210 / 149.424) = 421.618 mm

Sa는 작은 값인 300.772 mm 를 적용

S = 125.00 ≤ Sa (= 300.772 mm) ----- ∴ O.K.

④ 하부슬래브 중앙부

* 검토 조건

pmin = max(0.25√fck / fy, 1.4/fy) = 0.00350

fck (Mpa)	fy (Mpa)	β1	Φf	Φv	Mo (kN.m)
30.0	400.0	0.836	0.900	0.850	144.110
B (mm)	H (mm)	d (mm)	피복 (mm)	Mu (kN.m)	Vu (kN)
1000.0	650.0	550.0	100.0	230.580	142.170

전단설계시 단면의 유효높이 ds = 550.0 d1' = 100 d2' = 0

* 휨모멘트 검토

공칭강도시 등가응력깊이 a = (As×fy) / (0.85×fck×B) = 35.953 mm

최외단 인장철근 변형률 εt = 0.03537 ≥ 0.004 ----- ∴ O.K

여기서 εt = 0.003×(H - a/β1 - Dc_min) / (a/β1)

0.005 ≤ εt 이므로 인장지배단면, Φf = 0.900 를 적용한다.

ⓐ 필요철근량 및 철근비 검토

Mu / Φ = As×fy / (d - a/2) ---------- (1)

a = As×fy / (0.85×fck×b) ---------- (2)

式(2)를 式(1)에 대입하여 2차방정식으로 As를 구한다.

$$\frac{fy^2}{2\times 0.85\times fck\times b}\times As^2 - fy\times d\times As + \frac{Mu}{\Phi} = 0$$

필요 철근량 req.As = 1184.555 mm^2

사용철근비 : Puse = As / (B × D) = 0.00417

최대철근비 : Pmax = 0.714 x k1 x Φx (fck / fy) x {600 / (600 + fy)} = 0.02283

최소철근비 : Pmin = 1.4 / fy = 0.00350

Pmin = 0.25 √fck / fy = 0.00342

적용 = 0.0035

As(req) = 1184.555 mm^2 As(min) = 1925.000 mm^2

4/3×As(req) = 1579.407 mm^2 ※ As = 1579.407 mm^2

사용철근량 = H19 × 8ea = 2292.000 ㎟ ----- ∴ O.K.

ⓑ 휨강도 검토

ØMn = Øf · fy · As · (D - a/2) = 438983230 N · mm

= 438.983 kN · m > 230.580 kN · m ----- ∴ O.K [사용률 = 1.904]

* 전단력 검토

Øv · Vc = Øv · 1/6 · √fck · B · d / 1000 = 426.767 kN

∴ 전단철근이 필요없음.

▣ 사용성 검토 (균열방지 인장철근 간격검토)

ⓐ 응력산정

fs = M / [As x (d - χ/3)]

= 144.11 × 1000000 / [2292×(550 - 117.769/3)]

= 123.105 Mpa

χ = -nAs/b + nAs/b√[1 + 2bd/(nAs)]

= -7 × 2292/1000 + 7 × 2292/1000 × √[(1 + 2×1000×550/(7×2292)]

= 117.769 mm

사용철근량 = 2292.000 mm^2 (철근도심 : 100 mm)

1단 H19 @ 125 (= 2292 mm^2)

ⓑ 철근의 최대 중심간격

Cc = 100 - 19 / 2 = 90.50 mm

여기서 Cc ; 인장철근이나 긴장재의 표면과 콘크리트 표면사이의 두께(mm)

Smin : 375 x (210 / fs) - 2.5 x Cc = 375 × (210 / 123.105) - 2.5 × 90.5 = 413.447 mm

300 x (210 / fs) = 300 × (210 / 123.105) = 511.757 mm

Sa는 작은 값인 413.447 mm 를 적용

S = 125.00 ≤ Sa (= 413.447 mm) ----- ∴ O.K.

⑤ 벽체 상단부

* 검토 조건

pmin = max(0.25√fck / fy, 1.4/fy) = 0.00350

fck (Mpa)	fy (Mpa)	β1	Φf	Φv	Mo (kN.m)
30.0	400.0	0.836	0.900	0.850	119.320
B (mm)	H (mm)	d (mm)	피복 (mm)	Mu (kN.m)	Vu (kN)
1000.0	700.0	600.0	100.0	190.920	150.690

전단설계시 단면의 유효높이 ds = 500.0 d1' = 100 d2' = 0

* 휨모멘트 검토

공칭강도시 등가응력깊이 a = (As×fy) / (0.85×fck×B) = 35.953 mm

최외단 인장철근 변형률 εt = 0.03885 ≥ 0.004 ----- ∴ O.K

여기서 εt = 0.003×(H - a/β1 - Dc_min) / (a/β1)

0.005 ≤ εt 이므로 인장지배단면, Φf = 0.900 를 적용한다.

ⓐ 필요철근량 및 철근비 검토

Mu / Φ = As×fy / (d - a/2) ---------- (1)

a = As×fy / (0.85×fck×b) ---------- (2)

式(2)를 式(1)에 대입하여 2차방정식으로 As를 구한다.

$$\frac{fy^2}{2\times 0.85\times fck\times b}\times As^2 - fy\times d\times As + \frac{Mu}{\Phi} = 0$$

필요 철근량 req.As = 894.344 mm^2

사용철근비 : Puse = As / (B × D) = 0.00382

최대철근비 : Pmax = 0.714 x k1 x Φx (fck / fy) x {600 / (600 + fy)} = 0.02283

최소철근비 : Pmin = 1.4 / fy = 0.00350
Pmin = 0.25 √fck / fy = 0.00342
적용 = 0.0035

As(req) = 894.344 mm^2 As(min) = 2100.000 mm^2

4/3×As(req) = 1192.459 mm^2 ※ As = 1192.459 mm^2

사용철근량 = H19 × 8ea = 2292.000 ㎟ ------ ∴ O.K.

ⓑ 휨강도 검토

ØMn = Øf · fy · As · (D - a/2) = 480239230 N · mm

= 480.239 kN · m > 190.920 kN · m ------ ∴ O.K [사용률 = 2.515]

* 전단력 검토

Øv · Vc = Øv · 1/6 · √fck · B · d / 1000 = 387.970 kN

∴ 전단철근이 필요없음.

▣ 사용성 검토 (균열방지 인장철근 간격검토)

ⓐ 응력산정

fs = M / [As x (d - χ/3)]

= 119.32 × 1000000 / [2292×(600 - 123.635/3)]

= 93.165 Mpa

χ = -nAs/b + nAs/b√[1 + 2bd/(nAs)]

= -7 × 2292/1000 + 7 × 2292/1000 × √[(1 + 2×1000×600/(7×2292)]

= 123.635 mm

사용철근량 = 2292.000 mm^2 (철근도심 : 100 mm)

1단 H19 @ 125 (= 2292 ㎟)

ⓑ 철근의 최대 중심간격

Cc = 100 - 19 / 2 = 90.50 mm

여기서 Cc ; 인장철근이나 긴장재의 표면과 콘크리트 표면사이의 두께(mm)

Smin : 375 x (210 / fs) - 2.5 x Cc = 375 × (210 / 93.165) - 2.5 × 90.5 = 619.027 mm

300 x (210 / fs) = 300 × (210 / 93.165) = 676.222 mm

Sa는 작은 값인 619.027 mm 를 적용

S = 125.00 ≤ Sa (= 619.027 mm) ----- ∴ O.K.

⑥ 벽체 중앙부

* 검토 조건

pmin = max(0.25√fck / fy, 1.4/fy) = 0.00350

fck (Mpa)	fy (Mpa)	β1	Φf	Φv	Mo (kN.m)
30.0	400.0	0.836	0.900	0.850	61.010
B (mm)	H (mm)	d (mm)	피복 (mm)	Mu (kN.m)	Vu (kN)
1000.0	600.0	500.0	100.0	97.620	61.710

전단설계시 단면의 유효높이 ds = 500.0 d1' = 100 d2' = 0

* 휨모멘트 검토

공칭강도시 등가응력깊이 a = (As×fy) / (0.85×fck×B) = 35.953 mm

최외단 인장철근 변형률 εt = 0.03188 ≥ 0.004 ----- ∴ O.K

여기서 εt = 0.003×(H - a/β1 - Dc_min) / (a/β1)

0.005 ≤ εt 이므로 인장지배단면, Φf = 0.900 를 적용한다.

ⓐ 필요철근량 및 철근비 검토

$Mu / \Phi = As \times fy / (d - a/2)$ ---------- (1)

$a = As \times fy / (0.85 \times fck \times b)$ ---------- (2)

式(2)를 式(1)에 대입하여 2차방정식으로 As를 구한다.

$$\frac{fy^2}{2\times 0.85\times fck\times b} \times As^2 - fy\times d\times As + \frac{Mu}{\Phi} = 0$$

필요 철근량 req.As = 547.027 mm^2

사용철근비 : Puse = As / (B × D) = 0.00458

최대철근비 : Pmax = 0.714 x k1 x Φx (fck / fy) x {600 / (600 + fy)} = 0.02283

최소철근비 :
- Pmin = 1.4 / fy = 0.00350
- Pmin = 0.25 √fck / fy = 0.00342
- 적용 = 0.0035

As(req) = 547.027 mm^2 As(min) = 1750.000 mm^2

4/3×As(req) = 729.370 mm^2 ※ As = 729.370 mm^2

사용철근량 = H19 × 8ea = 2292.000 ㎟ ----- ∴ O.K.

ⓑ 휨강도 검토

ØMn = Øf · fy · As · (D - a/2) = 397727230 N · mm

= 397.727 kN · m > 97.620 kN · m ----- ∴ O.K [사용률 = 4.074]

* 전단력 검토

Øv · Vc = Øv · 1/6 · √fck · B · d / 1000 = 387.970 kN

∴ 전단철근이 필요없음.

▣ 사용성 검토 (균열방지 인장철근 간격검토)

ⓐ 응력산정

fs = M / [As x (d - χ/3)]

= 61.01 × 1000000 / [2292×(500 - 111.633/3)]

= 57.518 Mpa

χ = -nAs/b + nAs/b√[1 + 2bd/(nAs)]

= -7 × 2292/1000 + 7 × 2292/1000 × √[(1 + 2×1000×500/(7×2292)]

= 111.633 mm

사용철근량 = 2292.000 mm^2 (철근도심 : 100 mm)

1단 H19 @ 125 (= 2292 ㎟)

ⓑ 철근의 최대 중심간격

Cc = 100 - 19 / 2 = 90.50 mm

여기서 Cc ; 인장철근이나 긴장재의 표면과 콘크리트 표면사이의 두께(mm)

Smin : 375 x (210 / fs) - 2.5 x Cc = 375 × (210 / 57.518) - 2.5 × 90.5 = 1142.888 mm

300 x (210 / fs) = 300 × (210 / 57.518) = 1095.310 mm

Sa는 작은 값인 1095.310 mm 를 적용

S = 125.00 ≤ Sa (= 1095.31 mm) ----- ∴ O.K.

⑦ 벽체 하단부

* 검토 조건

pmin = max(0.25√fck / fy, 1.4/fy) = 0.00350

fck (Mpa)	fy (Mpa)	β1	Φf	Φv	Mo (kN.m)
30.0	400.0	0.836	0.900	0.850	175.510
B (mm)	H (mm)	d (mm)	피복 (mm)	Mu (kN.m)	Vu (kN)
1000.0	600.0	500.0	100.0	280.820	231.020

전단설계시 단면의 유효높이 ds = 500.0 d1' = 100 d2' = 0

* 휨모멘트 검토

공칭강도시 등가응력깊이 a = (As×fy) / (0.85×fck×B) = 35.953 mm

최외단 인장철근 변형률 εt = 0.03188 ≥ 0.004 ----- ∴ O.K

여기서 εt = 0.003×(H - a/β1 - Dc_min) / (a/β1)

0.005 ≤ εt 이므로 인장지배단면, Φf = 0.900 를 적용한다.

ⓐ 필요철근량 및 철근비 검토

Mu / Φ = As×fy / (d - a/2) ---------- (1)

a = As×fy / (0.85×fck×b) ---------- (2)

式(2)를 式(1)에 대입하여 2차방정식으로 As를 구한다.

$$\frac{fy^2}{2\times 0.85\times fck\times b}\times As^2 - fy\times d\times As + \frac{Mu}{\Phi} = 0$$

필요 철근량 req.As = 1600.282 mm^2

사용철근비 : Puse = As / (B × D) = 0.00458

최대철근비 : Pmax = 0.714 x k1 x Φx (fck / fy) x {600 / (600 + fy)} = 0.02283

최소철근비 : Pmin = 1.4 / fy = 0.00350
Pmin = 0.25 √fck / fy = 0.00342
적용 = 0.0035

As(req) = 1600.282 mm^2 As(min) = 1750.000 mm^2

4/3×As(req) = 2133.710 mm^2 ※ As = 1750.000 mm^2

사용철근량 = H19 × 8ea = 2292.000 ㎟ ----- ∴ O.K.

ⓑ 휨강도 검토

ØMn = Øf · fy · As · (D - a/2) = 397727230 N · mm

= 397.727 kN · m > 280.820 kN · m ----- ∴ O.K [사용률 = 1.416]

* 전단력 검토

Øv · Vc = Øv · 1/6 · √fck · B · d / 1000 = 387.970 kN

1/2 x Φv x Vc = 193.985 kN ≤ Vu ≤Φv x Vc ∴ 슬래브이므로 최소전단 철근 배근이 필요없음.

▣ 사용성 검토 (균열방지 인장철근 간격검토)

ⓐ 응력산정

fs = M / [As x (d - χ/3)]

= 175.51 × 1000000 / [2292×(500 - 111.633/3)]

= 165.464 Mpa

χ = -nAs/b + nAs/b√[1 + 2bd/(nAs)]

= -7 × 2292/1000 + 7 × 2292/1000 × √[(1 + 2×1000×500/(7×2292)]

= 111.633 mm

사용철근량 = 2292.000 mm^2 (철근도심 : 100 mm)

1단 H19 @ 125 (= 2292 ㎟)

ⓑ 철근의 최대 중심간격

Cc = 100 - 19 / 2 = 90.50 mm

여기서 Cc ; 인장철근이나 긴장재의 표면과 콘크리트 표면사이의 두께(mm)

Smin : 375 x (210 / fs) - 2.5 x Cc = 375 × (210 / 165.464) - 2.5 × 90.5 = 249.684 mm

300 x (210 / fs) = 300 × (210 / 165.464) = 380.747 mm

Sa는 작은 값인 249.684 mm 를 적용

S = 125.00 ≤ Sa (= 249.684 mm) ----- ∴ O.K.

⑤ 벽체 상단부 - Pmax 일 경우

설계축력	:	Pu	=	296.03	(kN) ,	설계모멘트	:	Mu	=	89.51	(kN · m)		
설계전단력	:	Vu	=	150.69	(kN) ,	사용 모멘트	:	M	=	0.56	(kN.m)		
부 재 높 이	:	H	=	700.0	(mm) ,	f_y	=	400	MPa	f_{ck}	=	30	MPa
폭	:	b	=	1000	(mm) ,	ϕ_f	=	0.90	,	ϕ_v	=	0.85	
유효높이(휨)	:	d	=	600.0	(mm) ,	d'	=	100	(mm),	ϕc	=	0.70	
유효높이(전단)	:	d	=	500.0	(mm) ,	k_1	=	0.836	,	e	=	302.37	(mm)

○ 휨철근량 계산

- 철근비검토

As = H 19 @ 8 EA = 22.920 cm^2 , d1 = 10.0 cm

Σ = 22.920 cm^2

Asf = H 19 @ 4 EA = 11.460 cm^2 , d'1 = 10.0 cm

Pmin (0.0015) < Puse (0.0049) < Pmax (0.0800) ———— O.K!!!

- 평형하중 산정

소성중심 계산

Cc = 0.84 x 30 x 700.00 x 1000.00 = 17556000.000 N

Cs = As x fy = 916800.00 N , Cs' = Asf x fy = 458400.000 N

Xp = (17556000.00 x 350.0 + 916800.0 x 100.0 + 458400.0 x 600.0) / 18931200.000

= 343.947 mm

- 평형상태 계산

Cb = 600 / (600 + fy) x d = 360.000 mm, ab = k1 x cb = 300.960 mm

fs' = 600 x (360.000 - 100.0) / 360.0(= 400 Mpa (fs' ≤ fy)

Cc = 0.836 x 30 x 300.960 x 1000 = 7548076.800 N

Cs = As' x (fs' - 0.9 x fck) = 427458.000 N

Ts = As x fs = 916800.000 N

Pb = 7548076.800 + 427458.000 - 916800.000 = 7058734.800 N

Mb = 7548076.800x(600.0-300.960/2)+427458.000x(600.0-100.0)-7058734.800x(343.947-100.0)

= 1884786827.089 N.mm

eb < e → 인장파괴 (eb = Mb / Pb = 267.015 mm)

- 공칭강도 계산 : 반복계산을 통해 c = 307.119 mm , a = k1 x c = 256.752 mm 사용

fs = 600 x (600.000 - 307.119) / 307.119 = 400 Mpa (fs ≤ fy)

fs' = 600 x (307.119 - 100.000) / 307.119 = 400 Mpa (fs ≤ fy)

Cc = 0.836 x 30 x 256.752 x 1000 = 6439331.412 N

Cs = 1146.000 x (400.000 - 0.836 x 30) = 429658.320 N

Ts = 2292.000 x 400.000 = 916800.000 N

Pn = 6439331.412 + 429658.320 - 916800.000 = 5952189.732 N

Mn' = 6439331.412 x (600.0 - 256.752 / 2) + 429658.320 x (600.0 - 100.0)

= 3251773520.918 N.mm

- 편심오차 : | e' - Mn'/Pn | = 0.001 < 0.001 (e' = e + Xp - dc = 546.314504 mm)

- 축방향력 및 휨에대한 검토

(max) Pn = 0.80 x { 0.85 fck x (Ag - Ast) + fy x Ast} : 15310024.800 N ≥ Pn = 5952189.732

ΦPn = 4166532.812 > ΦPb = 4941114.360 , 0.1 x fck x Ag = 2100000.000

∴ Φ = 0.700

ΦPn = 0.70 x 5952189.732 = 4166.533 kN ≥ Pu = 296.030 kN ------ O.K!!!

ΦMn = ΦPn x 302.368 = 1259.826 kN.m ≥ Mu = 89.510 kN.m ------- O.K!!!

○ 전단력 검토

$\phi Vc = 0.85 \times 1/6 \times (1 + Pu / (14 \times Ag)) \times \sqrt{fck} \times bo \times d$ = 399689.614 N

여기서 , Vu < 1/2ϕVc 이므로 전단철근보강 불필요

○ 사용성 검토 (균열방지 인장철근 간격검토)

- 응력산정

fs = M / [As x (d - χ/3)]

= 0.56 × 1000000 / [2292×(600 - 123.635/3)]

= 0.437 Mpa

$\chi = -nAs/b + nAs/b\sqrt{[1 + 2bd/(nAs)]}$

$= -7 \times 2292/1000 + 7 \times 2292/1000 \times \sqrt{[(1 + 2\times 1000\times 600/(7\times 2292)]}$

= 123.635 mm

사용철근량 = 2292.000 mm^2 (철근도심 : 100 mm)

1단 H19 @ 125 (= 2292 ㎟)

- 철근의 최대 중심간격

Cc = 100 - 19 / 2 = 90.50 mm

여기서 Cc ; 인장철근이나 긴장재의 표면과 콘크리트 표면사이의 두께(mm)

Smin : 375 x (210 / fs) - 2.5 x Cc = 375 × (210 / 0.437) - 2.5 × 90.5 = 179878.220 mm

300 x (210 / fs) = 300 × (210 / 0.437) = 144083.576 mm

Sa는 작은 값인 144083.576 mm 를 적용

S = 125.00 ≤ Sa (= 144083.576 mm) ------ ∴ O.K.

⑥ 벽체 상단부 - Mmax 일 경우

설계축력	:	Pu	=	235.97	(kN) ,	설계모멘트	:	Mu	=	190.92	(kN·m)			
설계전단력	:	Vu	=	150.69	(kN) ,	사용 모멘트	:	M	=	119.32	(kN.m)			
부 재 높 이	:	H	=	700.0	(mm) ,	f_y	=	400	MPa		f_{ck}	=	30	MPa
폭	:	b	=	1000	(mm) ,	ϕ_f	=	0.90	,		ϕ_v	=	0.85	
유효높이(휨)	:	d	=	600.0	(mm) ,	d'	=	100	(mm),		ϕc	=	0.70	
유효높이(전단)	:	d	=	500.0	(mm) ,	k_1	=	0.836	,		e	=	809.09	(mm)

○ 휨철근량 계산

- 철근비검토

As = H 19 @ 8 EA = 22.920 cm^2 , d1 = 10.0 cm

Σ = 22.920 cm^2

Asf = H 19 @ 4 EA = 11.460 cm^2 , d'1 = 10.0 cm

Pmin (0.0015) < Puse (0.0049) < Pmax (0.0800) ———— O.K!!!

- 평형하중 산정

소성중심 계산

Cc = 0.84 x 30 x 700.00 x 1000.00 = 17556000.000 N

Cs = As x fy = 916800.00 N , Cs' = Asf x fy = 458400.000 N

Xp = (17556000.00 x 350.0 + 916800.0 x 100.0 + 458400.0 x 600.0) / 18931200.000

= 343.947 mm

- 평형상태 계산

Cb = 600 / (600 + fy) x d = 360.000 mm, ab = k1 x cb = 300.960 mm

fs' = 600 x (360.000 - 100.0) / 360.0(= 400 Mpa (fs' ≤ fy)

Cc = 0.836 x 30 x 300.960 x 1000 = 7548076.800 N

Cs = As' x (fs' - 0.9 x fck) = 427458.000 N

Ts = As x fs = 916800.000 N

Pb = 7548076.800 + 427458.000 - 916800.000 = 7058734.800 N

Mb = 7548076.800x(600.0-300.960/2)+427458.000x(600.0-100.0)-7058734.800x(343.947-100.0)

= 1884786827.089 N.mm

eb < e → 인장파괴 (eb = Mb / Pb = 267.015 mm)

- 공칭강도 계산 : 반복계산을 통해 c = 94.623 mm , a = k1 x c = 79.105 mm 사용

fs = 600 x (600.000 - 94.623) / 94.623 = 400 Mpa (fs ≤ fy)

fs' = 600 x (94.623 - 100.000) / 94.623 = 6.383174 Mpa (fs ≤ fy)

Cc = 0.836 x 30 x 79.105 x 1000 = 1983959.360 N

Cs = 1146.000 x (6.383 - 0.836 x 30) = (21426.563) N

Ts = 2292.000 x 400.000 = 916800.000 N

Pn = 1983959.360 + -21426.563 - 916800.000 = 1045732.797 N

Mn' = 1983959.360 x (600.0 - 79.105 / 2) + -21426.563 x (600.0 - 100.0)

= 1101191546.162 N.mm

- 편심오차 : | e' - Mn'/Pn | = 0.001 < 0.001 (e' = e + Xp - dc = 1053.032402 mm)

- 축방향력 및 휨에대한 검토

(max) Pn = 0.80 x { 0.85 fck x (Ag - Ast) + fy x Ast} : 15310024.800 N ≥ Pn = 1045732.797

ΦPn = 732012.958 < ΦPb = 4941114.360 , 0.1 x fck x Ag = 2100000.000

∴ Φ = 0.800

ΦPn = 0.80 x 1045732.797 = 836.586 kN ≥ Pu = 235.970 kN ------- O.K!!!

ΦMn = ΦPn x 809.086 = 676.870 kN.m ≥ Mu = 190.920 kN.m ------- O.K!!!

○ 전단력 검토

$\phi Vc = 0.85 \times 1/6 \times (1 + Pu / (14 \times Ag)) \times \sqrt{fck} \times bo \times d$ = 397311.912 N

여기서 , Vu < 1/2ϕVc 이므로 전단철근보강 불필요

○ 사용성 검토 (균열방지 인장철근 간격검토)

- 응력산정

$fs = M / [As \times (d - \chi/3)]$

$= 119.32 \times 1000000 / [2292 \times (600 - 123.635/3)]$

= 93.165 Mpa

$\chi = -nAs/b + nAs/b\sqrt{[1 + 2bd/(nAs)]}$

$= -7 \times 2292/1000 + 7 \times 2292/1000 \times \sqrt{[(1 + 2 \times 1000 \times 600/(7 \times 2292)]}$

= 123.635 mm

사용철근량 = 2292.000 mm^2 (철근도심 : 100 mm)

1단 H19 @ 125 (= 2292 ㎟)

- 철근의 최대 중심간격

Cc = 100 - 19 / 2 = 90.50 mm

여기서 Cc ; 인장철근이나 긴장재의 표면과 콘크리트 표면사이의 두께(mm)

Smin : 375 x (210 / fs) - 2.5 x Cc = 375 × (210 / 93.165) - 2.5 × 90.5 = 619.027 mm

300 x (210 / fs) = 300 × (210 / 93.165) = 676.222 mm

Sa는 작은 값인 619.027 mm 를 적용

S = 125.00 ≤ Sa (= 619.027 mm) ----- ∴ O.K.

⑦ 벽체 중앙부 - Pmax 일 경우

설계축력	:	Pu	=	345.42	(kN) ,	설계모멘트	:	Mu	=	33.35	(kN · m)	
설계전단력	:	Vu	=	52.58	(kN) ,	사용 모멘트	:	M	=	29.60	(kN.m)	
부 재 높 이	:	H	=	600.0	(mm) ,	f_y	=	400	MPa	f_{ck}	=	30 MPa
폭	:	b	=	1000	(mm) ,	ϕ_f	=	0.90	,	ϕ_v	=	0.85
유효높이(휨)	:	d	=	500.0	(mm) ,	d'	=	100	(mm),	ϕc	=	0.70
유효높이(전단)	:	d	=	500.0	(mm) ,	k_1	=	0.836	,	e	=	96.55 (mm)

○ 휨철근량 계산

- 철근비검토

As = H 19 @ 8 EA = 22.920 cm^2 , d1 = 10.0 cm

Σ = 22.920 cm^2

Asf = H 19 @ 4 EA = 11.460 cm^2 , d'1 = 10.0 cm

Pmin (0.0015) < Puse (0.0057) < Pmax (0.0800) ———— O.K!!!

- 평형하중 산정

소성중심 계산

Cc = 0.84 x 30 x 600.00 x 1000.00 = 15048000.000 N

Cs = As x fy = 916800.00 N , Cs' = Asf x fy = 458400.000 N

Xp = (15048000.00 x 300.0 + 916800.0 x 100.0 + 458400.0 x 500.0) / 16423200.000

= 294.418 mm

- 평형상태 계산

Cb = 600 / (600 + fy) x d = 300.000 mm, ab = k1 x cb = 250.800 mm

fs' = 600 x (300.000 - 100.0) / 300.0(= 400 Mpa (fs' ≤ fy)

Cc = 0.836 x 30 x 250.800 x 1000 = 6290064.000 N

Cs = As' x (fs' - 0.9 x fck) = 427458.000 N

Ts = As x fs = 916800.000 N

Pb = 6290064.000 + 427458.000 - 916800.000 = 5800722.000 N

Mb = 6290064.000x(500.0-250.800/2)+427458.000x(500.0-100.0)-5800722.000x(294.418-100.0)

= 1399478417.013 N.mm

eb > e → 압축파괴 (eb = Mb / Pb = 241.259 mm)

- 공칭강도 계산 : 반복계산을 통해 c = 508.994 mm , a = k1 x c = 425.519 mm 사용

fs = 600 x (500.000 - 508.994) / 508.994 = -10.6019 Mpa (fs ≤ fy)

fs' = 600 x (508.994 - 100.000) / 508.994 = 400 Mpa (fs ≤ fy)

Cc = 0.836 x 30 x 425.519 x 1000 = 10672011.925 N

Cs = 1146.000 x (400.000 - 0.836 x 30) = 429658.320 N

Ts = 2292.000 x -10.602 = -24299.459 N

Pn = 10672011.925 + 429658.320 - -24299.459 = 11125969.704 N

Mn' = 10672011.925 x (500.0 - 425.519 / 2) + 429658.320 x (500.0 - 100.0)

= 3237298346.998 N.mm

- 편심오차 : | e' - Mn'/Pn | = 0.001 < 0.001 (e' = e + Xp - dc = 290.966782 mm)

- 축방향력 및 휨에대한 검토

(max) Pn = 0.80 x { 0.85 fck x (Ag - Ast) + fy x Ast} : 13270024.800 N ≥ Pn = 11125969.704

ΦPn = 7788178.793 > ΦPb = 4060505.400 , 0.1 x fck x Ag = 1800000.000

∴ Φ = 0.700

ΦPn = 0.70 x 11125969.704 = 7788.179 kN ≥ Pu = 345.420 kN ——— O.K!!!

ΦMn = ΦPn x 96.549 = 751.942 kN.m ≥ Mu = 33.350 kN.m ——— O.K!!!

○ 전단력 검토

$\phi Vc = 0.85 \times 1/6 \times (1 + Pu / (14 \times Ag)) \times \sqrt{fck} \times bo \times d$ = 403924.032 N

여기서 , Vu < 1/2ϕVc 이므로 전단철근보강 불필요

○ 사용성 검토 (균열방지 인장철근 간격검토)

- 응력산정

fs = M / [As x (d - χ/3)]

= 29.6 × 1000000 / [2292×(500 - 111.633/3)]

= 27.906 Mpa

$\chi = -nAs/b + nAs/b\sqrt{[1 + 2bd/(nAs)]}$

$= -7 \times 2292/1000 + 7 \times 2292/1000 \times \sqrt{[(1 + 2\times1000\times500/(7\times2292)]}$

= 111.633 mm

사용철근량 = 2292.000 mm^2 (철근도심 : 100 mm)

1단 H19 @ 125 (= 2292 ㎟)

- 철근의 최대 중심간격

Cc = 100 - 19 / 2 = 90.50 mm

여기서 Cc ; 인장철근이나 긴장재의 표면과 콘크리트 표면사이의 두께(mm)

Smin : 375 x (210 / fs) - 2.5 x Cc = 375 × (210 / 27.906) - 2.5 × 90.5 = 2595.75 mm

300 x (210 / fs) = 300 × (210 / 27.906) = 2257.60 mm

Sa는 작은 값인 2257.60 mm 를 적용

S = 125.00 ≤ Sa (= 2257.597 mm) ----- ∴ O.K.

⑧ 벽체 중앙부 - Mmax 일 경우

설계축력	:	Pu	=	287.72	(kN) ,	설계모멘트	:	Mu	=	97.62	(kN · m)		
설계전단력	:	Vu	=	61.71	(kN) ,	사용 모멘트	:	M	=	61.01	(kN.m)		
부 재 높 이	:	H	=	600.0	(mm) ,	f_y	=	400	MPa	f_{ck}	=	30	MPa
폭	:	b	=	1000	(mm) ,	ϕ_f	=	0.90	,	ϕ_v	=	0.85	
유효높이(휨)	:	d	=	500.0	(mm) ,	d'	=	100	(mm),	ϕc	=	0.70	
유효높이(전단)	:	d	=	500.0	(mm) ,	k_1	=	0.836	,	e	=	339.29	(mm)

○ 휨철근량 계산

- 철근비검토

As = H 19 @ 8 EA = 22.920 cm^2 , d1 = 10.0 cm

Σ = 22.920 cm^2

Asf = H 19 @ 4 EA = 11.460 cm^2 , d'1 = 10.0 cm

Pmin (0.0015) < Puse (0.0057) < Pmax (0.0800) ———— O.K!!!

- 평형하중 산정

소성중심 계산

Cc = 0.84 x 30 x 600.00 x 1000.00 = 15048000.000 N

Cs = As x fy = 916800.00 N , Cs' = Asf x fy = 458400.000 N

Xp = (15048000.00 x 300.0 + 916800.0 x 100.0 + 458400.0 x 500.0) / 16423200.000

= 294.418 mm

- 평형상태 계산

Cb = 600 / (600 + fy) x d = 300.000 mm, ab = k1 x cb = 250.800 mm

fs' = 600 x (300.000 - 100.0) / 300.0(= 400 Mpa (fs' ≤ fy)

Cc = 0.836 x 30 x 250.800 x 1000 = 6290064.000 N

Cs = As' x (fs' - 0.9 x fck) = 427458.000 N

Ts = As x fs = 916800.000 N

Pb = 6290064.000 + 427458.000 - 916800.000 = 5800722.000 N

Mb = 6290064.000x(500.0-250.800/2)+427458.000x(500.0-100.0)-5800722.000x(294.418-100.0)

= 1399478417.013 N.mm

eb < e → 인장파괴 (eb = Mb / Pb = 241.259 mm)

- 공칭강도 계산 : 반복계산을 통해 c = 189.751 mm , a = k1 x c = 158.632 mm 사용

fs = 600 x (500.000 - 189.751) / 189.751 = 400 Mpa (fs ≤ fy)

fs' = 600 x (189.751 - 100.000) / 189.751 = 283.7963 Mpa (fs ≤ fy)

Cc = 0.836 x 30 x 158.632 x 1000 = 3978488.544 N

Cs = 1146.000 x (283.796 - 0.836 x 30) = 296488.879 N

Ts = 2292.000 x 400.000 = 916800.000 N

Pn = 3978488.544 + 296488.879 - 916800.000 = 3358177.423 N

Mn' = 3978488.544 x (500.0 - 158.632 / 2) + 296488.879 x (500.0 - 100.0)

= 1792282186.074 N.mm

- 편심오차 : | e' - Mn'/Pn | = 0.001 < 0.001 (e' = e + Xp - dc = 533.705850 mm)

- 축방향력 및 휨에대한 검토

(max) Pn = 0.80 x { 0.85 fck x (Ag - Ast) + fy x Ast} : 13270024.800 N ≥ Pn = 3358177.423

ΦPn = 2350724.196 > ΦPb = 4060505.400 , 0.1 x fck x Ag = 1800000.000

∴ Φ = 0.700

ΦPn = 0.70 x 3358177.423 = 2350.724 kN ≥ Pu = 287.720 kN ------- O.K!!!

ΦMn = ΦPn x 339.288 = 797.573 kN.m ≥ Mu = 97.620 kN.m ------- O.K!!!

○ 전단력 검토

$\phi Vc = 0.85 \times 1/6 \times (1 + Pu / (14 \times Ag)) \times \sqrt{fck} \times bo \times d$ = 401259.046 N

여기서 , Vu < 1/2ϕVc 이므로 전단철근보강 불필요

○ 사용성 검토 (균열방지 인장철근 간격검토)

- 응력산정

fs = M / [As x (d - χ/3)]

= 61.01 × 1000000 / [2292×(500 - 111.633/3)]

= 57.518 Mpa

$\chi = -nAs/b + nAs/b\sqrt{[1 + 2bd/(nAs)]}$

$= -7 \times 2292/1000 + 7 \times 2292/1000 \times \sqrt{[(1 + 2\times1000\times500/(7\times2292)]}$

= 111.633 mm

사용철근량 = 2292.000 mm^2 (철근도심 : 100 mm)

1단 H19 @ 125 (= 2292 mm^2)

- 철근의 최대 중심간격

Cc = 100 - 19 / 2 = 90.50 mm

여기서 Cc ; 인장철근이나 긴장재의 표면과 콘크리트 표면사이의 두께(mm)

Smin : 375 x (210 / fs) - 2.5 x Cc = 375 × (210 / 57.518) - 2.5 × 90.5 = 1142.89 mm

300 x (210 / fs) = 300 × (210 / 57.518) = 1095.31 mm

Sa는 작은 값인 1095.31 mm 를 적용

S = 125.00 ≤ Sa (= 1095.31 mm) ----- ∴ O.K.

⑨ 벽체 하단부 - Pmax 일 경우

설계축력	:	Pu	=	397.75	(kN) ,	설계모멘트	:	Mu	=	181.67	(kN·m)	
설계전단력	:	Vu	=	231.02	(kN) ,	사용 모멘트	:	M	=	23.38	(kN.m)	
부 재 높 이	:	H	=	600.0	(mm) ,	f_y	=	400	MPa	f_{ck}	=	30 MPa
폭	:	b	=	1000	(mm) ,	ϕ_f	=	0.90	,	ϕ_v	=	0.85
유효높이(휨)	:	d	=	500.0	(mm) ,	d'	=	100	(mm),	ϕc	=	0.70
유효높이(전단)	:	d	=	500.0	(mm) ,	k_1	=	0.836	,	e	=	456.74 (mm)

○ 휨철근량 계산

- 철근비검토

As = H 19 @ 8 EA = 22.920 cm^2 , d1 = 10.0 cm

Σ = 22.920 cm^2

Asf = H 19 @ 4 EA = 11.460 cm^2 , d'1 = 10.0 cm

Pmin (0.0015) < Puse (0.0057) < Pmax (0.0800) ---------- O.K!!!

- 평형하중 산정

소성중심 계산

Cc = 0.84 x 30 x 600.00 x 1000.00 = 15048000.000 N

Cs = As x fy = 916800.00 N , Cs' = Asf x fy = 458400.000 N

Xp = (15048000.00 x 300.0 + 916800.0 x 100.0 + 458400.0 x 500.0) / 16423200.000

= 294.418 mm

- 평형상태 계산

Cb = 600 / (600 + fy) x d = 300.000 mm, ab = k1 x cb = 250.800 mm

fs' = 600 x (300.000 - 100.0) / 300.0(= 400 Mpa (fs' ≤ fy)

Cc = 0.836 x 30 x 250.800 x 1000 = 6290064.000 N

Cs = As' x (fs' - 0.9 x fck) = 427458.000 N

Ts = As x fs = 916800.000 N

Pb = 6290064.000 + 427458.000 - 916800.000 = 5800722.000 N

Mb = 6290064.000x(500.0-250.800/2)+427458.000x(500.0-100.0)-5800722.000x(294.418-100.0)

= 1399478417.013 N.mm

eb < e → 인장파괴 (eb = Mb / Pb = 241.259 mm)

- 공칭강도 계산 : 반복계산을 통해 c = 130.651 mm , a = k1 x c = 109.224 mm 사용

fs = 600 x (500.000 - 130.651) / 130.651 = 400 Mpa (fs ≤ fy)

fs' = 600 x (130.651 - 100.000) / 130.651 = 140.762 Mpa (fs ≤ fy)

Cc = 0.836 x 30 x 109.224 x 1000 = 2739348.032 N

Cs = 1146.000 x (140.762 - 0.836 x 30) = 132571.535 N

Ts = 2292.000 x 400.000 = 916800.000 N

Pn = 2739348.032 + 132571.535 - 916800.000 = 1955119.567 N

Mn' = 2739348.032 x (500.0 - 109.224 / 2) + 132571.535 x (500.0 - 100.0)

= 1273100803.151 N.mm

- 편심오차 : | e' - Mn'/Pn | = 0.001 < 0.001 (e' = e + Xp - dc = 651.161839 mm)

- 축방향력 및 휨에대한 검토

(max) Pn = 0.80 x { 0.85 fck x (Ag - Ast) + fy x Ast} : 13270024.800 N ≥ Pn = 1955119.567

ΦPn = 1368583.697 < ΦPb = 4060505.400 , 0.1 x fck x Ag = 1800000.000

∴ Φ = 0.740

ΦPn = 0.74 x 1955119.567 = 1446.788 kN ≥ Pu = 397.750 kN ------- O.K!!!

ΦMn = ΦPn x 456.744 = 660.812 kN.m ≥ Mu = 181.670 kN.m ------- O.K!!!

○ 전단력 검토

$\phi Vc = 0.85 \times 1/6 \times (1 + Pu / (14 \times Ag)) \times \sqrt{fck} \times bo \times d$ = 406340.993 N

여기서 , $1/2\phi Vc < Vu \leq \phi Vc$ 이므로 최소 전단 철근 필요

- 계산된 스터럽 : min.Av = 0.35x(bo x s / fy)= 1.31㎠

- 배근할 스터럽 : H 13 다리수: N = 2 스터럽 간격 : s = 15 cm O.K !!!

Av(req)= 1.31㎠ < Av = 2.534 ㎠ O.K !!!

○ 사용성 검토 (균열방지 인장철근 간격검토)

- 응력산정

$fs = M / [As \times (d - \chi/3)]$

$= 23.38 \times 1000000 / [2292 \times (500 - 111.633/3)]$

= 22.042 Mpa

$\chi = -nAs/b + nAs/b\sqrt{[1 + 2bd/(nAs)]}$

$= -7 \times 2292/1000 + 7 \times 2292/1000 \times \sqrt{[(1 + 2 \times 1000 \times 500/(7 \times 2292)]}$

= 111.633 mm

사용철근량 = 2292.000 mm^2 (철근도심 : 100 mm)

1단 H19 @ 125 (= 2292 ㎟)

- 철근의 최대 중심간격

Cc = 100 - 19 / 2 = 90.50 mm

여기서 Cc ; 인장철근이나 긴장재의 표면과 콘크리트 표면사이의 두께(mm)

Smin : 375 x (210 / fs) - 2.5 x Cc = 375 × (210 / 22.042) - 2.5 × 90.5 = 3346.51 mm

300 x (210 / fs) = 300 × (210 / 22.042) = 2858.21 mm

Sa는 작은 값인 2858.21 mm 를 적용

S = 125.00 ≤ Sa (= 2858.207 mm) ------ ∴ O.K.

⑩ 벽체 하단부 - Mmax 일 경우

설계축력	:	Pu	=	334.08	(kN) ,	설계모멘트	:	Mu	=	280.82	(kN · m)	
설계전단력	:	Vu	=	231.02	(kN) ,	사용 모멘트	:	M	=	175.51	(kN.m)	
부 재 높 이	:	H	=	600.0	(mm) ,	f_y	=	400	MPa	f_{ck}	=	30 MPa
폭	:	b	=	1000	(mm) ,	ϕ_f	=	0.90	,	ϕ_v	=	0.85
유효높이(휨)	:	d	=	500.0	(mm) ,	d'	=	100	(mm),	ϕc	=	0.70
유효높이(전단)	:	d	=	500.0	(mm) ,	k_1	=	0.836	,	e	=	840.58 (mm)

○ 휨철근량 계산

- 철근비검토

As = H 19 @ 8 EA = 22.920 cm^2 , d1 = 10.0 cm

Σ = 22.920 cm^2

Asf = H 19 @ 4 EA = 11.460 cm^2 , d'1 = 10.0 cm

Pmin (0.0015) < Puse (0.0057) < Pmax (0.0800) ———— O.K!!!

- 평형하중 산정

소성중심 계산

Cc = 0.84 x 30 x 600.00 x 1000.00 = 15048000.000 N

Cs = As x fy = 916800.00 N , Cs' = Asf x fy = 458400.000 N

Xp = (15048000.00 x 300.0 + 916800.0 x 100.0 + 458400.0 x 500.0) / 16423200.000

= 294.418 mm

- 평형상태 계산

Cb = 600 / (600 + fy) x d = 300.000 mm, ab = k1 x cb = 250.800 mm

fs' = 600 x (300.000 - 100.0) / 300.0(= 400 Mpa (fs' ≤ fy)

Cc = 0.836 x 30 x 250.800 x 1000 = 6290064.000 N

Cs = As' x (fs' - 0.9 x fck) = 427458.000 N

Ts = As x fs = 916800.000 N

Pb = 6290064.000 + 427458.000 - 916800.000 = 5800722.000 N

Mb = 6290064.000x(500.0-250.800/2)+427458.000x(500.0-100.0)-5800722.000x(294.418-100.0)

= 1399478417.013 N.mm

eb < e → 인장파괴 (eb = Mb / Pb = 241.259 mm)

- 공칭강도 계산 : 반복계산을 통해 c = 79.387 mm , a = k1 x c = 66.368 mm 사용

fs = 600 x (500.000 - 79.387) / 79.387 = 400 Mpa (fs ≤ fy)

fs' = 600 x (79.387 - 100.000) / 79.387 = 29.40378 Mpa (fs ≤ fy)

Cc = 0.836 x 30 x 66.368 x 1000 = 1664504.622 N

Cs = 1146.000 x (29.404 - 0.836 x 30) = 4955.051 N

Ts = 2292.000 x 400.000 = 916800.000 N

Pn = 1664504.622 + 4955.051 - 916800.000 = 752659.672 N

Mn' = 1664504.622 x (500.0 - 66.368 / 2) + 4955.051 x (500.0 - 100.0)

= 778999569.644 N.mm

- 편심오차 : | e' - Mn'/Pn | = 0.001 < 0.001 (e' = e + Xp - dc = 1034.994760 mm)

- 축방향력 및 휨에대한 검토

(max) Pn = 0.80 x { 0.85 fck x (Ag - Ast) + fy x Ast} : 13270024.800 N ≥ Pn = 752659.672

ΦPn = 526861.771 < ΦPb = 4060505.400 , 0.1 x fck x Ag = 1800000.000

∴ Φ = 0.800

ΦPn = 0.80 x 752659.672 = 602.128 kN ≥ Pu = 334.080 kN ------- O.K!!!

ΦMn = ΦPn x 840.577 = 506.135 kN.m ≥ Mu = 280.820 kN.m ------- O.K!!!

○ 전단력 검토

$\phi Vc = 0.85 \times 1/6 \times (1 + Pu / (14 \times Ag)) \times \sqrt{fck} \times bo \times d$ = 403400.272 N

여기서 , $1/2\phi Vc < Vu \leq \phi Vc$ 이므로 최소 전단 철근 필요

- 계산된 스터럽 : min.Av = 0.35x(bo x s / fy)= 1.31㎠

- 배근할 스터럽 : H 13 다리수: N = 2 스터럽 간격 : s = 15 cm O.K !!!

Av(req)= 1.31㎠ < Av = 2.534 ㎠ O.K !!!

○ 사용성 검토 (균열방지 인장철근 간격검토)

- 응력산정

$fs = M / [As \times (d - \chi/3)]$

$= 175.51 \times 1000000 / [2292 \times (500 - 111.633/3)]$

= 165.464 Mpa

$\chi = -nAs/b + nAs/b\sqrt{[1 + 2bd/(nAs)]}$

$= -7 \times 2292/1000 + 7 \times 2292/1000 \times \sqrt{[(1 + 2 \times 1000 \times 500/(7 \times 2292)]}$

= 111.633 mm

사용철근량 = 2292.000 mm^2 (철근도심 : 100 mm)

1단 H19 @ 125 (= 2292 ㎟)

- 철근의 최대 중심간격

Cc = 100 - 19 / 2 = 90.50 mm

여기서 Cc ; 인장철근이나 긴장재의 표면과 콘크리트 표면사이의 두께(mm)

Smin : 375 x (210 / fs) - 2.5 x Cc = 375 × (210 / 165.464) - 2.5 × 90.5 = 249.684 mm

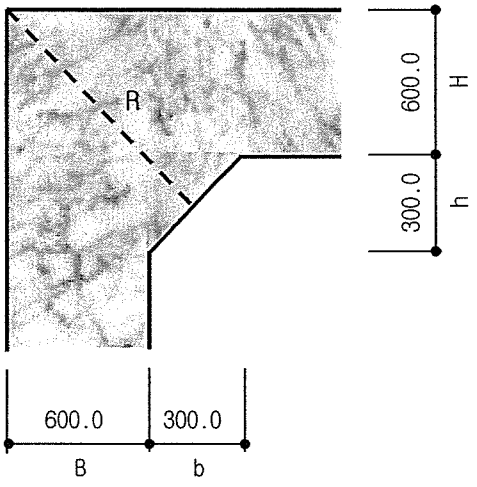
300 x (210 / fs) = 300 × (210 / 165.464) = 380.747 mm

Sa는 작은 값인 249.684 mm 를 적용

S = 125.00 ≤ Sa (= 249.684 mm) ------ ∴ O.K.

12. 우각부 검토

1) 상부 슬래브



CON'C 설계기준강도(fck) : 30.0 MPa

CON'C 허용휨인장응력(fta) = 0.13√fck Mpa

: 0.712 MPa

철근 항복강도(fy) : 400.0 MPa

철근 허용응력 : 180.0 MPa

사용 모멘트 Mo : 119.32 kN·m

$R = \sqrt{2} \times b / (b+h) \times [B + h + (H \times h/b)]$

$= 1060.66$ mm

① 보강철근 필요여부 판정

$$f_{tmax} = \frac{5 \times Mo}{R^2 \times W} = \frac{5 \times 119320000}{1060.66^2 \times 1000.0} = 0.530 \text{ MPa}$$

f_{tmax} = 0.53 MPa < f_{ta} = 0.712 MPa 이므로 보강철근 필요없음.

② 소요 철근량

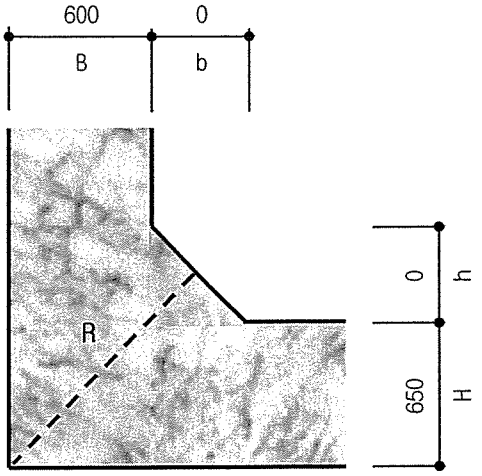
외측인장에 대한 보강 필요철근량(Asf)

$$Asf = \frac{2 \times Mo}{R \times fsa} = \frac{2 \times 0}{1060.66 \times 180.0} = 0.00 \text{ mm}^2$$

▶ 보강 As = Asf - 주철근사용 As = 0.00 - 1146 = -1146.00 mm²

----- 우각부 보강철근 필요없음

2) 하부 슬래브



CON'C 설계기준강도(fck)	:	30.0	MPa
CON'C 허용휨인장응력(fta) = 0.13√fck Mpa			
	:	0.712	MPa
철근 항복강도(fy)	:	400.0	MPa
철근 허용응력	:	180.0	MPa
사용 모멘트 Mo	:	175.51	kN·m

R = √ (B2 + H2) = 884.59 mm

① 보강철근 필요여부 판정

$$f_{tmax} = \frac{5 \times Mo}{R^2 \times W} = \frac{5 \times 175510000}{884.59^2 \times 1000.0} = 1.121 \text{ MPa}$$

f_{tmax} = 1.121 MPa > f_{ta} = 0.712 MPa 이므로 보강철근 필요.

② 소요 철근량

외측인장에 대한 보강 필요철근량(Asf)

$$Asf = \frac{2 \times Mo}{R \times fsa} = \frac{2 \times 175510000}{884.59 \times 180.0} = 2204.54 \text{ ㎟}$$

▶ 보강 As = Asf - 주철근사용 As = 2204.54 - 1146 = 1058.54 ㎟

----- 우각부 보강철근 필요

외측인장에 대한 보강 사용철근량(As)

As = H19 @ 250 - 1 단 = 1146.00 ㎟

Asf = 1058.54 ㎟ < As = 1146.00 ㎟ ----- ∴ O.K.

13. 배력철근 검토

1) 구조상세 - 철도설계기준(노반편) p.5-19

다. 종방향으로 영향을 받는 경우로써 상부슬래브, 하부슬래브와 벽체에 있어서 종방향 최소철근량은 복토의 깊이가 3.0 m 이하인 경우에는 콘크리트 단면적의 0.4%, 복토가 3.0m 이상인 경우에는 복토 깊이가 30m인 경우의 사용량인 1.0%를 기준으로 선형변화량을 사용하되, 종방향 철근량은 주철근량 미만이어야 한다.

라. 단단한 지반 위에 놓인 경우와 말뚝기초로 지지되는 경우로써 종방향 부등침하가 우려되지 않은 경우에는 다.항의 기준을 적용하지 않는다. 따라서 어느 정도 견고한 지반위에 놓이는 일반적인 구교로써 적적한 신축이음매가 설치되어 상세한 종방향해석이 필요하지 않다고 판단되는 경우 종방향 철근량은 슬래브의 경우 콘크리트단면적의 0.25%, 벽체의 경우 0.3%를 적용한다.

마. 배력철근은 단위폭주변의 인장 주철근량의 1/5 이상으로 하여 종단방향에 계산외의 응력이 발생하는 것을 고려하여야 한다.

2) 배력철근의 최소 철근비

슬래브의 배력 철근비 = 0.25 %　　벽체의 배력 철근비 = 0.30 %

① 상부슬래브

배력철근 최소 철근비 (Asreq) = 1,000.0 × 600.0 × 0.25 = 1500.00 ㎟

사용철근 인장측 ; H 16 @ 150 = 1324.00 ㎟

압축측 ; H 16 @ 300 = 662.00 ㎟

∑ As = 1986.00 ㎟

따라서, As = 1986.00 ㎟ > Asreq = 1500.00 ㎟ ----- ∴ O.K.

사용 주철근량의 1/5 = 458.400 ㎟

따라서, As = 1324.00 ㎟ > Asreq = 458.40 ㎟ ----- ∴ O.K.

② 하부슬래브

배력철근 최소 철근비 (Asreq) = 1,000.0 × 650.0 × 0.25 = 1625.00 ㎟

사용철근 인장측 ; H 16 @ 150 = 1324.00 ㎟

압축측 ; H 16 @ 300 = 662.00 ㎟

∑ As = 1986.00 ㎟

따라서, As = 1986.00 ㎟ > Asreq = 1625.00 ㎟ ----- ∴ O.K.

사용 주철근량의 1/5 = 458.400 ㎟

따라서, As = 1324.00 ㎟ > Asreq = 458.40 ㎟ ----- ∴ O.K.

③ 벽체

배력철근 최소 철근비 (Asreq)	= 1,000.0 × 600.0 × 0.30					=	1800.00	㎟
사용철근 인장측 ;	H	16	@	150		=	1324.00	㎟
압축측 ;	H	16	@	300		=	662.00	㎟
						∑ As =	1986.00	㎟

따라서, As = 1986.00 ㎟ > Asreq = 1800.00 ㎟ ----- ∴ O.K.

사용 주철근량의 1/5 = 458.400 ㎟

따라서, As = 1324.00 ㎟ > Asreq = 458.40 ㎟ ----- ∴ O.K.

14. 사용성검토

1) 상부슬래브 최소 두께

1.2(L+3)/30 = 1.2 × (4.600 + 3) / 30 = 304.0 mm

상부슬래브 두께 = 600.0 mm

Tuse = 600.0 mm > Tmin = 304.0 mm ------ ∴ O.K.

2) 철근 피로검토

피로응력한계 : 사용하중하에서 활하중과 충격에 의해 야기되는 직선철근의 최대 인장응력과 최소 응력 상이의 범위는 다음 값을 초과할수 없다.

$f_f = 165 - 0.33fmin$

여기서, f_f : 응력범위(Mpa)

fmin : 최소응력 수준으로 인장은 정(+), 압축은 부(-)의 값(Mpa)

① 상부슬래브 단부

4.6 m 지간에서의 모멘트 변화에 의한 피로검토

Mmax = 0.371 kN · m Mmin = -10.879 kN · m

- 사용철근량 = H19 × 8ea = 2292.000 ㎟

n = 7

p = As / bd = 2292.00 / (1000 × 600) = 0.00382

$K = -np + \sqrt{\{(np)^2 + 2np\}}$

$= -7 \times 0.00382 + \sqrt{\{ (7 \times 0.00382)^2 + 2 \times 7 \times 0.00382 \}}$

= 0.206

J = 1 - K / 3 = 1 - 0.206 / 3 = 0.931

$$fs\ max = \frac{M}{As \times j \times d} = \frac{0.371 \times 10^6}{2292.00 \times 0.931 \times 600} = 0.290\ Mpa$$

$$fs\ min = \frac{-10.879 \times 10^6}{2292.00 \times 0.931 \times 600} = -8\ Mpa$$

Δf = fs max - fs min = 8.784 Mpa

$f_f = 165 - 0.33fmin$

= 165 - 0.33 × -8.49 = 167.803 Mpa > 8.784 Mpa O.K.

② 상부슬래브 중앙부

4.6 m 지간에서의 모멘트 변화에 의한 피로검토

Mmax = 46.512 kN · m Mmin = 41.391 kN · m

- 사용철근량 = H19 × 8ea = 2292.000 ㎟

n = 7

p = As / bd = 2292.00 / (1000 × 500) = 0.00458

$K = -np + \sqrt{\{(np)^2 + 2np\}}$

$= -7 \times 0.00458 + \sqrt{\{ (7 \times 0.00458)^2 + 2 \times 7 \times 0.00458 \}}$

= 0.223

J = 1 - K / 3 = 1 - 0.223 / 3 = 0.926

$$fs\ max = \frac{M}{As \times j \times d} = \frac{46.512 \times 10^6}{2292.00 \times 0.926 \times 500} = 43.850\ Mpa$$

$$fs\ min = \frac{41.391 \times 10^6}{2292.00 \times 0.926 \times 500} = 39\ Mpa$$

Δf = fs max - fs min = 4.828 Mpa

f_f = 165 - 0.33fmin

= 165 - 0.33 × 39.02 = 152.123 Mpa > 4.828 Mpa O.K.

15. 기초지지력 검토

1) 구체자중

-	5.200	x	0.650	x	24.500				=	82.810	kN/m
-	5.200	x	0.600	x	24.500				=	76.440	kN/m
-	4.500	x	0.600	x	24.500				=	66.150	kN/m
-	4.500	x	0.600	x	24.500				=	66.150	kN/m
-	0.300	x	0.300	x	1/2	x	2	x 24.500	=	2.205	kN/m
							∴ Total		=	293.755	kN/m

293.755 / 5.200 = 56.491 kN/m²

2) 상부연직하중

= 28.24 kN/m²

3) 활하중

= 21.019 kN/m²

4) 최대 지반 반력

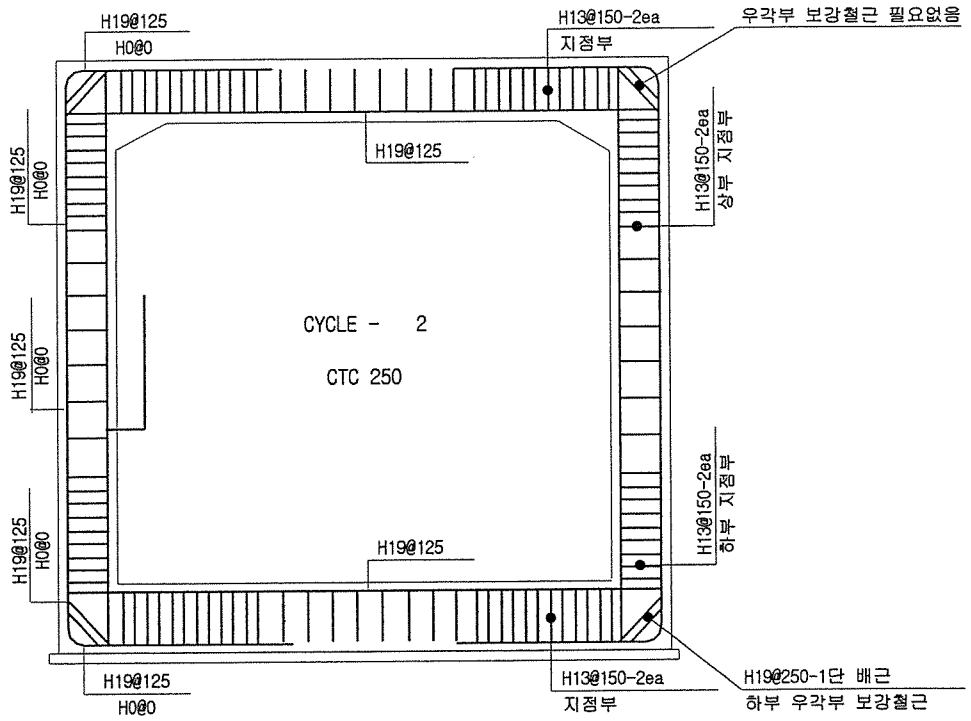
Qmax = 56.491 + 28.240 + 21.019

= 105.750 kN/m²

5) 지지력 검토

Qmax = 105.750 kN/m² < 300.00 kN/m² --- ∴ O.K.

16. 주철근 조립도



▶ 배력철근

- 상부 지점부 : H16, 인장측:150, 압축측:300
- 하부 지점부 : H16, 인장측:150, 압축측:300
- 벽체부 : H16, 인장측:150, 압축측:300

01.옹벽계산서(H=7.0m, 비탈높이=2.5m)

1. 일 반 단 면

1.1 옹벽의 제원

옹 벽 형 식 : 역 T 형 옹 벽
기 초 형 식 : 직 접 기 초
옹 벽 높 이 : H = 7.000 M
옹 벽 저 판 : B = 5.800 M

1.2 내진설계

지진 구역 계수 : 0.110
위 험 도 계 수 : 1.400

가속도 계수 A : 0.154
수평지진계수 Kh : 0.077

2. 설 계 조 건

2.1 사용재료

콘크리트 : fck = 30.0 MPa
철 근 : fy = 400.0 MPa

2.2 지반조건

콘크리트의 단위 중량(γc) : 24.500 KN/㎥
뒷채움흙의 단위 중량(γt) : 19.000 KN/㎥
뒷채움흙의 내부마찰각(Φ_1) : 30.000 °
지지지반의 내부마찰각(Φ_2) : 30.000 °
지지지반의 점 착 력(C) : 0.000 KN/㎡
뒷채움흙의 경 사 각(β) : 29.000 °
뒷채움의 성토높이 : 2.500 m
옹벽전면의 토 피 고(Df) : 1.950 m

2.3 사용토압

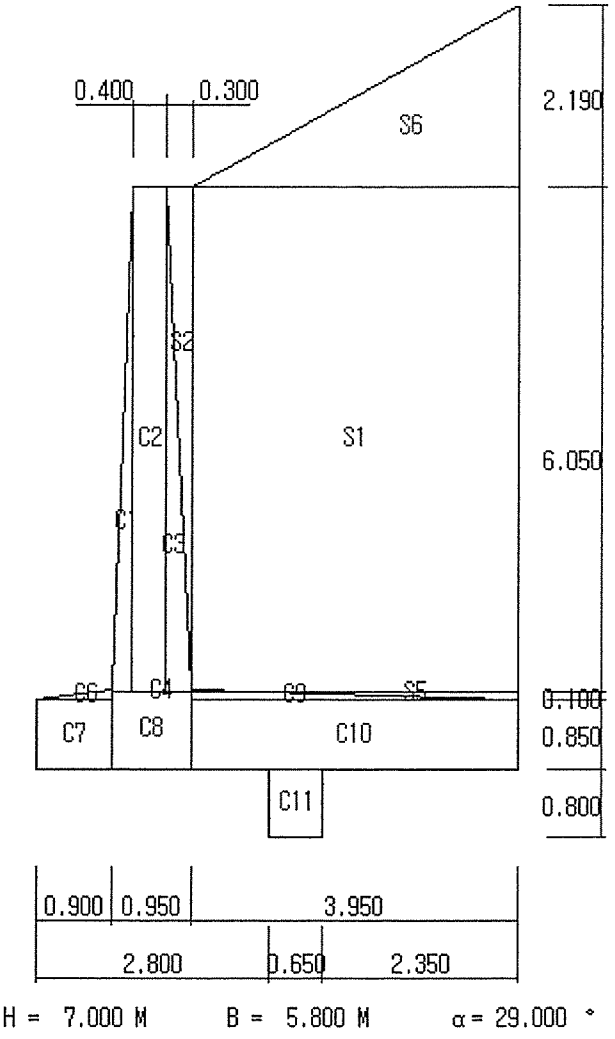
상 시 : 안정 검토시 - 시행 흙쐐기 토압
단면 검토시 - 시행 흙쐐기 토압

지진시 : 안정 검토시 - 시행 흙쐐기 토압
단면 검토시 - 시행 흙쐐기 토압

2.4 과재하중

과재 활하중 : $q\ell$ = 35.00 KN/㎡
과재고정하중 : qd = 15.00 KN/㎡

2.5 검토단면


0.400
0.300
S6
2.190
S2
C2
S1
6.050
C1
C3
C6
C4
C9
S5
0.100
C7
C8
C10
0.850
C11
0.800
0.900
0.950
3.950
2.800
0.650
2.350
H = 7.000 M
B = 5.800 M
α = 29.000 °

3. 안 정 계 산

3.1 안정검토용 하중계산

1) 자중 및 재토하중 계산

구분	A	γ	W	Kh	H	x	y	Mr	Mo
C1	0.756	24.5	18.53	0.077	1.43	1.067	2.967	19.76	4.23
C2	2.420	24.5	59.29	0.077	4.57	1.350	3.975	80.04	18.15
C3	0.908	24.5	22.23	0.077	1.71	1.650	2.967	36.69	5.079
C4	0.000	24.5	0.00	0.077	0.00	1.500	0.950	0.00	0.00
C5	0.000	24.5	0.00	0.077	0.00	1.850	0.950	0.00	0.00
C6	0.045	24.5	1.10	0.077	0.08	0.600	0.883	0.66	0.07
C7	0.765	24.5	18.74	0.077	1.44	0.450	0.425	8.43	0.61
C8	0.903	24.5	22.11	0.077	1.70	1.375	0.475	30.40	0.81
C9	0.198	24.5	4.84	0.077	0.37	3.167	0.883	15.32	0.33
C10	3.358	24.5	82.26	0.077	6.33	3.825	0.425	314.64	2.69
C11	0.520	24.5	12.74	0.077	0.98	3.125	-0.400	39.81	-0.39
소계	9.871		241.85		18.62			545.76	31.58
S1	23.898	19.0	454.05	0.077	34.96	3.825	3.975	1736.75	138.97
S2	0.908	19.0	17.24	0.077	1.33	1.750	4.983	30.17	6.62
S3	0.000	19.0	0.00	0.077	0.00	1.850	0.950	0.00	0.00
S4	0.000	19.0	0.00	0.077	0.00	3.825	0.950	0.00	0.00
S5	0.198	19.0	3.75	0.077	0.29	4.483	0.917	16.82	0.26
S6	4.324	19.0	82.16	0.077	6.33	4.483	7.730	368.36	48.90
소계	29.327		557.21		42.91			2152.11	194.76
총계			799.05		61.53			2697.87	226.34

2) 토압계산

① 상시 주동토압계수 계산 (시행 흙쐐기법)

뒷채움흙의 내부마찰각(Φ) : 30.000 °
뒷채움흙의 경 사 각(β) : 29.000 °
뒷채움흙의 벽면마찰각(δ) : 5.272 °

쐐기의 각도에 따른 주동토압계수
α= 60.50 °일때..Ka = 0.5036
α= 60.00 °일때..Ka = 0.5051
α= 59.50 °일때..Ka = 0.5064
α= 59.00 °일때..Ka = 0.5074
α= 58.50 °일때..Ka = 0.5082
α= 58.00 °일때..Ka = 0.5087
α= 57.50 °일때..Ka = 0.5090

▷ α= 57.00 °일때..Ka = 0.5090 최대값

α= 56.50 °일때..Ka = 0.5088
α= 56.00 °일때..Ka = 0.5083
α= 55.50 °일때..Ka = 0.5076
α= 55.00 °일때..Ka = 0.5066
α= 54.50 °일때..Ka = 0.5054
α= 54.00 °일때..Ka = 0.5039
α= 53.50 °일때..Ka = 0.5021

∴ Ka = 0.509 (쐐기중량 W = 835.596 KN)
Kah = 0.509 ×cos 5.272 ° = 0.507
Kav = 0.509 ×sin 5.272 ° = 0.047

$Pah = 1/2 \times Kah \times \gamma t \times H^2$
$= 1/2 \times 0.507 \times 19.0 \times 9.190^2$
$= 406.639$ KN.m

$Pav = 1/2 \times Kav \times \gamma t \times H^2$
$= 1/2 \times 0.047 \times 19.0 \times 9.190^2$
$= 37.522$ KN/m

$y = H / 3 = 9.190 / 3 = 3.063$ m
$\chi = 5.800$ m

$Mo = Pah \times y = 406.639 \times 3.063$
$= 1245.606$ KN.m

$Mr = Pav \times \chi = 37.522 \times 5.800$
$= 217.629$ KN.m

② 지진시 주동토압계수 계산 (시행 흙쐐기법)

뒷채움흙의 벽면마찰각($\delta = \beta + \Theta$) : 9.226 °
여기서... $\Theta = \tan^{-1}(kh/(1-kv))$: 4.403 °

쐐기의 각도에 따른 주동토압계수

α = 57.00 ° 일때..Kae = 0.4332
α = 56.50 ° 일때..Kae = 0.4344
α = 56.00 ° 일때..Kae = 0.4354
α = 55.50 ° 일때..Kae = 0.4363
α = 55.00 ° 일때..Kae = 0.4369
α = 54.50 ° 일때..Kae = 0.4374
α = 54.00 ° 일때..Kae = 0.4378

▷ α = 53.50 ° 일때..Kae = 0.4379 최대값

α = 53.00 ° 일때..Kae = 0.4379
α = 52.50 ° 일때..Kae = 0.4377
α = 52.00 ° 일때..Kae = 0.4373
α = 51.50 ° 일때..Kae = 0.4368
α = 51.00 ° 일때..Kae = 0.4360
α = 50.50 ° 일때..Kae = 0.4351
α = 50.00 ° 일때..Kae = 0.4340

∴ Kae = 0.438 (쐐기중량 We = W/cos(Θ) = 727.562 KN)
Kaeh = 0.438 × cos 9.226 ° = 0.432
Kaev = 0.438 × sin 9.226 ° = 0.070

$Paeh = 1/2 \times Kaeh \times \gamma t \times H^2$
$= 1/2 \times 0.432 \times 19.0 \times 9.190^2$
= 346.785 KN/m

$Paev = 1/2 \times Kaev \times \gamma t \times H^2$
$= 1/2 \times 0.070 \times 19.0 \times 9.190^2$
= 56.326 KN/m

$y = H / 2 = 9.190 / 2 = 4.595$ m
$\chi = 5.800$ m

$Mo = Paeh \times y = 346.785 \times 4.595$
= 1593.393 KN.m

$Mr = Paev \times \chi = 56.326 \times 5.800$
= 326.693 KN.m

3) 과재하중

① 상시 과재하중

q = 35.00 + 15.00 = 50.00 KN/㎡

시행쐐기 계산에서 흙쐐기 중량계산시 과재하중을 고려하였으므로,
별도로 과재하중을 고려하지 않는다.

3.2 안정검토용 하중집계

1) 상시 하중집계

구 분	V(KN)	H(KN)	Mr(KN.m)	Mo(KN.m)
콘크리트 자중	241.846	0.000	545.764	0.000
재하토사 자중	557.209	0.000	2152.108	0.000
토 압	37.522	406.639	217.629	1245.606
Σ	836.577	406.639	2915.501	1245.606

2) 지진시 하중집계

구 분	V(KN)	H(KN)	Mr(KN.m)	Mo(KN.m)
콘크리트 자중	241.846	18.622	545.764	31.584
재하토사 자중	557.209	42.905	2152.108	194.758
토 압	56.326	346.785	326.693	1593.393
Σ	855.381	408.312	3024.564	1819.735

3.3 전도에 대한 안정검토

1) 상시 안정검토

$\sum V$ = 836.577 KN
$\sum Mr$ = 2915.501 KN.m
$\sum Mo$ = 1245.606 KN.m

e = B/2 - ($\sum Mr$ - $\sum Mo$) / $\sum V$
= 5.800 / 2 - (2915.501 - 1245.606) / 836.577
= 0.904 m ≤ B/6 = 0.967 m ∴ 사다리꼴 반력분포

▷ 편심 검토
e = 0.904 m ≤ B/6 = 0.967 m ∴ O.K

▷ 안전율 검토
S.F = $\sum Mr$ / $\sum Mo$ = 2915.501 / 1245.606
= 2.341 ≥ 2.0 ∴ O.K

2) 지진시 안정검토

$\sum V$ = 855.381 KN
$\sum Mr$ = 3024.564 KN.m
$\sum Mo$ = 1819.735 KN.m

e = B/2 - ($\sum Mr$ - $\sum Mo$) / $\sum V$
= 5.800 / 2 - (3024.564 - 1819.735) / 855.381
= 1.491 m > B/6 = 0.967 m ∴ 삼각형 반력분포

▷ 편심 검토
e = 1.491 m ≤ B/3 = 1.933 m ∴ O.K

3.4 지지력에 대한 안정검토

1) 지지지반의 조건

지지지반의 내부마찰각 : 30.000 °
지지지반의 단위 중량 : 19.0 KN/㎥
지지지반의 점 착 력 : 0.0 KN/㎡
성토지반의 단위 중량 : 19.0 KN/㎥
기초의 유효 근입깊이 : 1.950 m

2) 상시 안정검토

① 지지지반의 허용지지력

지지력산정은 Terzaghi式을 이용한다.
최대 지반반력은 도.시. p622 해설 표 7.3.1의 값을 넘지 못한다.

$qu = \alpha \cdot C \cdot Nc + \gamma_2 \cdot Df \cdot Nq + \beta \cdot \gamma_1 \cdot Be \cdot Nr$

여기서 $\alpha = 1.000$ $\beta = 0.500$
$Be = B - 2e = 5.800 - 2 \times 0.904 = 3.992m$

$Nc = 37.200$ $Nq = 22.500$ $Nr = 19.700$

$\therefore qu = 1580.767\ KN/m^2$
$\therefore qa = 400.000\ KN/m^2$

② 지반반력 검토

지반반력이 사다리꼴 분포이므로

$Q1 = \sum V / (B \cdot L) \times (1 + 6e / B) = 279.109\ KN/m^2$
$Q2 = \sum V / (B \cdot L) \times (1 - 6e / B) = 9.366\ KN/m^2$

$q_max = 279.109 \leq qa$ ∴O.K

3) 지진시 안정검토

① 지지지반의 허용지지력

지지력산정은 Terzaghi式을 이용한다.
최대 지반반력은 도.시. p622 해설 표 7.3.1의 값을 넘지 못한다.

$qu = \alpha \cdot C \cdot Nc + \gamma_2 \cdot Df \cdot Nq + \beta \cdot \gamma_1 \cdot Be \cdot Nr$

여기서 $\alpha = 1.000$ $\beta = 0.500$
$Be = B - 2e = 5.800 - 2 \times 1.491 = 2.817m$
$Nc = 37.200$ $Nq = 22.500$ $Nr = 19.700$

$\therefore que = 1360.837\ KN/m^2$
$\therefore qae = 600.000\ KN/m^2$

② 지반반력 검토

지반반력이 삼각형 분포이므로

$q_max = (2 \cdot \sum V) / (L \cdot x) = 404.858\ KN/m^2$
여기서 $x = 3 (B/2 - e) = 4.226\ m$

$q_max = 404.858 \leq qae$ ∴O.K

3.5 활동에 대한 안정검토

1) 검토조건

흙과 콘크리트의 경우 ΦB = (2/3)Φ 이므로
마찰계수 μ= tan(ΦB) = 0.364
점 착 력 C = 0.0 KN/㎡

2) 상시 안정검토

∑V = 836.577 KN
∑H = 406.639 KN

$$Hr = C \times Ae + \frac{(Q3+Q4)}{2} Kp\ L + \frac{(Q1+Q4)}{2} B1\ \mu + \frac{(Q3+Q2)}{2} B3\ \mu \quad ('96\ 콘.시\ 제17장)$$

= 0.000 + 479.999 + 58.090 + 86.400
= 624.488 KN

여기서 Kp = 3.000 (기초저면의 Rankine 수동토압계수)
L = 0.800 m
Ae = 3.992 ㎡ (유효재하면적)

※ 반력이 삼각형분포일경우 부반력은 무시한다.

▷ 안전율 검토
S.F = ∑Hr / ∑H = 624.488 / 406.639
= 1.536 ≥ 1.5 ∴ O.K

3) 지진시 안정검토

∑V = 855.381 KN
∑H = 408.312 KN

$$Hr = C \times Ae + \frac{(Q3+Q4)}{2} Kp\ L + \frac{(Q1+Q4)}{2} B1\ \mu + \frac{(Q3+Q2)}{2} B3\ \mu \quad ('96\ 콘.시\ 제17장)$$

= 0.000 + 554.095 + 82.392 + 35.436
= 671.922 KN

여기서 Kp = 2.863 (Mononobe-Okabe 수동토압계수)
L = 0.800 m
Ae = 2.817 ㎡ (유효재하면적)

※ 반력이 삼각형분포일경우 부반력은 무시한다.

▷ 안전율 검토
S.F = ∑Hr / ∑H = 671.922 / 408.312
= 1.646 ≥ 1.2 ∴ O.K

4. 단 면 검 토

4.1 하 중 조 합

LCB 1 : 상 시 계수하중 (1.35D+1.85L+1.6H+0.0W)
LCB 2 : 상 시 계수하중 (1.6D+1.6L+1.6H+0.0W)
LCB 3 : 상 시 계수하중 (1.35D+1.4L+1.6H+0.0W)
LCB 4 : 지진시 계수하중 (1.0D+1.0H+1.0E)
LCB 5 : 상 시 사용하중 (1.0D+1.0L+1.0H+1.0W)

4.2 기초단면검토용 지반의 반력계산

작용계수하중은 '3.2 안정검토용 하중집계'를 참조

(1) LCB 1 : 상 시 계수하중 (1.35D+1.85L+1.6H+0.0W)

$\sum V$ = 1138.760 KN
$\sum Mr$ = 3990.333 KN.m
$\sum Mo$ = 1992.970 KN.m

e = B/2 - ($\sum Mr$ - $\sum Mo$) / $\sum V$
= 5.800 / 2 - (3990.333 - 1992.970) / 1138.760
= 1.146 m > B/6 ∴ 삼각형 반력분포

Q_max = (2 · $\sum V$) / (L · x) = 432.828 KN/㎡
여기서 x = 3 (B/2 - e) = 5.262 m (지반반력 작용폭)

※ 반력이 삼각형분포일경우 부반력은 무시한다.

(2) LCB 2 : 상 시 계수하중 (1.6D+1.6L+1.6H+0.0W)

$\sum V$ = 1338.524 KN
$\sum Mr$ = 4664.802 KN.m
$\sum Mo$ = 1992.970 KN.m

e = B/2 - ($\sum Mr$ - $\sum Mo$) / $\sum V$
= 5.800 / 2 - (4664.802 - 1992.970) / 1338.524
= 0.904 m ≤ B/6 ∴ 사다리꼴 반력분포

Q1 = $\sum V$ / (B · L) × (1 + 6e / B) = 446.574 KN/㎡
Q2 = $\sum V$ / (B · L) × (1 - 6e / B) = 14.986 KN/㎡

(3) LCB 3 : 상 시 계수하중 (1.35D+1.4L+1.6H+0.0W)

$\sum V$ = 1138.760 KN
$\sum Mr$ = 3990.333 KN.m
$\sum Mo$ = 1992.970 KN.m

e = B/2 - ($\sum Mr$ - $\sum Mo$) / $\sum V$
= 5.800 / 2 - (3990.333 - 1992.970) / 1138.760
= 1.146 m > B/6 ∴ 삼각형 반력분포

Q_max = (2 · ∑V) / (L · x) = 432.828 KN/㎡
여기서 x = 3 (B/2 - e) = 5.262 m (지반반력 작용폭)

※ 반력이 삼각형분포일경우 부반력은 무시한다.

(4) LCB 4 : 지진시 계수하중 (1.0D+1.0H+1.0E)

∑V = 855.381 KN
∑Mr = 3024.564 KN.m
∑Mo = 1819.735 KN.m

e = B/2 - (∑Mr - ∑Mo) / ∑V
= 5.800 / 2 - (3024.564 - 1819.735) / 855.381
= 1.491 m > B/6 ∴ 삼각형 반력분포

Q_max = (2 · ∑V) / (L · x) = 404.858 KN/㎡
여기서 x = 3 (B/2 - e) = 4.226 m (지반반력 작용폭)

※ 반력이 삼각형분포일경우 부반력은 무시한다.

(5) LCB 5 : 상 시 사용하중 (1.0D+1.0L+1.0H+1.0W)

사용하중 반력은 안정검토시 반력 참조

4.3 단면검토용 하중계산

1) 앞굽판 단면력

(단위 : KN, m)

구 분		앞굽자중	지반반력	총 계
LCB1	전단력	-26.791	356.232	329.441
	모멘트	-11.833	165.301	153.469
LCB2	전단력	-31.752	371.780	340.028
	모멘트	-14.024	171.822	157.798
LCB3	전단력	-26.791	356.232	329.441
	모멘트	-11.833	165.301	153.469
LCB4	전단력	-19.845	325.569	305.724
	모멘트	-8.765	152.326	143.562
LCB5	전단력	-19.845	232.363	212.518
	모멘트	-8.765	107.388	98.624

2) 뒷굽판 단면력

(단위 : KN, m)

구 분		뒷굽자중	재토자중	과재하중	지반반력	연직토압	총 계
LCB1	전단력	134.781	728.955	0.000	-478.788	60.036	444.983
	모멘트	249.852	1516.043	0.000	-544.533	237.141	1458.502
LCB2	전단력	159.740	863.947	0.000	-639.699	60.036	444.024
	모멘트	296.121	1796.791	0.000	-881.239	237.141	1448.814
LCB3	전단력	134.781	728.955	0.000	-478.788	60.036	444.983
	모멘트	249.852	1516.043	0.000	-544.533	237.141	1458.502
LCB4	전단력	99.838	539.967	0.000	-270.351	56.326	425.780
	모멘트	185.076	1122.995	0.000	-214.080	222.489	1316.479
LCB5	전단력	99.838	539.967	0.000	-399.812	37.522	277.515
	모멘트	185.076	1122.995	0.000	-550.774	148.213	905.509

3) 벽체 단면력

(1) 토압계수 계산

ⓐ 상시 주동토압계수 계산 (시행 흙쐐기법)

뒷채움흙의 내부마찰각(Φ) : 30.000 °
뒷채움흙의 경 사 각(β) : 29.000 °
흙과 콘크리트의 마찰각(δ): 10.000 °
옹벽배면의 연직경사각(Θ) : 2.839 °

쐐기의 각도에 따른 주동토압계수

α= 52.50 °일때..Ka = 0.6090
α= 52.00 °일때..Ka = 0.6124
α= 51.50 °일때..Ka = 0.6153
α= 51.00 °일때..Ka = 0.6176
α= 50.50 °일때..Ka = 0.6194
α= 50.00 °일때..Ka = 0.6206
α= 49.50 °일때..Ka = 0.6213

▷ α= 49.00 °일때..Ka = 0.6215 최대값

α= 48.50 °일때..Ka = 0.6210
α= 48.00 °일때..Ka = 0.6200

α= 47.50 °일때..Ka = 0.6184
α= 47.00 °일때..Ka = 0.6162
α= 46.50 °일때..Ka = 0.6133
α= 46.00 °일때..Ka = 0.6098
α= 45.50 °일때..Ka = 0.6056

∴ Ka = 0.621 (쐐기중량 W = 659.938 KN)
Kah = 0.621 ×cos 12.839° = 0.606
Kav = 0.621 ×sin 12.839° = 0.138

ⓑ 지진시 주동토압계수 계산 (시행 흙쐐기법)

쐐기의 각도에 따른 주동토압계수
α= 52.00 °일때..Kae = 0.5561
α= 51.50 °일때..Kae = 0.5584
α= 51.00 °일때..Kae = 0.5603
α= 50.50 °일때..Kae = 0.5619
α= 50.00 °일때..Kae = 0.5631
α= 49.50 °일때..Kae = 0.5641
α= 49.00 °일때..Kae = 0.5647

▷ α= 48.50 °일때..Kae = 0.5650 최대값

α= 48.00 °일때..Kae = 0.5649
α= 47.50 °일때..Kae = 0.5645
α= 47.00 °일때..Kae = 0.5637
α= 46.50 °일때..Kae = 0.5626
α= 46.00 °일때..Kae = 0.5611
α= 45.50 °일때..Kae = 0.5593
α= 45.00 °일때..Kae = 0.5570

∴ Kae = 0.565 (쐐기중량 We = W/cos(Θ) = 486.049 KN)
Kaeh = 0.565 ×cos 2.839° = 0.564
Kaev = 0.565 ×sin 2.839° = 0.028

(2) 토압에 의한 벽체 단면력계산

ⓐ 상시 벽체 단면력

i) 벽체 하부 (C-C)

Pah = 1/2 ×Kah × γt ×H²
= 1/2 ×0.606 ×19.0 ×6.050² = 210.700 KN/m

y = H / 3 = 6.050 / 3 = 2.017 m

Mo = Pah ×y = 210.700 ×2.017 = 424.912 KN.m

ii) 벽체 중앙부 (D-D)

$Pah = 1/2 \times Kah \times \gamma t \times H^2$
$= 1/2 \times 0.606 \times 19.0 \times 3.025^2 = 52.675$ KN/m

$y = H / 3 = 3.025 / 3 = 1.008$ m

$Mo = Pah \times y = 52.675 \times 1.008 = 53.114$ KN.m

ⓑ 지진시 벽체 단면력

i) 벽체 하부 (C-C)

$Pah = 1/2 \times Kaeh \times \gamma t \times H^2$
$= 1/2 \times 0.564 \times 19.0 \times 6.050^2 = 196.210$ KN/m

$y = H / 2 = 6.050 / 2 = 3.025$ m

$Mo = Pah \times y = 196.210 \times 3.025 = 593.535$ KN.m

ii) 벽체 중앙부 (D-D)

$Pah = 1/2 \times Kaeh \times \gamma t \times H^2$
$= 1/2 \times 0.564 \times 19.0 \times 3.025^2 = 49.052$ KN/m

$y = H / 2 = 3.025 / 2 = 1.513$ m

$Mo = Pah \times y = 49.052 \times 1.513 = 74.192$ KN.m

(3) 과재하중에 의한 벽체단면력 계산

ⓐ 상시 벽체 단면력

$q = 35.00 + 15.00 + 50.00$ KN/㎡

i) 벽체 하부 (C-C)

시행쐐기 계산에서 흙쐐기 중량계산시 과재하중을 고려하였으므로,
별도로 과재하중을 고려하지 않는다.

ii) 벽체 중앙부 (D-D)

시행쐐기 계산에서 흙쐐기 중량계산시 과재하중을 고려하였으므로,
별도로 과재하중을 고려하지 않는다.

(4) 지진시 벽체의 관성력에 의한 단면력 계산

(단위 : KN, m)

구분	A	ɣ	W	Kh	H	y	M
C1	0.756	24.5	18.528	0.077	1.427	2.017	2.877
C2	2.420	24.5	59.290	0.077	4.565	3.025	13.810
C3	0.908	24.5	22.234	0.077	1.712	2.017	3.453
합 계 (벽체 하부)			100.052		7.704		20.140
C1	0.189	24.5	4.632	0.077	0.357	1.008	0.360
C2	1.210	24.5	29.645	0.077	2.283	1.513	3.453
C3	0.227	24.5	5.558	0.077	0.428	1.008	0.432
합 계 (벽체 중앙부)			39.835		3.067		4.244

▷ 벽체 하단 단면력 계산

(단위 : KN, m)

구 분		횡 토 압	과재하중	관 성 력	총 계
LCB1	전단력	337.121	0.000	0.000	337.121
	모멘트	679.860	0.000	0.000	679.860
LCB2	전단력	337.121	0.000	0.000	337.121
	모멘트	679.860	0.000	0.000	679.860
LCB3	전단력	337.121	0.000	0.000	337.121
	모멘트	679.860	0.000	0.000	679.860
LCB4	전단력	196.210	0.000	7.704	203.914
	모멘트	593.535	0.000	20.140	613.674
LCB5	전단력	210.700	0.000	0.000	210.700
	모멘트	424.912	0.000	0.000	424.912

▷ 벽체 중간부 단면력 계산

(단위 : KN, m)

구 분		횡 토 압	과재하중	관 성 력	총 계
LCB1	전단력	84.280	0.000	0.000	84.280
	모멘트	84.982	0.000	0.000	84.982
LCB2	전단력	84.280	0.000	0.000	84.280
	모멘트	84.982	0.000	0.000	84.982
LCB3	전단력	84.280	0.000	0.000	84.280
	모멘트	84.982	0.000	0.000	84.982
LCB4	전단력	49.052	0.000	3.067	52.120
	모멘트	74.192	0.000	4.244	78.436
LCB5	전단력	52.675	0.000	0.000	52.675
	모멘트	53.114	0.000	0.000	53.114

3) 활동방지벽의 단면력

활동방지벽(Shear Key)에 작용하는 단면력은 수동토압에 의한 활동저항력과
활동방지벽 저면의 마찰력의 합으로 구한다.
합력의 작용위치는 활동방지벽의 중앙점으로 한다.

$$p = \frac{(q3+q4)}{2} Kp\ L + \frac{(q4+q5)}{2} B\ \mu \quad (\mu = \text{저면 마찰계수})$$

Kp = 3.000 μ = 0.364 (상 시)

Kpe = 2.863 μ = 0.364 (지진시)

(단위 : KN, m)

구 분		활동저항력	마 찰 력	총 계
LCB1	전단력	702.983	41.586	744.569
	모멘트	281.193	16.634	297.828
LCB2	전단력	767.998	50.637	818.635
	모멘트	307.199	20.255	327.454
LCB3	전단력	702.983	41.586	744.569
	모멘트	281.193	16.634	297.828
LCB4	전단력	554.095	24.947	579.042
	모멘트	221.638	9.979	231.617
LCB5	전단력	479.999	31.648	511.647
	모멘트	191.999	12.659	204.659

4.4 단면검토용 하중집계

상시와 지진시 단면력중 최대값으로 단면력을 정리하면 다음과 같다.
균열검토는 상시의 사용하중으로 검토한다.

(단위 : KN, m)

구 분	Mu	Mcr	Vu
앞 굽 판 (A-A)	157.798	98.624	340.028
뒷 굽 판 (B-B)	679.860	424.912	444.983
벽 체 하 부 (C-C)	679.860	424.912	337.121
벽체 중앙부 (D-D)	84.982	53.114	84.280
활동 방지벽 (E-E)	327.454	204.659	818.635

(단, 저판에 작용하는 휨모멘트의 크기는 전면벽과 뒷굽판과의
접속점의 모멘트평형조건에 의하여 전면벽에 작용하는 휨모멘트를
초과하지 않는다.- 옹벽표준도작성연구용역 종합보고서, 1998. 건교부)

4.5 단 면 검 토

1) 앞 굽 판

fck = 30.0MPa　　fy = 400.0MPa
β1 = 0.836　　Øf = 0.90　　Øv = 0.85
pmin = max(0.25√(fck)/fy,1.4/fy) = 0.00350

계수 모멘트 Mu = 157.798 KN.m　　계수 전단력 Vu = 340.028 KN
단면의 두께 H = 950.000 mm　　단 위 폭 B = 1000.000 mm
유 효 깊 이 D = 850.000 mm　　피 복 두 께 Dc = 100.000 mm

▷ 휨모멘트 검토

- 휨강도 검토 -
사용철근량 = H16 @ 250 mm (Dc = 100 mm)
= 794.400 ㎟ ∴ P = As/(B · D) = 0.00093
공칭강도시 등가응력깊이 a = (As · fy) / (0.85 · fck · B) = 12.461 mm
최외단 인장철근 변형률 εt = 0.16808 ≥ 0.004 ..... ∴ O.K
...여기서 εt = 0.003 · (H - a/β1 - Dc_min) / (a/β1)
0.005 ≤ εt 이므로 인장지배단면, Øf = 0.85를 적용한다.

설계강도 ØMn = Øf · fy · As · (D - a/2) = 227898800.000 N.mm
= 227.899 KN.m ≥ Mu = 157.798 KN.m ..... ∴ O.K

- 필요철근량 및 철근비 검토 -

소요등가응력깊이 : a = 8.128 mm로 가정
필 요 철 근 량 : As = Mu /{ Øf · fy · (D-a/2)} = 518.156 ㎟
a = (As · fy) / (0.85 · fck · B) = 8.128 mm ∴ 가정과 비슷함 O.K
Preq = [Mu /{ Øf · fy · (D-a/2)}] / (B · D) = 0.00061 ⇒ 4/3 Preq = 0.00081
철근비검토 : 4/3 Preq ≤ P ≤ Pmin ..... ∴ O.K

▷ 전단력 검토

Φv · Vc = Φv · 1/6 · √fck · B · d / 1000 = 659.549 KN
Φv · Vc = 659.549 KN > Vu ∴전단철근 필요없음.

▷ 사용성 검토 (균열 검토)

Mcr = 98.624 KN.m (사용하중 모멘트)
n = Es/Ec = 200000 / {8500 * (Fck + 8)^(1/3)} = 7
p = As/(B · D) = 0.00093
k = -np + √((np)² + 2np) = 0.108 j = 0.964
x = k · d = 91.826 mm
fc = 2 · Mcr / (B · x · (D - x/3)) = 2.622 MPa
fs = Mcr / (As · (D - x/3)) = 151.513 MPa
fst = fs · (H - Dc_min - x) / (D - x) = 151.513 MPa
최외단철근 소요중심간격
s = Min [375 · (210/fst)-2.5Cc , 300 · (210/fst)] = 289.76 mm
...여기서..Cc = dc_min - 주철근 직경/2 = 92.00 mm
최외단철근 평균배근간격 = 250.00 mm ≤ 289.76 mm ..... ∴ O.K

2) 뒷 굽 판

fck = 30.0MPa　　fy = 400.0MPa
β1 = 0.836　　Øf = 0.90　　Øv = 0.85
pmin = max(0.25√(fck)/fy,1.4/fy) = 0.00350

계수 모멘트 Mu = 679.860 KN.m　　계수 전단력 Vu = 444.983 KN
단면의 두께 H = 950.000 mm　　단 위 폭 B = 1000.000 mm
유 효 깊 이 D = 850.000 mm　　피 복 두 께 Dc = 100.000 mm

▷ 휨모멘트 검토

- 휨강도 검토 -

사용철근량 = H25 @ 125 mm (Dc = 100 mm)
= 4053.600 ㎟ ∴ P = As/(B · D) = 0.00477
공칭강도시 등가응력깊이 a = (As · fy) / (0.85 · fck · B) = 63.586 mm
최외단 인장철근 변형률 εt = 0.03053 ≥ 0.004 ..... ∴ O.K
...여기서 εt = 0.003 · (H - a/β1 - Dc_min) / (a/β1)
0.005 ≤ εt 이므로 인장지배단면, Øf = 0.85를 적용한다.

설계강도 ØMn = Øf · fy · As · (D - a/2) = 1127673000.000 N.mm
= 1127.673 KN.m ≥ Mu = 679.860 KN.m ..... ∴ O.K

- 필요철근량 및 철근비 검토 -

소요등가응력깊이 : a = 35.597 mm로 가정
필 요 철 근 량 : As = Mu /{ Øf · fy · (D-a/2)} = 2269.280 ㎟
a = (As · fy) / (0.85 · fck · B) = 35.597 mm ∴ 가정과 비슷함 O.K
Preq = [Mu /{ Øf · fy · (D-a/2)}] / (B · D) = 0.00267 ⇒ 4/3 Preq = 0.00356
철근비검토 : Pmin ≤ P ..... ∴ O.K

▷ 전단력 검토

Φv · Vc = Φv · 1/6 · √fck · B · d / 1000 = 659.549 KN
Φv · Vc = 659.549 KN > Vu ∴전단철근 필요없음.

▷ 사용성 검토 (균열 검토)

Mcr = 424.912 KN.m (사용하중 모멘트)
n = Es/Ec = 200000 / {8500 * (Fck + 8)^(1/3)} = 7
p = As/(B · D) = 0.00477
k = -np + √((np)² + 2np) = 0.227　　j = 0.924
x = k · d = 193.081 mm
fc = 2 · Mcr / (B · x · (D - x/3)) = 5.602 MPa
fs = Mcr / (As · (D - x/3)) = 133.424 MPa
fst = fs · (H - Dc_min - x) / (D - x) = 133.424 MPa
최외단철근 소요중심간격
s = Min [375 · (210/fst)-2.5Cc , 300 · (210/fst)] = 371.47 mm
...여기서..Cc = dc_min - 주철근 직경/2 = 87.50 mm
최외단철근 평균배근간격 = 125.00 mm ≤ 371.47 mm ..... ∴ O.K

3) 벽 체 하 부

fck = 30.0MPa　　fy = 400.0MPa
β1 = 0.836　　Øf = 0.90　　Øv = 0.85
pmin = max(0.25√(fck)/fy,1.4/fy) = 0.00350

계수 모멘트 Mu = 679.860 KN.m　　계수 전단력 Vu = 337.121 KN
단면의 두께 H = 950.000 mm　　단 위 폭 B = 1000.000 mm
유 효 깊 이 D = 870.000 mm　　피 복 두 께 Dc = 80.000 mm

▷ 휨모멘트 검토

- 휨강도 검토 -

사용철근량 = H25 @ 125 mm (Dc = 80 mm)
= 4053.600 ㎟ ∴ P = As/(B · D) = 0.00466
공칭강도시 등가응력깊이 a = (As · fy) / (0.85 · fck · B) = 63.586 mm
최외단 인장철근 변형률 εt = 0.03132 ≥ 0.004 ..... ∴ O.K
...여기서 εt = 0.003 · (H - a/β1 - Dc_min) / (a/β1)
0.005 ≤ εt 이므로 인장지배단면, Øf = 0.85를 적용한다.

설계강도 ØMn = Øf · fy · As · (D - a/2) = 1155237000.000 N.mm
= 1155.237 KN.m ≥ Mu = 679.860 KN.m ..... ∴ O.K

- 필요철근량 및 철근비 검토 -

소요등가응력깊이 : a = 34.744 mm로 가정
필 요 철 근 량 : As = Mu /{ Øf · fy · (D-a/2)} = 2214.916 ㎟
a = (As · fy) / (0.85 · fck · B) = 34.744 mm ∴ 가정과 비슷함 O.K
Preq = [Mu /{ Øf · fy · (D-a/2)}] / (B · D) = 0.00255 ⇒ 4/3 Preq = 0.00339
철근비검토 : Pmin ≤ P ..... ∴ O.K

▷ 전단력 검토

Φv · Vc = Φv · 1/6 · √fck · B · d / 1000 = 675.068 KN
Φv · Vc = 675.068 KN > Vu ∴전단철근 필요없음.

▷ 사용성 검토 (균열 검토)

Mcr = 424.912 KN.m (사용하중 모멘트)
n = Es/Ec = 200000 / {8500 * (Fck + 8)^(1/3)} = 7
p = As/(B · D) = 0.00466
k = -np + √((np)² + 2np) = 0.225　　j = 0.925
x = k · d = 195.629 mm
fc = 2 · Mcr / (B · x · (D - x/3)) = 5.398 MPa
fs = Mcr / (As · (D - x/3)) = 130.249 MPa
fst = fs · (H - Dc_min - x) / (D - x) = 130.249 MPa
최외단철근 소요중심간격
s = Min [375 · (210/fst)-2.5Cc , 300 · (210/fst)] = 435.86 mm
...여기서..Cc = dc_min - 주철근 직경/2 = 67.50 mm
최외단철근 평균배근간격 = 125.00 mm ≤ 435.86 mm ..... ∴ O.K

4) 벽 체 중 앙 부

fck = 30.0MPa　　fy = 400.0MPa
β1 = 0.836　　Øf = 0.90　　Øv = 0.85
pmin = max(0.25√(fck)/fy,1.4/fy) = 0.00350

계수 모멘트 Mu = 84.982 KN.m　　계수 전단력 Vu = 84.280 KN
단면의 두께 H = 675.000 mm　　단 위 폭 B = 1000.000 mm
유 효 깊 이 D = 595.000 mm　　피 복 두 께 Dc = 80.000 mm

▷ 휨모멘트 검토

- 휨강도 검토 -

사용철근량 = H25 @ 250 mm (Dc = 80 mm)
= 2026.800 ㎟ ∴ P = As/(B · D) = 0.00341
공칭강도시 등가응력깊이 a = (As · fy) / (0.85 · fck · B) = 31.793 mm
최외단 인장철근 변형률 εt = 0.04394 ≥ 0.004 ..... ∴ O.K
...여기서 εt = 0.003 · (H - a/β1 - Dc_min) / (a/β1)
0.005 ≤ εt 이므로 인장지배단면, Øf = 0.85를 적용한다.

설계강도 ØMn = Øf · fy · As · (D - a/2) = 399067200.000 N.mm
= 399.067 KN.m ≥ Mu = 84.982 KN.m ..... ∴ O.K

- 필요철근량 및 철근비 검토 -

소요등가응력깊이 : a = 6.256 mm로 가정
필 요 철 근 량 : As = Mu /{ Øf · fy · (D-a/2)} = 398.840 ㎟
a = (As · fy) / (0.85 · fck · B) = 6.256 mm ∴ 가정과 비슷함 O.K
Preq = [Mu /{ Øf · fy · (D-a/2)}] / (B · D) = 0.00067 ⇒ 4/3 Preq = 0.00089
철근비검토 : 4/3 Preq ≤ P ≤ Pmin ..... ∴ O.K

▷ 전단력 검토

Φv · Vc = Φv · 1/6 · √fck · B · d / 1000 = 461.685 KN
Φv · Vc = 461.685 KN > Vu ∴전단철근 필요없음.

▷ 사용성 검토 (균열 검토)

Mcr = 53.114 KN.m (사용하중 모멘트)
n = Es/Ec = 200000 / {8500 * (Fck + 8)^(1/3)} = 7
p = As/(B · D) = 0.00341
k = -np + √((np)² + 2np) = 0.196　　j = 0.935
x = k · d = 116.520 mm
fc = 2 · Mcr / (B · x · (D - x/3)) = 1.639 MPa
fs = Mcr / (As · (D - x/3)) = 47.119 MPa
fst = fs · (H - Dc_min - x) / (D - x) = 47.119 MPa
최외단철근 소요중심간격
s = Min [375 · (210/fst)-2.5Cc , 300 · (210/fst)] = 1337.03 mm
...여기서..Cc = dc_min - 주철근 직경/2 = 67.50 mm
최외단철근 평균배근간격 = 250.00 mm ≤ 1337.03 mm ..... ∴ O.K

5) 활 동 방 지 벽

fck = 30.0MPa　　fy = 400.0MPa
β1 = 0.836　　Øf = 0.90　　Øv = 0.85
pmin = max(0.25√(fck)/fy,1.4/fy) = 0.00350

계수 모멘트 Mu = 327.454 KN.m　　계수 전단력 Vu = 818.635 KN
단면의 두께 H = 650.000 mm　　단 위 폭 B = 1000.000 mm
유 효 깊 이 D = 550.000 mm　　피 복 두 께 Dc = 100.000 mm

▷ 휨모멘트 검토

- 휨강도 검토 -

사용철근량 = H19 @ 125 mm (Dc = 100 mm)
= 2292.000 ㎟ ∴ P = As/(B · D) = 0.00417
공칭강도시 등가응력깊이 a = (As · fy) / (0.85 · fck · B) = 35.953 mm
최외단 인장철근 변형률 εt = 0.03537 ≥ 0.004 ..... ∴ O.K
...여기서 εt = 0.003 · (H - a/β1 - Dc_min) / (a/β1)
0.005 ≤ εt 이므로 인장지배단면, Øf = 0.85를 적용한다.

설계강도 ØMn = Øf · fy · As · (D - a/2) = 414595300.000 N.mm
= 414.595 KN.m ≥ Mu = 327.454 KN.m ..... ∴ O.K

- 필요철근량 및 철근비 검토 -

소요등가응력깊이 : a = 26.585 mm로 가정
필 요 철 근 량 : As = Mu /{ Øf · fy · (D-a/2)} = 1694.766 ㎟
a = (As · fy) / (0.85 · fck · B) = 26.585 mm ∴ 가정과 비슷함 O.K
Preq = [Mu /{ Øf · fy · (D-a/2)}] / (B · D) = 0.00308 ⇒ 4/3 Preq = 0.00411
철근비검토 : Pmin ≤ P ..... ∴ O.K

▷ 전단력 검토

Øv · Vc = Øv · 1/6 · √fck · B · d / 1000 = 426.767 KN
Vu > Φv · Vc ..... ∴ 전단철근보강이 필요하다.

Used Av = H13 ×4.00 ea/m = 506.800 ㎟ (간격 s = 200.0 mm)
Øv · Vs = Øv · Av · fy · D / (s ×1000) = 473.858 KN
s = 200.0 mm ≤ Min(600,0.5D) = 275.0 mm ..... ∴ O.K

Φv · Vn = Φv · Vc + Φv · Vs = 900.625 KN ≥ Vu ..... ∴ O.K

▷ 사용성 검토 (균열 검토)

Mcr = 204.659 KN.m (사용하중 모멘트)
n = Es/Ec = 200000 / {8500 * (Fck + 8)^(1/3)} = 7
p = As/(B · D) = 0.00417
k = -np + √((np)² + 2np) = 0.214 j = 0.929
x = k · d = 117.769 mm
fc = 2 · Mcr / (B · x · (D - x/3)) = 6.805 MPa
fs = Mcr / (As · (D - x/3)) = 174.829 MPa
fst = fs · (H - Dc_min - x) / (D - x) = 174.829 MPa
최외단철근 소요중심간격
s = Min [375 · (210/fst)-2.5Cc , 300 · (210/fst)] = 224.19 mm
...여기서..Cc = dc_min - 주철근 직경/2 = 90.50 mm
최외단철근 평균배근간격 = 125.00 mm ≤ 224.19 mm ..... ∴ O.K

▷ 벽체 수평(온도)철근 검토

수평철근 직경 : H19
수평철근 간격 : 200 mm
사용 수평철근량 : 1432.500 ㎟
최소 수평철근비 = 0.25 %

콘크리트의 수화열, 온도변화, 건조수축 등을 고려하여 부재의 한면에 대하여 H19@200mm 를 각각 배근하면

사용수평철근비 = 2×As / (B · H) = 0.302 % ≥ 0.25 % ∴O.K

▷ 저판 수평(온도)철근 검토

수평철근 직경 : H19
수평철근 간격 : 200 mm
사용 수평철근량 : 1432.500 ㎟
최소 수평철근비 = 0.25 %

콘크리트의 수화열, 온도변화, 건조수축 등을 고려하여 부재의 한면에 대하여 H19@200mm 를 각각 배근하면

사용수평철근비 = 2×As / (B · H) = 0.302 % ≥ 0.25 % ∴O.K

5. 결 과 요 약

5.1 직접기초 안정검토 결과

(단위 : KN,m)

구 분	전 도			활 동			지 지 력		
	작용편심	허용편심	비고	안전율	허용치	비고	최대반력	허용지지력	비고
상 시	0.904	0.967	O.K	1.536	1.500	O.K	279.109	400.000	O.K
지진시	1.491	1.933	O.K	1.646	1.200	O.K	404.858	600.000	O.K

5.2 단면검토 결과

1) 부재력 검토 요약

(단위 : KN,m)

구 분	휨 모 엔 트			전 단 력			최외단 배근 간격(mm)		
	Mu	ØMn	비고	Vu	ØVn	비고	S_st	Sa	비고
앞 굽 판	157.80	227.90	O.K	340.03	659.55	O.K	289.8	250.0	O.K
뒷 굽 판	679.86	1127.67	O.K	444.98	659.55	O.K	371.5	125.0	O.K
벽체 하부	679.86	1155.24	O.K	337.12	675.07	O.K	435.9	125.0	O.K
벽체 중앙	84.98	399.07	O.K	84.28	461.68	O.K	1337.0	250.0	O.K
활동방지벽	327.45	414.60	O.K	818.63	900.63	O.K	224.2	125.0	O.K

2) 사용 철근량 요약

구 분	휨 철 근 량			전 단 철 근 량		
	철근배근	피복(mm)	철근량(㎟)	철근배근	간격(mm)	철근량(㎟)
앞 굽 판	H16 @ 250mm	100.0	794.400	-	-	-
뒷 굽 판	H25 @ 125mm	100.0	4053.600	-	-	-
벽체 하부	H25 @ 125mm	80.0	4053.600	-	-	-
벽체 중앙	H25 @ 250mm	80.0	2026.800	-	-	-
활동방지벽	H19 @ 125mm	100.0	2292.000	-	-	-

01.옹벽계산서(H=3.0m, 비탈높이=2.5m)

1. 일 반 단 면

1.1 옹벽의 제원

옹 벽 형 식 : 역 T 형 옹 벽
기 초 형 식 : 직 접 기 초
옹 벽 높 이 : H = 3.000 M
옹 벽 저 판 : B = 2.700 M

1.2 내진설계

지진 구역 계수 : 0.110
위 험 도 계 수 : 1.400

가속도 계수 A : 0.154
수평지진계수 Kh : 0.077

2. 설 계 조 건

2.1 사용재료

콘크리트 : fck = 30.0 MPa
철 근 : fy = 400.0 MPa

2.2 지반조건

콘크리트의 단위 중량(γc) : 24.500 KN/㎥
뒷채움흙의 단위 중량(γt) : 19.000 KN/㎥
뒷채움흙의 내부마찰각(Φ_1) : 30.000 °
지지지반의 내부마찰각(Φ_2) : 30.000 °
지지지반의 점 착 력(C) : 0.000 KN/㎡
뒷채움흙의 경 사 각(β) : 29.000 °
뒷채움의 성토높이 : 2.500 m
옹벽전면의 토 피 고(Df) : 1.600 m

2.3 사용토압

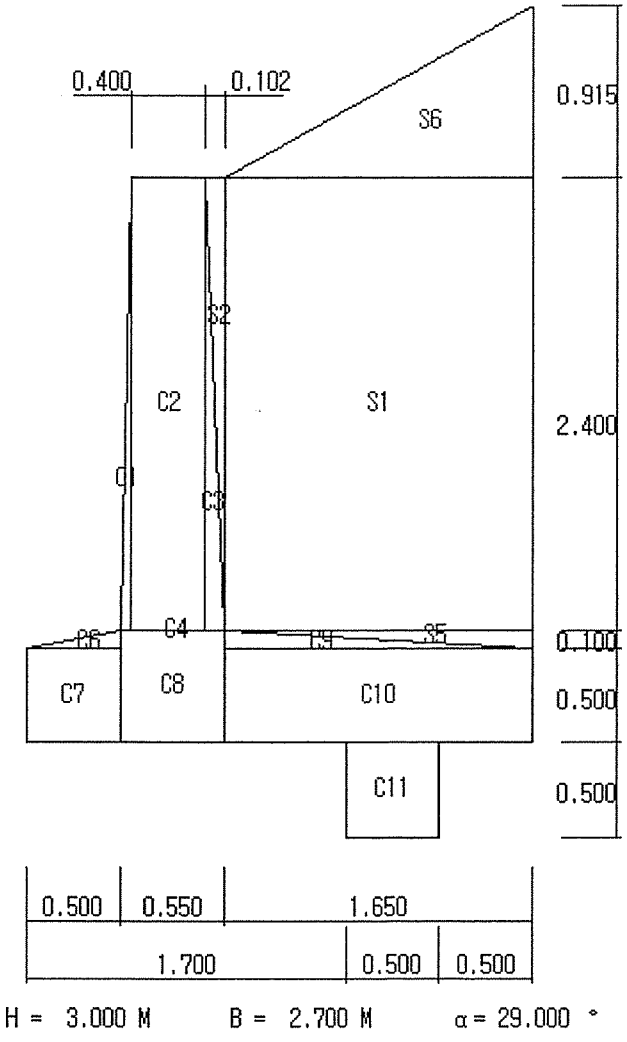
상 시 : 안정 검토시 - 시행 흙쐐기 토압
단면 검토시 - 시행 흙쐐기 토압

지진시 : 안정 검토시 - 시행 흙쐐기 토압
단면 검토시 - 시행 흙쐐기 토압

2.4 과재하중

과재 활하중 : $q\ell$ = 35.00 KN/㎡
과재고정하중 : qd = 15.00 KN/㎡

2.5 검토단면



H = 3.000 M B = 2.700 M α = 29.000 °

3. 안 정 계 산

3.1 안정검토용 하중계산

1) 자중 및 재토하중 계산

구분	A	γ	W	Kh	H	x	y	Mr	Mo
C1	0.058	24.5	1.41	0.077	0.11	0.532	1.400	0.75	0.15
C2	0.960	24.5	23.52	0.077	1.81	0.748	1.800	17.59	3.26
C3	0.122	24.5	3.00	0.077	0.23	0.982	1.400	2.94	0.323
C4	0.000	24.5	0.00	0.077	0.00	0.799	0.600	0.00	0.00
C5	0.000	24.5	0.00	0.077	0.00	1.050	0.600	0.00	0.00
C6	0.025	24.5	0.61	0.077	0.05	0.333	0.533	0.20	0.03
C7	0.250	24.5	6.13	0.077	0.47	0.250	0.250	1.53	0.12
C8	0.330	24.5	8.09	0.077	0.62	0.775	0.300	6.27	0.19
C9	0.083	24.5	2.02	0.077	0.16	1.600	0.533	3.23	0.08
C10	0.825	24.5	20.21	0.077	1.56	1.875	0.250	37.90	0.39
C11	0.250	24.5	6.13	0.077	0.47	1.950	-0.250	11.94	-0.12
소계	2.903		71.11		5.48			82.37	4.42
S1	3.960	19.0	75.24	0.077	5.79	1.875	1.800	141.08	10.43
S2	0.122	19.0	2.33	0.077	0.18	1.016	2.200	2.36	0.39
S3	0.000	19.0	0.00	0.077	0.00	1.050	0.600	0.00	0.00
S4	0.000	19.0	0.00	0.077	0.00	1.875	0.600	0.00	0.00
S5	0.083	19.0	1.57	0.077	0.12	2.150	0.567	3.37	0.07
S6	0.755	19.0	14.34	0.077	1.10	2.150	3.305	30.82	3.65
소계	4.919		93.47		7.20			177.63	14.54
총계			164.58		12.67			260.00	18.96

2) 토압계산

① 상시 주동토압계수 계산 (시행 흙쐐기법)

뒷채움흙의 내부마찰각(Φ) : 30.000 °
뒷채움흙의 경 사 각(β) : 29.000 °
뒷채움흙의 벽면마찰각(δ) : 21.869 °

쐐기의 각도에 따른 주동토압계수
α= 51.00 °일때..Ka = 0.6636
α= 50.50 °일때..Ka = 0.6683
α= 50.00 °일때..Ka = 0.6724
α= 49.50 °일때..Ka = 0.6758
α= 49.00 °일때..Ka = 0.6784
α= 48.50 °일때..Ka = 0.6804
α= 48.00 °일때..Ka = 0.6816

▷ α= 47.50 °일때..Ka = 0.6821 최대값

α= 47.00 °일때..Ka = 0.6817
α= 46.50 °일때..Ka = 0.6806
α= 46.00 °일때..Ka = 0.6787
α= 45.50 °일때..Ka = 0.6760
α= 45.00 °일때..Ka = 0.6724
α= 44.50 °일때..Ka = 0.6679
α= 44.00 °일때..Ka = 0.6626

∴ Ka = 0.682 (쐐기중량 W = 329.239 KN)
Kah = 0.682 ×cos 21.869 ° = 0.633
Kav = 0.682 ×sin 21.869 ° = 0.254

$Pah = 1/2 \times Kah \times \gamma t \times H^2$
$= 1/2 \times 0.633 \times 19.0 \times 3.915^2$
$= 92.147$ KN.m

$Pav = 1/2 \times Kav \times \gamma t \times H^2$
$= 1/2 \times 0.254 \times 19.0 \times 3.915^2$
$= 36.985$ KN/m

$y = H / 3 = 3.915 / 3 = 1.305$ m
$\chi = 2.700$ m

$Mo = Pah \times y = 92.147 \times 1.305$
$= 120.240$ KN.m

$Mr = Pav \times \chi = 36.985 \times 2.700$
$= 99.859$ KN.m

② 지진시 주동토압계수 계산 (시행 흙쐐기법)

뒷채움흙의 벽면마찰각($\delta = \beta + \Theta$) : 29.484 °
여기서... $\Theta = \tan^{-1}(kh/(1-kv))$: 4.403 °

쐐기의 각도에 따른 주동토압계수

α = 48.50 °일때..Kae = 0.5447
α = 48.00 °일때..Kae = 0.5479
α = 47.50 °일때..Kae = 0.5508
α = 47.00 °일때..Kae = 0.5534
α = 46.50 °일때..Kae = 0.5555
α = 46.00 °일때..Kae = 0.5571
α = 45.50 °일때..Kae = 0.5579

▷ α = 45.00 °일때..Kae = 0.5583 최대값

α = 44.50 °일때..Kae = 0.5583
α = 44.00 °일때..Kae = 0.5577
α = 43.50 °일때..Kae = 0.5567
α = 43.00 °일때..Kae = 0.5551
α = 42.50 °일때..Kae = 0.5531
α = 42.00 °일때..Kae = 0.5505
α = 41.50 °일때..Kae = 0.5474

∴ Kae = 0.558 (쐐기중량 We = W/cos(Θ) = 236.890 KN)
Kaeh = 0.558 ×cos 29.484 ° = 0.486
Kaev = 0.558 ×sin 29.484 ° = 0.275

$Paeh = 1/2 \times Kaeh \times \gamma t \times H^2$
$= 1/2 \times 0.486 \times 19.0 \times 3.915^2$
= 70.755 KN/m

$Paev = 1/2 \times Kaev \times \gamma t \times H^2$
$= 1/2 \times 0.275 \times 19.0 \times 3.915^2$
= 40.005 KN/m

$y = H / 2 = 3.915 / 2 = 1.957$ m
$\chi = 2.700$ m

$Mo = Paeh \times y = 70.755 \times 1.957$
= 138.488 KN.m

$Mr = Paev \times \chi = 40.005 \times 2.700$
= 108.014 KN.m

3) 과재하중

① 상시 과재하중

q = 35.00 + 15.00 = 50.00 KN/㎡

시행쐐기 계산에서 흙쐐기 중량계산시 과재하중을 고려하였으므로,
별도로 과재하중을 고려하지 않는다.

3.2 안정검토용 하중집계

1) 상시 하중집계

구 분	V(KN)	H(KN)	Mr(KN.m)	Mo(KN.m)
콘크리트 자중	71.111	0.000	82.366	0.000
재하토사 자중	93.470	0.000	177.631	0.000
토 압	36.985	92.147	99.859	120.240
Σ	201.566	92.147	359.857	120.240

2) 지진시 하중집계

구 분	V(KN)	H(KN)	Mr(KN.m)	Mo(KN.m)
콘크리트 자중	71.111	5.476	82.366	4.419
재하토사 자중	93.470	7.197	177.631	14.539
토 압	40.005	70.755	108.014	138.488
Σ	204.586	83.427	368.011	157.446

3.3 전도에 대한 안정검토

1) 상시 안정검토

$\sum V$ = 201.566 KN
$\sum Mr$ = 359.857 KN.m
$\sum Mo$ = 120.240 KN.m

e = B/2 - ($\sum Mr$ - $\sum Mo$) / $\sum V$
= 2.700 / 2 - (359.857 - 120.240) / 201.566
= 0.161 m ≤ B/6 = 0.450 m ∴ 사다리꼴 반력분포

▷ 편심 검토
e = 0.161 m ≤ B/6 = 0.450 m ∴ O.K

▷ 안전율 검토
S.F = $\sum Mr$ / $\sum Mo$ = 359.857 / 120.240
= 2.993 ≥ 2.0 ∴ O.K

2) 지진시 안정검토

$\sum V$ = 204.586 KN
$\sum Mr$ = 368.011 KN.m
$\sum Mo$ = 157.446 KN.m

e = B/2 - ($\sum Mr$ - $\sum Mo$) / $\sum V$
= 2.700 / 2 - (368.011 - 157.446) / 204.586
= 0.321 m ≤ B/6 = 0.450 m ∴ 사다리꼴 반력분포

▷ 편심 검토
e = 0.321 m ≤ B/3 = 0.900 m ∴ O.K

3.4 지지력에 대한 안정검토

1) 지지지반의 조건

지지지반의 내부마찰각 : 30.000 °
지지지반의 단위 중량 : 19.0 KN/㎥
지지지반의 점 착 력 : 0.0 KN/㎡
성토지반의 단위 중량 : 19.0 KN/㎥
기초의 유효 근입깊이 : 1.600 m

2) 상시 안정검토

① 지지지반의 허용지지력

지지력산정은 Terzaghi式을 이용한다.
최대 지반반력은 도.시. p622 해설 표 7.3.1의 값을 넘지 못한다.

$qu = \alpha \cdot C \cdot Nc + \gamma_2 \cdot Df \cdot Nq + \beta \cdot \gamma_1 \cdot Be \cdot Nr$

여기서 $\alpha = 1.000$ $\beta = 0.500$
$Be = B - 2e = 2.700 - 2 \times 0.161 = 2.378m$
$Nc = 37.200$ $Nq = 22.500$ $Nr = 19.700$

$\therefore qu = 1128.959\ KN/m^2$
$\therefore qa = 376.320\ KN/m^2$

② 지반반력 검토

지반반력이 사다리꼴 분포이므로

$Q1 = \sum V / (B \cdot L) \times (1 + 6e / B) = 101.401\ KN/m^2$
$Q2 = \sum V / (B \cdot L) \times (1 - 6e / B) = 47.907\ KN/m^2$

$q_max = 101.401 \leq qa$ $\therefore O.K$

3) 지진시 안정검토

① 지지지반의 허용지지력

지지력산정은 Terzaghi式을 이용한다.
최대 지반반력은 도.시. p622 해설 표 7.3.1의 값을 넘지 못한다.

$qu = \alpha \cdot C \cdot Nc + \gamma_2 \cdot Df \cdot Nq + \beta \cdot \gamma_1 \cdot Be \cdot Nr$

여기서 $\alpha = 1.000$ $\beta = 0.500$
$Be = B - 2e = 2.700 - 2 \times 0.321 = 2.058m$
$Nc = 37.200$ $Nq = 22.500$ $Nr = 19.700$

$\therefore que = 1069.239\ KN/m^2$
$\therefore qae = 534.619\ KN/m^2$

② 지반반력 검토

지반반력이 사다리꼴 분포이므로

$Q1 = \sum V / (B \cdot L) \times (1 + 6e / B) = 129.786\ KN/m^2$
$Q2 = \sum V / (B \cdot L) \times (1 - 6e / B) = 21.759\ KN/m^2$

$q_max = 129.786 \leq qae$ $\therefore O.K$

3.5 활동에 대한 안정검토

1) 검토조건

흙과 콘크리트의 경우 ΦB = (2/3)Φ 이므로
마찰계수 μ= tan(ΦB) = 0.364
점 착 력 C = 0.0 KN/㎡

2) 상시 안정검토

∑V = 201.566 KN
∑H = 92.147 KN

$$Hr = C \times Ae + \frac{(Q3+Q4)}{2} Kp\ L + \frac{(Q1+Q4)}{2} B1\ \mu + \frac{(Q3+Q2)}{2} B3\ \mu \quad ('96\ 콘.시\ 제17장)$$

= 0.000 + 121.992 + 11.657 + 21.042
= 154.692 KN

여기서 Kp = 3.000 (기초저면의 Rankine 수동토압계수)
L = 0.500 m
Ae = 2.378 ㎡ (유효재하면적)

※ 반력이 삼각형분포일경우 부반력은 무시한다.

▷ 안전율 검토
S.F = ∑Hr / ∑H = 154.692 / 92.147
= 1.679 ≥ 1.5 ∴ O.K

3) 지진시 안정검토

∑V = 204.586 KN
∑H = 83.427 KN

$$Hr = C \times Ae + \frac{(Q3+Q4)}{2} Kp\ L + \frac{(Q1+Q4)}{2} B1\ \mu + \frac{(Q3+Q2)}{2} B3\ \mu \quad ('96\ 콘.시\ 제17장)$$

= 0.000 + 127.783 + 14.637 + 15.201
= 157.620 KN

여기서 Kp = 2.863 (Mononobe-Okabe 수동토압계수)
L = 0.500 m
Ae = 2.058 ㎡ (유효재하면적)

※ 반력이 삼각형분포일경우 부반력은 무시한다.

▷ 안전율 검토
S.F = ∑Hr / ∑H = 157.620 / 83.427
= 1.889 ≥ 1.2 ∴ O.K

4. 단 면 검 토

4.1 하 중 조 합

LCB 1 : 상 시 계수하중 (1.35D+1.85L+1.6H+0.0W)
LCB 2 : 상 시 계수하중 (1.6D+1.6L+1.6H+0.0W)
LCB 3 : 상 시 계수하중 (1.35D+1.4L+1.6H+0.0W)
LCB 4 : 지진시 계수하중 (1.0D+1.0H+1.0E)
LCB 5 : 상 시 사용하중 (1.0D+1.0L+1.0H+1.0W)

4.2 기초단면검토용 지반의 반력계산

작용계수하중은 '3.2 안정검토용 하중집계'를 참조

(1) LCB 1 : 상 시 계수하중 (1.35D+1.85L+1.6H+0.0W)

$\sum V$ = 281.360 KN
$\sum Mr$ = 510.772 KN.m
$\sum Mo$ = 192.385 KN.m

e = B/2 - ($\sum Mr$ - $\sum Mo$) / $\sum V$
= 2.700 / 2 - (510.772 - 192.385) / 281.360
= 0.218 m ≤ B/6 ∴ 사다리꼴 반력분포

Q1 = $\sum V$ / (B · L) × (1 + 6e / B) = 154.783 KN/㎡
Q2 = $\sum V$ / (B · L) × (1 - 6e / B) = 53.632 KN/㎡

(2) LCB 2 : 상 시 계수하중 (1.6D+1.6L+1.6H+0.0W)

$\sum V$ = 322.505 KN
$\sum Mr$ = 575.771 KN.m
$\sum Mo$ = 192.385 KN.m

e = B/2 - ($\sum Mr$ - $\sum Mo$) / $\sum V$
= 2.700 / 2 - (575.771 - 192.385) / 322.505
= 0.161 m ≤ B/6 ∴ 사다리꼴 반력분포

Q1 = $\sum V$ / (B · L) × (1 + 6e / B) = 162.241 KN/㎡
Q2 = $\sum V$ / (B · L) × (1 - 6e / B) = 76.652 KN/㎡

(3) LCB 3 : 상 시 계수하중 (1.35D+1.4L+1.6H+0.0W)

$\sum V$ = 281.360 KN
$\sum Mr$ = 510.772 KN.m
$\sum Mo$ = 192.385 KN.m

e = B/2 - ($\sum Mr$ - $\sum Mo$) / $\sum V$
= 2.700 / 2 - (510.772 - 192.385) / 281.360
= 0.218 m ≤ B/6 ∴ 사다리꼴 반력분포

Q1 = $\sum V$ / (B · L) × (1 + 6e / B) = 154.783 KN/㎡
Q2 = $\sum V$ / (B · L) × (1 - 6e / B) = 53.632 KN/㎡

(4) LCB 4 : 지진시 계수하중 (1.0D+1.0H+1.0E)

$\sum V$ = 204.586 KN
$\sum Mr$ = 368.011 KN.m
$\sum Mo$ = 157.446 KN.m

e = B/2 - ($\sum Mr$ - $\sum Mo$) / $\sum V$
= 2.700 / 2 - (368.011 - 157.446) / 204.586
= 0.321 m ≤ B/6 ∴ 사다리꼴 반력분포

Q1 = $\sum V$ / (B · L) × (1 + 6e / B) = 129.786 KN/㎡
Q2 = $\sum V$ / (B · L) × (1 - 6e / B) = 21.759 KN/㎡

(5) LCB 5 : 상 시 사용하중 (1.0D+1.0L+1.0H+1.0W)

사용하중 반력은 안정검토시 반력 참조

4.3 단면검토용 하중계산

1) 앞굽판 단면력

(단위 : KN, m)

구 분		앞굽자중	지반반력	총 계
LCB1	전단력	-9.096	72.708	63.613
	모멘트	-2.205	18.567	16.362
LCB2	전단력	-10.780	77.158	66.378
	모멘트	-2.613	19.620	17.006
LCB3	전단력	-9.096	72.708	63.613
	모멘트	-2.205	18.567	16.362
LCB4	전단력	-6.738	59.892	53.154
	모멘트	-1.633	15.390	13.756
LCB5	전단력	-6.738	48.224	41.486
	모멘트	-1.633	12.262	10.629

2) 뒷굽판 단면력

(단위 : KN, m)

구 분		뒷굽자중	재토자중	과재하중	지반반력	연직토압	총 계
LCB1	전단력	38.284	123.044	0.000	-139.490	59.176	81.015
	모멘트	31.454	107.416	0.000	-101.055	97.640	135.456
LCB2	전단력	45.374	145.830	0.000	-169.627	59.176	80.754
	모멘트	37.279	127.308	0.000	-128.075	97.640	134.152
LCB3	전단력	38.284	123.044	0.000	-139.490	59.176	81.015
	모멘트	31.454	107.416	0.000	-101.055	97.640	135.456
LCB4	전단력	28.359	91.144	0.000	-90.366	40.005	69.142
	모멘트	23.300	79.567	0.000	-59.575	66.008	109.301
LCB5	전단력	28.359	91.144	0.000	-106.017	36.985	50.471
	모멘트	23.300	79.567	0.000	-80.047	61.025	83.845

3) 벽체 단면력

(1) 토압계수 계산

ⓐ 상시 주동토압계수 계산 (시행 흙쐐기법)

뒷채움흙의 내부마찰각(Φ) : 30.000 °
뒷채움흙의 경 사 각(β) : 29.000 °
흙과 콘크리트의 마찰각(δ): 10.000 °
옹벽배면의 연직경사각(Θ) : 2.434 °

쐐기의 각도에 따른 주동토압계수

α= 44.50 °일때..Ka = 0.6920
α= 44.00 °일때..Ka = 0.7059
α= 43.50 °일때..Ka = 0.7179
α= 43.00 °일때..Ka = 0.7278
α= 42.50 °일때..Ka = 0.7357
α= 42.00 °일때..Ka = 0.7414
α= 41.50 °일때..Ka = 0.7450

▷ α= 41.00 °일때..Ka = 0.7462 최대값

α= 40.50 °일때..Ka = 0.7452
α= 40.00 °일때..Ka = 0.7417
α= 39.50 °일때..Ka = 0.7358

α= 39.00 °일때..Ka = 0.7272
α= 38.50 °일때..Ka = 0.7161
α= 38.00 °일때..Ka = 0.7021
α= 37.50 °일때..Ka = 0.6854

∴ Ka = 0.746 (쐐기중량 W = 213.938 KN)
Kah = 0.746 ×cos 12.434° = 0.729
Kav = 0.746 ×sin 12.434° = 0.161

ⓑ 지진시 주동토압계수 계산 (시행 흙쐐기법)

쐐기의 각도에 따른 주동토압계수
α= 52.50 °일때..Kae = 0.5490
α= 52.00 °일때..Kae = 0.5501
α= 51.50 °일때..Kae = 0.5510
α= 51.00 °일때..Kae = 0.5518
α= 50.50 °일때..Kae = 0.5524
α= 50.00 °일때..Kae = 0.5528
α= 49.50 °일때..Kae = 0.5530

▷ α= 49.00 °일때..Kae = 0.5531 최대값

α= 48.50 °일때..Kae = 0.5529
α= 48.00 °일때..Kae = 0.5525
α= 47.50 °일때..Kae = 0.5518
α= 47.00 °일때..Kae = 0.5510
α= 46.50 °일때..Kae = 0.5499
α= 46.00 °일때..Kae = 0.5486
α= 45.50 °일때..Kae = 0.5470

∴ Kae = 0.553 (쐐기중량 We = W/cos(Θ) = 73.029 KN)
Kaeh = 0.553 ×cos 2.434° = 0.553
Kaev = 0.553 ×sin 2.434° = 0.023

(2) 토압에 의한 벽체 단면력계산

ⓐ 상시 벽체 단면력

i) 벽체 하부 (C-C)

Pah = 1/2 ×Kah × γt ×H²
= 1/2 ×0.729 ×19.0 ×2.400² = 39.876 KN/m

y = H / 3 = 2.400 / 3 = 0.800 m

Mo = Pah ×y = 39.876 ×0.800 = 31.901 KN.m

ii) 벽체 중앙부 (D-D)

Pah = 1/2 ×Kah × γt ×H²
= 1/2 ×0.729 ×19.0 ×1.200² = 9.969 KN/m

y = H / 3 = 1.200 / 3 = 0.400 m

Mo = Pah ×y = 9.969 ×0.400 = 3.988 KN.m

ⓑ 지진시 벽체 단면력

i) 벽체 하부 (C-C)

Pah = 1/2 ×Kaeh × γt ×H²
= 1/2 ×0.553 ×19.0 ×2.400² = 30.236 KN/m

y = H / 2 = 2.400 / 2 = 1.200 m

Mo = Pah ×y = 30.236 ×1.200 = 36.283 KN.m

ii) 벽체 중앙부 (D-D)

Pah = 1/2 ×Kaeh × γt ×H²
= 1/2 ×0.553 ×19.0 ×1.200² = 7.559 KN/m

y = H / 2 = 1.200 / 2 = 0.600 m

Mo = Pah ×y = 7.559 ×0.600 = 4.535 KN.m

(3) 과재하중에 의한 벽체단면력 계산

ⓐ 상시 벽체 단면력

q = 35.00 + 15.00 + 50.00 KN/㎡

i) 벽체 하부 (C-C)

시행쐐기 계산에서 흙쐐기 중량계산시 과재하중을 고려하였으므로,
별도로 과재하중을 고려하지 않는다.

ii) 벽체 중앙부 (D-D)

시행쐐기 계산에서 흙쐐기 중량계산시 과재하중을 고려하였으므로,
별도로 과재하중을 고려하지 않는다.

(4) 지진시 벽체의 관성력에 의한 단면력 계산

(단위 : KN, m)

구분	A	γ	W	Kh	H	y	M
C1	0.058	24.5	1.411	0.077	0.109	0.800	0.087
C2	0.960	24.5	23.520	0.077	1.811	1.200	2.173
C3	0.122	24.5	2.999	0.077	0.231	0.800	0.185
합 계 (벽체 하부)			27.930		2.151		2.445
C1	0.014	24.5	0.353	0.077	0.027	0.400	0.011
C2	0.480	24.5	11.760	0.077	0.906	0.600	0.543
C3	0.031	24.5	0.750	0.077	0.058	0.400	0.023
합 계 (벽체 중앙부)			12.863		0.990		0.577

▷ 벽체 하단 단면력 계산

(단위 : KN, m)

구 분		횡 토 압	과재하중	관 성 력	총 계
LCB1	전단력	63.802	0.000	0.000	63.802
	모멘트	51.042	0.000	0.000	51.042
LCB2	전단력	63.802	0.000	0.000	63.802
	모멘트	51.042	0.000	0.000	51.042
LCB3	전단력	63.802	0.000	0.000	63.802
	모멘트	51.042	0.000	0.000	51.042
LCB4	전단력	30.236	0.000	2.151	32.386
	모멘트	36.283	0.000	2.445	38.728
LCB5	전단력	39.876	0.000	0.000	39.876
	모멘트	31.901	0.000	0.000	31.901

▷ 벽체 중간부 단면력 계산

(단위 : KN, m)

구 분		횡 토 압	과재하중	관 성 력	총 계
LCB1	전단력	15.951	0.000	0.000	15.951
	모멘트	6.380	0.000	0.000	6.380
LCB2	전단력	15.951	0.000	0.000	15.951
	모멘트	6.380	0.000	0.000	6.380
LCB3	전단력	15.951	0.000	0.000	15.951
	모멘트	6.380	0.000	0.000	6.380
LCB4	전단력	7.559	0.000	0.990	8.549
	모멘트	4.535	0.000	0.577	5.113
LCB5	전단력	9.969	0.000	0.000	9.969
	모멘트	3.988	0.000	0.000	3.988

3) 활동방지벽의 단면력

활동방지벽(Shear Key)에 작용하는 단면력은 수동토압에 의한 활동저항력과 활동방지벽 저면의 마찰력의 합으로 구한다.
합력의 작용위치는 활동방지벽의 중앙점으로 한다.

$$p = \frac{(q3+q4)}{2} Kp\ L + \frac{(q4+q5)}{2} B\ \mu \quad (\mu = \text{저면 마찰계수})$$

Kp = 3.000 μ = 0.364 (상 시)

Kpe = 2.863 μ = 0.364 (지진시)

(단위 : KN, m)

구 분		활동저항력	마 찰 력	총 계
LCB1	전단력	175.242	14.874	190.115
	모멘트	43.810	3.718	47.529
LCB2	전단력	195.188	18.276	213.464
	모멘트	48.797	4.569	53.366
LCB3	전단력	175.242	14.874	190.115
	모멘트	43.810	3.718	47.529
LCB4	전단력	127.783	9.421	137.203
	모멘트	31.946	2.355	34.301
LCB5	전단력	121.992	11.423	133.415
	모멘트	30.498	2.856	33.354

4.4 단면검토용 하중집계

상시와 지진시 단면력중 최대값으로 단면력을 정리하면 다음과 같다.
균열검토는 상시의 사용하중으로 검토한다.

(단위 : KN, m)

구 분	Mu	Mcr	Vu
앞 굽 판 (A-A)	17.006	10.629	66.378
뒷 굽 판 (B-B)	51.042	31.901	81.015
벽 체 하 부 (C-C)	51.042	31.901	63.802
벽체 중앙부 (D-D)	6.380	3.988	15.951
활동 방지벽 (E-E)	53.366	33.354	213.464

(단, 저판에 작용하는 휨모멘트의 크기는 전면벽과 뒷굽판과의
접속점의 모멘트평형조건에 의하여 전면벽에 작용하는 휨모멘트를
초과하지 않는다.- 옹벽표준도작성연구용역 종합보고서, 1998. 건교부)

4.5 단 면 검 토

1) 앞 굽 판

fck = 30.0MPa　　fy = 400.0MPa

β1 = 0.836　　Øf = 0.90　　Øv = 0.85

pmin = max(0.25√(fck)/fy, 1.4/fy) = 0.00350

계수 모멘트 Mu = 17.006 KN.m　　계수 전단력 Vu = 66.378 KN

단면의 두께 H = 600.000 mm　　단 위 폭 B = 1000.000 mm

유 효 깊 이 D = 500.000 mm　　피 복 두 께 Dc = 100.000 mm

▷ 휨모멘트 검토

- 휨강도 검토 -

사용철근량 = H16 @ 250 mm (Dc = 100 mm)

= 794.400 ㎟　∴ P = As/(B · D) = 0.00159

공칭강도시 등가응력깊이 a = (As · fy) / (0.85 · fck · B) = 12.461 mm

최외단 인장철근 변형률 εt = 0.09763 ≥ 0.004 ..... ∴ O.K

...여기서 εt = 0.003 · (H - a/β1 - Dc_min) / (a/β1)

0.005 ≤ εt 이므로 인장지배단면, Øf = 0.85를 적용한다.

설계강도 ØMn = Øf · fy · As · (D - a/2) = 133365200.000 N.mm

= 133.365 KN.m ≥ Mu = 17.006 KN.m ..... ∴ O.K

- 필요철근량 및 철근비 검토 -

소요등가응력깊이 : a = 1.484 mm로 가정

필 요 철 근 량 : As = Mu /{ Øf · fy · (D-a/2)} = 94.620 ㎟

a = (As · fy) / (0.85 · fck · B) = 1.484 mm ∴ 가정과 비슷함 O.K

Preq = [Mu /{ Øf · fy · (D-a/2)}] / (B · D) = 0.00019 ⇒ 4/3 Preq = 0.00025

철근비검토 : 4/3 Preq ≤ P ≤ Pmin ..... ∴ O.K

▷ 전단력 검토

Φv · Vc = Φv · 1/6 · √fck · B · d / 1000 = 387.970 KN

Φv · Vc = 387.970 KN > Vu ∴전단철근 필요없음.

▷ 사용성 검토 (균열 검토)

Mcr = 10.629 KN.m (사용하중 모멘트)

n = Es/Ec = 200000 / {8500 * (Fck + 8)^(1/3)} = 7

p = As/(B · D) = 0.00159

k = -np + √((np)² + 2np) = 0.138　　j = 0.954

x = k · d = 69.217 mm

fc = 2 · Mcr / (B · x · (D - x/3)) = 0.644 MPa

fs = Mcr / (As · (D - x/3)) = 28.054 MPa

fst = fs · (H - Dc_min - x) / (D - x) = 28.054 MPa

최외단철근 소요중심간격

s = Min [375 · (210/fst)-2.5Cc , 300 · (210/fst)] = 2245.64 mm

...여기서..Cc = dc_min - 주철근 직경/2 = 92.00 mm

최외단철근 평균배근간격 = 250.00 mm ≤ 2245.64 mm ..... ∴ O.K

2) 뒷 굽 판

fck = 30.0MPa　　fy = 400.0MPa
β1 = 0.836　　Øf = 0.90　　Øv = 0.85
pmin = max(0.25√(fck)/fy, 1.4/fy) = 0.00350

계수 모멘트 Mu = 51.042 KN.m　　계수 전단력 Vu = 81.015 KN
단면의 두께 H = 600.000 mm　　단 위 폭 B = 1000.000 mm
유 효 깊 이 D = 500.000 mm　　피 복 두 께 Dc = 100.000 mm

▷ 휨모멘트 검토

- 휨강도 검토 -

사용철근량 = H16 @ 125 mm (Dc = 100 mm)
= 1588.800 ㎟ ∴ P = As/(B · D) = 0.00318
공칭강도시 등가응력깊이 a = (As · fy) / (0.85 · fck · B) = 24.922 mm
최외단 인장철근 변형률 εt = 0.04732 ≥ 0.004 ..... ∴ O.K
...여기서 εt = 0.003 · (H - a/β1 - Dc_min) / (a/β1)
0.005 ≤ εt 이므로 인장지배단면, Øf = 0.85를 적용한다.

설계강도 ØMn = Øf · fy · As · (D - a/2) = 263364600.000 N.mm
= 263.365 KN.m ≥ Mu = 51.042 KN.m ..... ∴ O.K

- 필요철근량 및 철근비 검토 -

소요등가응력깊이 : a = 4.468 mm로 가정
필 요 철 근 량 : As = Mu /{ Øf · fy · (D-a/2)} = 284.838 ㎟
a = (As · fy) / (0.85 · fck · B) = 4.468 mm ∴ 가정과 비슷함 O.K
Preq = [Mu /{ Øf · fy · (D-a/2)}] / (B · D) = 0.00057 ⇒ 4/3 Preq = 0.00076
철근비검토 : 4/3 Preq ≤ P ≤ Pmin ..... ∴ O.K

▷ 전단력 검토

Φv · Vc = Φv · 1/6 · √fck · B · d / 1000 = 387.970 KN
Φv · Vc = 387.970 KN > Vu ∴전단철근 필요없음.

▷ 사용성 검토 (균열 검토)

Mcr = 31.901 KN.m (사용하중 모멘트)
n = Es/Ec = 200000 / {8500 * (Fck + 8)^(1/3)} = 7
p = As/(B · D) = 0.00318
k = -np + √((np)² + 2np) = 0.190　　j = 0.937
x = k · d = 94.922 mm
fc = 2 · Mcr / (B · x · (D - x/3)) = 1.435 MPa
fs = Mcr / (As · (D - x/3)) = 42.870 MPa
fst = fs · (H - Dc_min - x) / (D - x) = 42.870 MPa
최외단철근 소요중심간격
s = Min [375 · (210/fst)-2.5Cc , 300 · (210/fst)] = 1469.55 mm
...여기서..Cc = dc_min - 주철근 직경/2 = 92.00 mm
최외단철근 평균배근간격 = 125.00 mm ≤ 1469.55 mm ..... ∴ O.K

3) 벽 체 하 부

fck = 30.0MPa　　fy = 400.0MPa
β1 = 0.836　　Øf = 0.90　　Øv = 0.85
pmin = max(0.25√(fck)/fy,1.4/fy) = 0.00350

계수 모멘트 Mu = 51.042 KN.m　　계수 전단력 Vu = 63.802 KN
단면의 두께 H = 550.000 mm　　단 위 폭 B = 1000.000 mm
유 효 깊 이 D = 470.000 mm　　피 복 두 께 Dc = 80.000 mm

▷ 휨모멘트 검토

- 휨강도 검토 -

사용철근량 = H16 @ 125 mm (Dc = 80 mm)
= 1588.800 ㎟ ∴ P = As/(B · D) = 0.00338
공칭강도시 등가응력깊이 a = (As · fy) / (0.85 · fck · B) = 24.922 mm
최외단 인장철근 변형률 εt = 0.04430 ≥ 0.004 ..... ∴ O.K
...여기서 εt = 0.003 · (H - a/β1 - Dc_min) / (a/β1)
0.005 ≤ εt 이므로 인장지배단면, Øf = 0.85를 적용한다.

설계강도 ØMn = Øf · fy · As · (D - a/2) = 247158800.000 N.mm
= 247.159 KN.m ≥ Mu = 51.042 KN.m ..... ∴ O.K

- 필요철근량 및 철근비 검토 -

소요등가응력깊이 : a = 4.756 mm로 가정
필 요 철 근 량 : As = Mu /{ Øf · fy · (D-a/2)} = 303.199 ㎟
a = (As · fy) / (0.85 · fck · B) = 4.756 mm ∴ 가정과 비슷함 O.K
Preq = [Mu /{ Øf · fy · (D-a/2)}] / (B · D) = 0.00065 ⇒ 4/3 Preq = 0.00086
철근비검토 : 4/3 Preq ≤ P ≤ Pmin ..... ∴ O.K

▷ 전단력 검토

Φv · Vc = Φv · 1/6 · √fck · B · d / 1000 = 364.692 KN
Φv · Vc = 364.692 KN > Vu ∴전단철근 필요없음.

▷ 사용성 검토 (균열 검토)

Mcr = 31.901 KN.m (사용하중 모멘트)
n = Es/Ec = 200000 / {8500 * (Fck + 8)^(1/3)} = 7
p = As/(B · D) = 0.00338
k = -np + √((np)² + 2np) = 0.195　　j = 0.935
x = k · d = 91.728 mm
fc = 2 · Mcr / (B · x · (D - x/3)) = 1.583 MPa
fs = Mcr / (As · (D - x/3)) = 45.693 MPa
fst = fs · (H - Dc_min - x) / (D - x) = 45.693 MPa
최외단철근 소요중심간격
s = Min [375 · (210/fst)-2.5Cc , 300 · (210/fst)] = 1378.76 mm
...여기서..Cc = dc_min - 주철근 직경/2 = 72.00 mm
최외단철근 평균배근간격 = 125.00 mm ≤ 1378.76 mm ..... ∴ O.K

4) 벽 체 중 앙 부

fck = 30.0MPa　　fy = 400.0MPa
β1 = 0.836　　Øf = 0.90　　Øv = 0.85
pmin = max(0.25√(fck)/fy,1.4/fy)　= 0.00350

계수 모멘트 Mu = 6.380 KN.m　　계수 전단력 Vu = 15.951 KN
단면의 두께 H = 475.000 mm　　단 위 폭 B = 1000.000 mm
유 효 깊 이 D = 395.000 mm　　피 복 두 께 Dc = 80.000 mm

▷ 휨모멘트 검토

- 휨강도 검토 -

사용철근량 = H16 @ 250 mm (Dc = 80 mm)
= 794.400 ㎟ ∴ P = As/(B · D) = 0.00201
공칭강도시 등가응력깊이 a = (As · fy) / (0.85 · fck · B) = 12.461 mm
최외단 인장철근 변형률 εt = 0.07650 ≥ 0.004 ..... ∴ O.K
...여기서 εt = 0.003 · (H - a/β1 - Dc_min) / (a/β1)
0.005 ≤ εt 이므로 인장지배단면, Øf = 0.85를 적용한다.

설계강도 ØMn = Øf · fy · As · (D - a/2) = 105005100.000 N.mm
= 105.005 KN.m ≥ Mu = 6.380 KN.m ..... ∴ O.K

- 필요철근량 및 철근비 검토 -

소요등가응력깊이 : a = 0.704 mm로 가정
필 요 철 근 량 : As = Mu /{ Øf · fy · (D-a/2)} = 44.908 ㎟
a = (As · fy) / (0.85 · fck · B) = 0.704 mm ∴ 가정과 비슷함 O.K
Preq = [Mu /{ Øf · fy · (D-a/2)}] / (B · D) = 0.00011 ⇒ 4/3 Preq = 0.00015
철근비검토 : 4/3 Preq ≤ P ≤ Pmin ..... ∴ O.K

▷ 전단력 검토

Φv · Vc = Φv · 1/6 · √fck · B · d / 1000 = 306.496 KN
Φv · Vc = 306.496 KN > Vu ∴전단철근 필요없음.

▷ 사용성 검토 (균열 검토)

Mcr = 3.988 KN.m (사용하중 모멘트)
n = Es/Ec = 200000 / {8500 * (Fck + 8)^(1/3)} = 7
p = As/(B · D) = 0.00201
k = -np + √((np)² + 2np) = 0.154　　j = 0.949
x = k · d = 60.952 mm
fc = 2 · Mcr / (B · x · (D - x/3)) = 0.349 MPa
fs = Mcr / (As · (D - x/3)) = 13.397 MPa
fst = fs · (H - Dc_min - x) / (D - x) = 13.397 MPa
최외단철근 소요중심간격
s = Min [375 · (210/fst)-2.5Cc , 300 · (210/fst)] = 4702.49 mm
...여기서..Cc = dc_min - 주철근 직경/2 = 72.00 mm
최외단철근 평균배근간격 = 250.00 mm ≤ 4702.49 mm ..... ∴ O.K

5) 활 동 방 지 벽

fck = 30.0MPa　　fy = 400.0MPa
β1 = 0.836　　Øf = 0.90　　Øv = 0.85
pmin = max(0.25√(fck)/fy, 1.4/fy) = 0.00350

계수 모멘트 Mu = 53.366 KN.m　　계수 전단력 Vu = 213.464 KN
단면의 두께 H = 500.000 mm　　단 위 폭 B = 1000.000 mm
유 효 깊 이 D = 400.000 mm　　피 복 두 께 Dc = 100.000 mm

▷ 휨모멘트 검토

- 휨강도 검토 -

사용철근량 = H13 @ 125 mm (Dc = 100 mm)
= 1013.600 ㎟ ∴ P = As/(B · D) = 0.00253
공칭강도시 등가응력깊이 a = (As · fy) / (0.85 · fck · B) = 15.900 mm
최외단 인장철근 변형률 εt = 0.06010 ≥ 0.004 ..... ∴ O.K
...여기서 εt = 0.003 · (H - a/β1 - Dc_min) / (a/β1)
0.005 ≤ εt 이므로 인장지배단면, Øf = 0.85를 적용한다.

설계강도 ØMn = Øf · fy · As · (D - a/2) = 135109900.000 N.mm
= 135.110 KN.m ≥ Mu = 53.366 KN.m ..... ∴ O.K

- 필요철근량 및 철근비 검토 -

소요등가응력깊이 : a = 5.856 mm로 가정
필 요 철 근 량 : As = Mu /{ Øf · fy · (D-a/2)} = 373.330 ㎟
a = (As · fy) / (0.85 · fck · B) = 5.856 mm ∴ 가정과 비슷함 O.K
Preq = [Mu /{ Øf · fy · (D-a/2)}] / (B · D) = 0.00093 ⇒ 4/3 Preq = 0.00124
철근비검토 : 4/3 Preq ≤ P ≤ Pmin ..... ∴ O.K

▷ 전단력 검토

Φv · Vc = Φv · 1/6 · √fck · B · d / 1000 = 310.376 KN
Φv · Vc = 310.376 KN > Vu ∴전단철근 필요없음.

▷ 사용성 검토 (균열 검토)

Mcr = 33.354 KN.m (사용하중 모멘트)
n = Es/Ec = 200000 / {8500 * (Fck + 8)^(1/3)} = 7
p = As/(B · D) = 0.00253
k = -np + √((np)² + 2np) = 0.171　　j = 0.943
x = k · d = 68.578 mm
fc = 2 · Mcr / (B · x · (D - x/3)) = 2.579 MPa
fs = Mcr / (As · (D - x/3)) = 87.252 MPa
fst = fs · (H - Dc_min - x) / (D - x) = 87.252 MPa
최외단철근 소요중심간격
s = Min [375 · (210/fst)-2.5Cc , 300 · (210/fst)] = 668.81 mm
...여기서..Cc = dc_min - 주철근 직경/2 = 93.50 mm
최외단철근 평균배근간격 = 125.00 mm ≤ 668.81 mm ..... ∴ O.K

▷ 벽체 수평(온도)철근 검토

수평철근 직경 : H16
수평철근 간격 : 200 ㎜
사용 수평철근량 : 993.000 ㎟
최소 수평철근비 = 0.20 %

콘크리트의 수화열, 온도변화, 건조수축 등을 고려하여 부재의 한면에 대하여 H16@200㎜ 를 각각 배근하면

사용수평철근비 = 2×As / (B · H) = 0.361 % ≥ 0.20 % ∴O.K

▷ 저판 수평(온도)철근 검토

수평철근 직경 : H16
수평철근 간격 : 200 ㎜
사용 수평철근량 : 993.000 ㎟
최소 수평철근비 = 0.20 %

콘크리트의 수화열, 온도변화, 건조수축 등을 고려하여 부재의 한면에 대하여 H16@200㎜ 를 각각 배근하면

사용수평철근비 = 2×As / (B · H) = 0.331 % ≥ 0.20 % ∴O.K

5. 결 과 요 약

5.1 직접기초 안정검토 결과

(단위 : KN,m)

구 분	전 도			활 동			지 지 력		
	작용편심	허용편심	비고	안전율	허용치	비고	최대반력	허용지지력	비고
상 시	0.161	0.450	O.K	1.679	1.500	O.K	101.401	376.320	O.K
지진시	0.321	0.900	O.K	1.889	1.200	O.K	129.786	534.619	O.K

5.2 단면검토 결과

1) 부재력 검토 요약

(단위 : KN,m)

구 분	휨 모 멘 트			전 단 력			최외단 배근 간격(mm)		
	Mu	ØMn	비고	Vu	ØVn	비고	S_st	Sa	비고
앞 굽 판	17.01	133.37	O.K	66.38	387.97	O.K	2245.6	250.0	O.K
뒷 굽 판	51.04	263.36	O.K	81.01	387.97	O.K	1469.5	125.0	O.K
벽체 하부	51.04	247.16	O.K	63.80	364.69	O.K	1378.8	125.0	O.K
벽체 중앙	6.38	105.01	O.K	15.95	306.50	O.K	4702.5	250.0	O.K
활동방지벽	53.37	135.11	O.K	213.46	310.38	O.K	668.8	125.0	O.K

2) 사용 철근량 요약

구 분	휨 철 근 량			전 단 철 근 량		
	철근배근	피복(mm)	철근량(㎟)	철근배근	간격(mm)	철근량(㎟)
앞 굽 판	H16 @ 250mm	100.0	794.400	-	-	-
뒷 굽 판	H16 @ 125mm	100.0	1588.800	-	-	-
벽체 하부	H16 @ 125mm	80.0	1588.800	-	-	-
벽체 중앙	H16 @ 250mm	80.0	794.400	-	-	-
활동방지벽	H13 @ 125mm	100.0	1013.600	-	-	-

C(함) 학미제4

- 2.0 x 2.00 x 1
- 토피 = 7.3m 이하

1. 설 계 조 건
2. 단 면 가 정
3. 해석모델 및 단면제원
4. 하중산정
5. 하중재하도
6. 하중계수 및 하중조합
7. INPUT DATA
8. OUTPUT
9. 단면력요약
10. 단 면 력 도
11. 단 면 검 토
12. 우각부 검토
13. 배력철근 검토
14. 사용성 검토
15. 기초지지력 검토
16. 주철근조립도
17. 날개벽 설계

1. 설계 조건

1) 구조물명 : c (함)

2) 구조형식 : 철근 콘크리트 구조

3) 설계하중 : KRL2012 (복 선)

4) 재료중량

- 철근 콘크리트(γ_c)	=	24.5	kN/m^3
- 무근 콘크리트(γ_{con})	=	23.0	kN/m^3
- 뒷채움 토사(γ_t)	=	20.0	kN/m^3
- 뒷채움 토사(γ_{sub})	=	11.0	kN/m^3
- 지하수(γ_w)	=	10.0	kN/m^3

5) 사용재료의 성질

- 콘크리트 설계기준 강도(fck)	=	30.0	MPa
- 콘크리트 탄성계수(Ec)	=	27537	MPa
- 철근의 항복강도(fy)	=	400.0	MPa
- 철근의 탄성계수(Es)	=	200000	MPa

6) 토 사

- 흙의 내부마찰각 (ϕ)	=	35.0	°
- 정지 토압계수 (Ko)	=	0.426	

7) 기 초 형 식 : 직접기초

8) 사 각(Skew) : 57.00 ° 연 장 (L) : 42.00 m

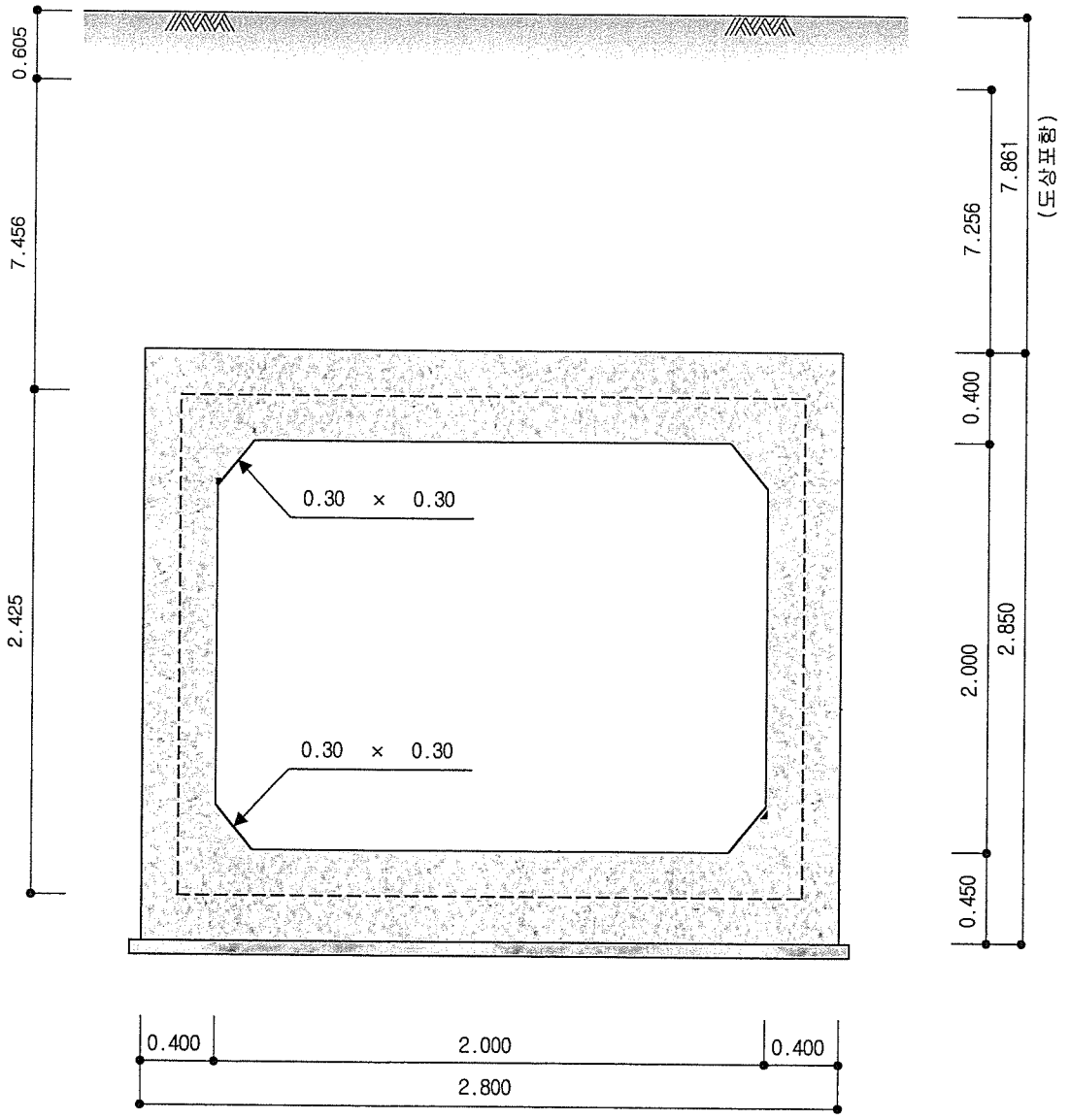
9) 설계방법

- 강도 설계법 : 부재 단면검토(슬래브, 벽체, 보, 기둥 등)
- 허용응력 설계법 : 사용성 검토(처짐, 균열, 우각부 검토)

10) 참고문헌

- 철도설계기준(노반편), 국토해양부, 2013
- 콘크리트 구조설계기준해설, 한국콘크리트 학회, 2012

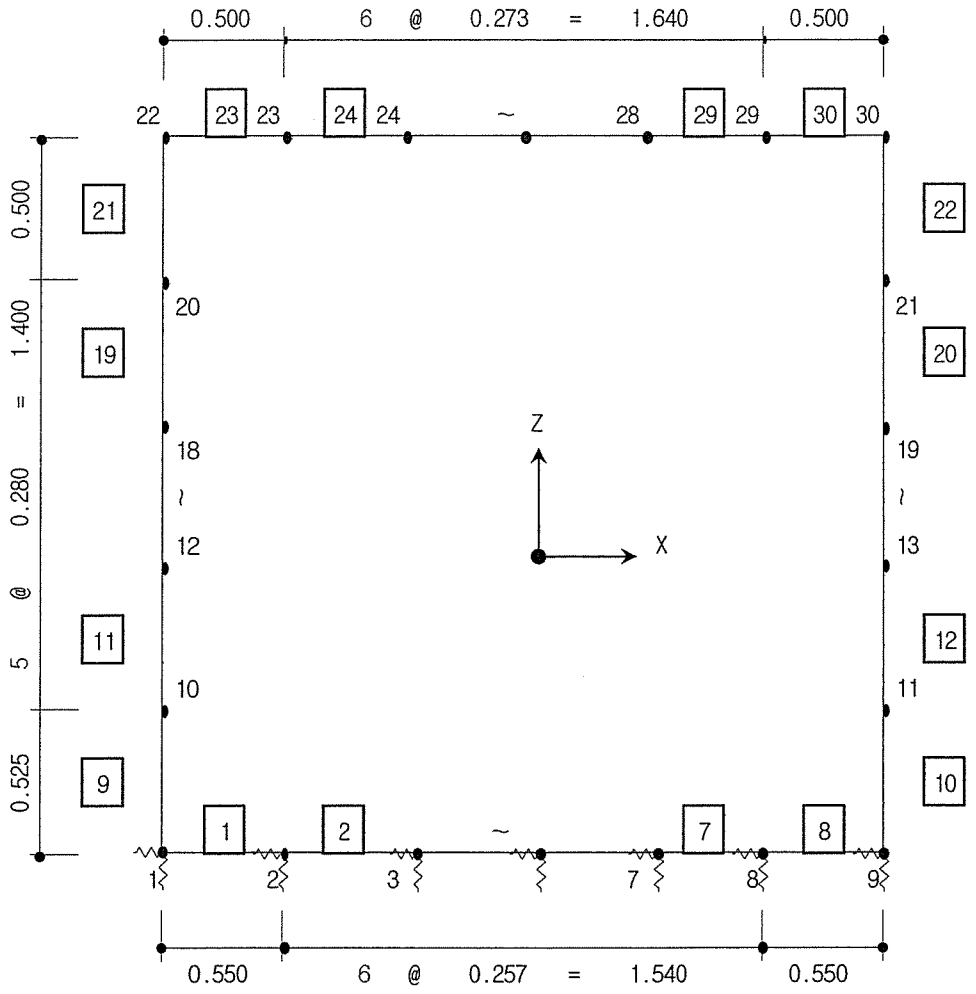
2. 단면 가정



※ 유효경간

Skew =	57.0	°					
Ln =	2.400	m					
Ls =	2.862	m					
Ls/B =	2.862	/	18.000	=	0.159	<	1.500
L =	2.640	m					

3. 해석모델 및 단면제원



1) 절점 좌표

Joint	좌 표			Joint	좌 표		
	X	Y	Z		X	Y	Z
1	0.000	0.000	0.000	13	2.640	0.000	0.805
2	0.550	0.000	0.000	14	0.000	0.000	1.085
3	0.807	0.000	0.000	15	2.640	0.000	1.085
4	1.063	0.000	0.000	16	0.000	0.000	1.365
5	1.320	0.000	0.000	17	2.640	0.000	1.365
6	1.577	0.000	0.000	18	0.000	0.000	1.645
7	1.833	0.000	0.000	19	2.640	0.000	1.645
8	2.090	0.000	0.000	20	0.000	0.000	1.925
9	2.640	0.000	0.000	21	2.640	0.000	1.925
10	0.000	0.000	0.525	22	0.000	0.000	2.425
11	2.640	0.000	0.525	23	0.500	0.000	2.425
12	0.000	0.000	0.805	24	0.773	0.000	2.425

Joint	좌 표			Joint	좌 표		
	X	Y	Z		X	Y	Z
25	1.047	0.000	2.425	28	1.867	0.000	2.425
26	1.320	0.000	2.425	29	2.140	0.000	2.425
27	1.593	0.000	2.425	30	2.640	0.000	2.425

2) 경계 조건

joint	spring계수 (kN/m²)		joint	spring계수 (kN/m²)	
	z방향(수직)	x방향(수평)		z방향(수직)	x방향(수평)
1 . 9	6074		3 ~ 7	3282	
2 . 8	5157				

3) 단면제원

Element	두께	폭	비 고
23 ~ 30	0.400	1.000	상부슬래브
1 ~ 8	0.450	1.000	하부슬래브
9 ~ 22	0.400	1.000	벽 체

4) 강역설정

(1) 강역설정기준(콘크리트구조설계기준 2012)

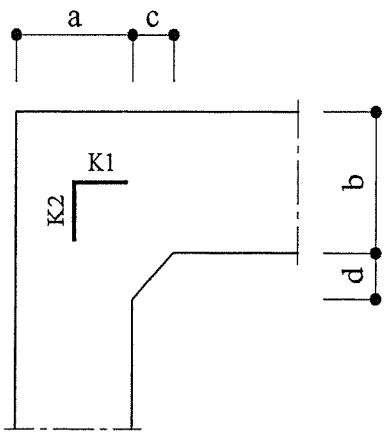
CASE 1 : 부재단부가 다른 부재와 접합할 때는 부재단에서 부재두께의 1/4 안쪽점에서 절점까지

CASE 2 : 부재가 그 축선에 대해 25° 이상 60° 미만인 경사진 헌치를 갖는 경우에는 부재두께가 1.5배가 되는 점에서 부터 절점까지

CASE 3 : 헌치의 경사가 60° 이상의 경우는 헌치의 시점에서 부재두께의 1/4 안쪽 점에서부터 절점까지

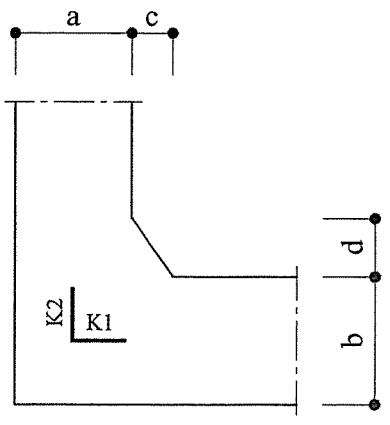
(2) 강역설정

- 절점 22 , 30



a =	400	mm	c =	300	mm
b =	400	mm	d =	300	mm
K1 =	300	mm	K2 =	300	mm

- 절점 1 , 9

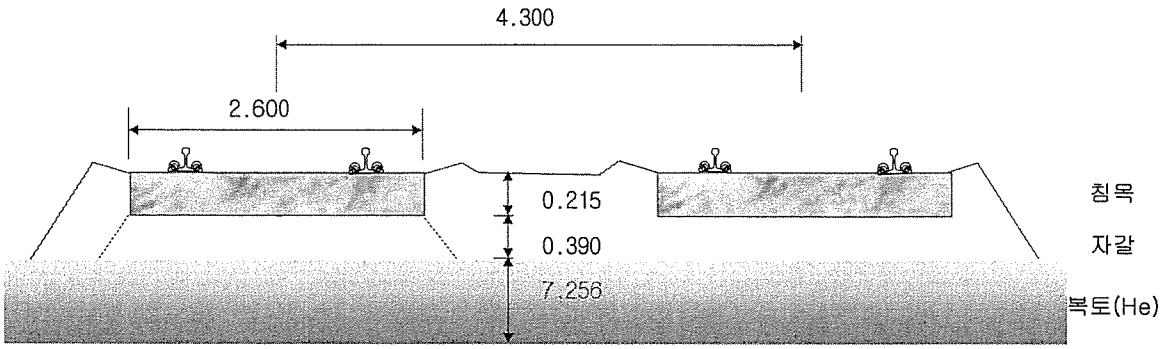


a =	400	mm	c =	300	mm
b =	450	mm	d =	300	mm
K1 =	275	mm	K2 =	325	mm

4. 하중산정

4.1 상시

1) 상부 고정하중(지하수 無)



① 하중 분포폭 산정 (b')

① He < 0.5m 경우 : b + d

b_1 = 2.600 + 0.390 = 2.990 m

② He ≥ 0.5m 경우 : c + b + (d + He)

b_2 = 4.300 + 2.600 + (0.390 + 7.256) = 14.590 m

여기서, He : 시공기면에서의 토피고(m)

a : 동륜간 축간거리(m) c : 복선선로 중심간격(m)

b : 침목길이(m) d : 침목하면의 도상두께(m)

H : 상부슬래브 두께

He ≥ 0.5 m

∴ b' = 14.590 m

② 구조물 자중 : 프로그램 상에서 Self Weight 기능을 이용하여 자동 고려

③ 궤도 중량

- 레일 : 레일당 1.5kN/m를 적용

q_1 = 4 × 1.500 / 14.590 = 0.411 kN/㎡

- 침목 : 고속철도용 5.0kN/m

q_2 = 5.000 × 2 / 14.590 = 0.685 kN/㎡

= 1.096 kN/㎡

④ 도상 (q_2)

TCL = 0.215 × 19.000 × 1.3 = 5.311 kN/㎡

HSB = 0.390 × 19.000 × 1.3 = 9.633 kN/㎡

= 14.944 kN/㎡

⑤ 복토하중 (q_3) = 20.000 × 7.256 = 145.120 kN/㎡

∴ $q_1 + q_2 + q_3$ = 1.096 + 14.944 + 145.120 = 161.160 kN/㎡

2) 활하중

① 활하중 산정 : KRL 2012

$$W_{HL} = \frac{2P}{a \times b'} = \frac{2\times(220+80x3)}{3.000 \times 14.590} = 21.019 \text{ kN/㎡}$$

∴ W = 21.019 kN/㎡

② 충격계수

1) 단선 (i_0) (철도설계기준 노반편(2013) p.5-7)

지 간 L (m)	0	5	10	20	30	40	50	70	100
충격계수 (i)	0.60	0.48	0.43	0.37	0.34	0.32	0.30	0.27	0.24

* 상기표에 없는 지간의 충격 계수는 보간법으로 구한다.

지 간 L (m) = 2.640 m

따라서 i_0 = 0.537 (보간법에 의하여 산정된 충격계수)

2) 구조물 상면의 복토높이에 따른 충격 계수

H ≥ 1.0일 경우 $i = io \cdot \{(2.5 - H)/1.5\}$

여기서, H ≤ 1.0 m 에서는 $i = i_o$

H ≥ 2.5 m 에서는 i = 0

따라서, 본 구조물의 H = 7.861 m i = 0.000

W_L = 21.019 ×(1 + 0.000) = 21.019 kN/㎡

③ 활하중에 의한 측압 (충격비고려)(철도설계기준 노반편(2013) p.5-6)

W_{LH} = 21.019 × 0.4 = 8.408 kN/㎡

3) 토 압

- 지하수가 없는 경우 작용 토압

q_1 = 0.426 ×(16.040 + 20.000 × 7.456) = 70.358 kN/㎡

q_2 = 70.358 + 0.426 ×(20.000 × 0.500) = 74.618 kN/㎡

q_3 = 74.618 + 0.426 ×(20.000 × 0.280) = 77.004 kN/㎡

q_4 = 77.004 + 0.426 ×(20.000 × 0.280) = 79.390 kN/㎡

q_5 = 79.390 + 0.426 ×(20.000 × 0.280) = 81.776 kN/㎡

q_6 = 81.776 + 0.426 ×(20.000 × 0.280) = 84.162 kN/㎡

q_7 = 84.162 + 0.426 ×(20.000 × 0.280) = 86.548 kN/㎡

q_8 = 86.548 + 0.426 ×(20.000 × 0.525) = 91.021 kN/㎡

- 시공중 편토압 산정 (지하수가 없는 경우 작용 토압)

q_1 = 0.426 × (0.000 + 20.000 × 0.200) = 1.704 kN/㎡

q_2 = 1.704 + 0.426 × (20.000 × 0.500) = 5.964 kN/㎡

q_3 = 5.964 + 0.426 × (20.000 × 0.280) = 8.350 kN/㎡

q_4 = 8.350 + 0.426 × (20.000 × 0.280) = 10.736 kN/㎡

q_5 = 10.736 + 0.426 × (20.000 × 0.280) = 13.122 kN/㎡

q_6 = 13.122 + 0.426 × (20.000 × 0.280) = 15.508 kN/㎡

q_7 = 15.508 + 0.426 × (20.000 × 0.280) = 17.894 kN/㎡

q_8 = 17.894 + 0.426 × (20.000 × 0.525) = 22.367 kN/㎡

4) 온도하중

토피가 1.0m 이상일 경우에는 온도변화를 고려치 않으며, 토피가 1.0m 이하일 경우에는 다음식을 따른다.

$t = a \times t_0$ = 0.000 × 15.0 = 0.000 ℃

t : 박스 구조물의 상부 슬래브에 작용하는 온도변화

a : 토피심도(m)에 따른 저감률 $a=1-h_0$ (h_0:토피심도)

t_0 : 지표면에서의 기본온도 변화

상부슬래브의 두께가 700mm 이상인 경우 $t_0 = \pm 10$℃

상부슬래브의 두께가 700mm 미만인 경우 $t_0 = \pm 15$℃

토피고 H > 1.0m 이므로 온도변화는 고려하지 않는다.

5) 건조수축

$$\Delta Tx = \frac{\varepsilon}{\alpha} = \frac{-0.00015}{0.00001} = -15\,^{\circ}C$$

6) 장대레일 하중

장대레일 종하중은 필요시에 고려하여야 하며, 1궤도당 10 kN/m로 하고 작용위치는 상부슬래브 축선으로 한다. (단, 토피가 1.0m 이상인 경우는 이를 무시한다.)

토피가 7.861 m 이므로 장대레일 하중을 무시한다.

H_r = 0.000 × 4 / 14.590 = 0.000 kN/㎡

7) 상시 지반반력 계수

지지 지반 N치 = 7

Eo = 2800 × N = 2800 × 7 = 19600

Kvo = 1 / 0.3 x α x Eo = 1 / 0.3 × 1 x 19600 = 65333

Bv = √ Av = √ (2.640 × 2.640) = 2.640

Kv = Kvo (Bv/0.3)^-3/4 = 12787 kN/㎡

12787 × (0.400 / 2 + 0.550 / 2) = 6074 kN/㎡ - 저판 단부 스프링

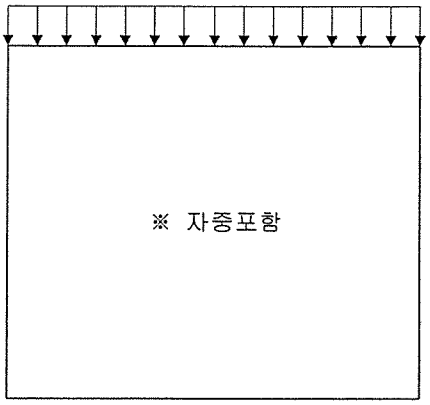
12787 × (0.550 / 2 + 0.257 / 2) = 5157 kN/㎡ - 저판 전단검토위치

12787 × (0.257 / 2 + 0.257 / 2) = 3282 kN/㎡ - 저판 중앙부 스프링

5. 하중재하도

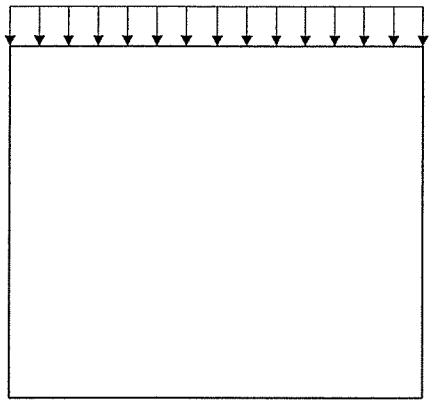
① 고정하중

W_D = 161.160 kN/㎡



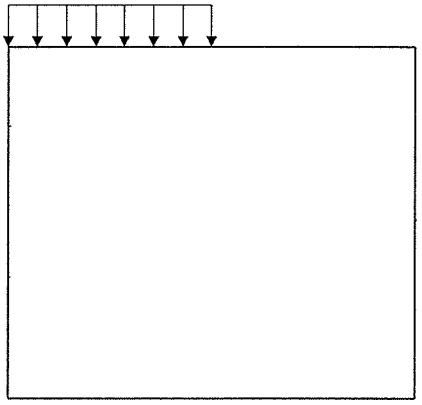
② 활하중(만재하)

W_L = 21.019 kN/㎡



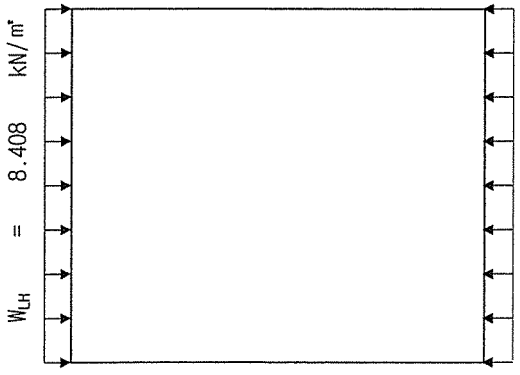
③ 활하중(편재하)

W_L = 21.019 kN/㎡



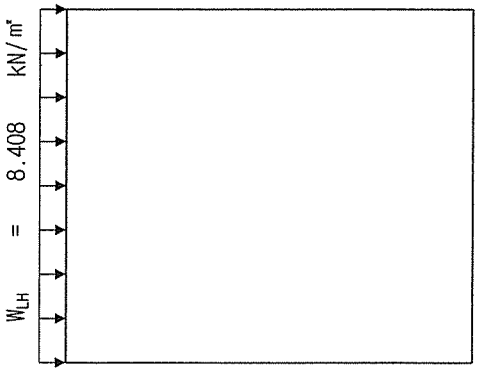
④ 활하중에 의한 측압(만재하)

W_{LH} = 8.408 kN/㎡

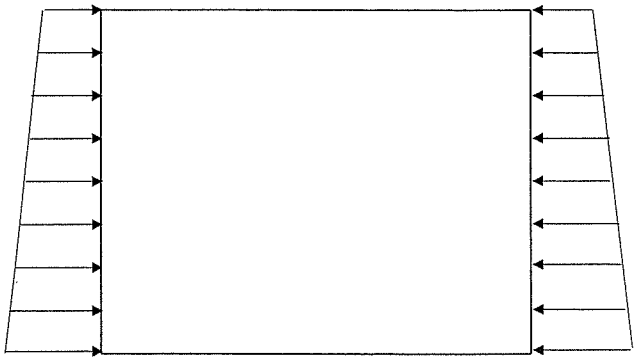


⑤ 활하중에 의한 측압(편재하)

W_{LH} = 8.408 kN/㎡



⑥ 수평토압(지하수 없는 경우)

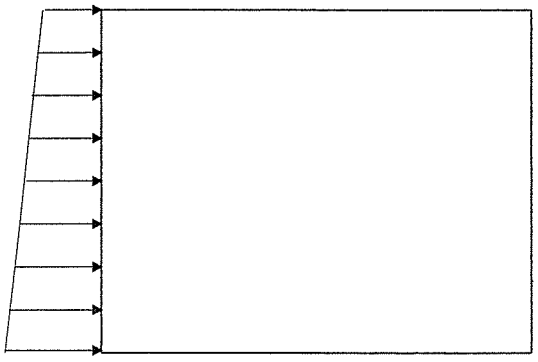


q_1 = 70.358 kN/㎡

q_7 = 91.021 kN/㎡

⑦ 편측토압(지하수 없는 경우)

q_1 = 1.704 kN/㎡



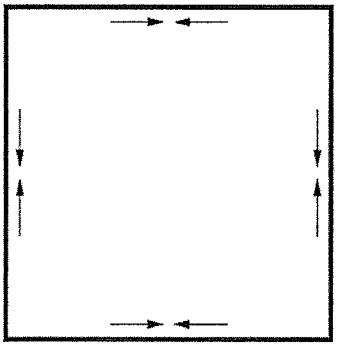
q_7 = 22.367 kN/㎡

⑧ 온도하중

△T = 0 °

⑨ 건조수축

△T = -15 °



⑩ 장대레일 종하중

Hr = 0.000 kN/m^2

6. 하중계수 및 하중조합

1) 극한하중 검토시

구분	고정하중	활하중		활하중 측압		수평토압 (지하수無)		온도하중		건조수축	장대레일	비고
				양측재하	편측재하	양측재하	편측재하					
		전경간	1/2	수평	수평	수평	수평	온도상승	온도하강			
	LC1	LC2	LC3	LC4	LC5	LC6	LC7	LC8	LC9	LC10	LC11	
1	1.35	1.85		1.85		1.6						
2	1.35	1.85		1.85		0.6						
3	1.35		1.85		1.85	1.6						
4	1.35		1.85		1.85	0.6						
5	1.6	1.60		1.60		1.6						
6	1.6	1.60		1.60		0.6						
7	1.6		1.6		1.6	1.6						
8	1.6		1.6		1.6	0.6						
9	1.35	1.40		1.40		1.6		1.35		1.35		
10	1.35	1.40		1.40		0.6		1.35		1.35		
11	1.35	1.40		1.40		1.6			1.35	1.35	1.40	
12	1.35	1.40		1.40		0.6			1.35	1.35	1.40	
13	1.35		1.40		1.40	1.6		1.35		1.35		
14	1.35		1.40		1.40	0.6		1.35		1.35		
15	1.35		1.40		1.40	1.6			1.35	1.35	1.4	
16	1.35		1.40		1.40	0.6			1.35	1.35	1.4	
17	1.35		1.85		1.85		1.60					
18	1.35		1.85		1.85		0.60					
19	1.60		1.60		1.60		1.60					
20	1.60		1.60		1.60		0.60					

2) 사용하중 검토시

구분	고정하중	활하중		활하중 측압		수평토압 (지하수無)		온도하중		건조수축	장대레일	비고
				양측재하	편측재하	양측재하	편측재하					
		전경간	1/2	수평	수평	수평	수평	온도상승	온도하강			
	LC1	LC2	LC3	LC4	LC5	LC6	LC7	LC8	LC9	LC10	LC11	
21	1.0	1.0		1.0		1.0						
22	1.0	1.0		1.0		0.5						
23	1.0		1.0		1.0	1.0						
24	1.0		1.0		1.0	0.5						
25	1.0	1.0		1.0		1.0		1.0			1.0	
26	1.0	1.0		1.0		0.5		1.0			1.0	
27	1.0	1.0		1.0		1.0			1.0	1.0	1.0	
28	1.0	1.0		1.0		0.5			1.0	1.0	1.0	
29	1.0		1.0		1.0	1.0		1.0			1.0	
30	1.0		1.0		1.0	0.5		1.0			1.0	
31	1.0		1.0		1.0	1.0			1.0	1.0	1.0	
32	1.0		1.0		1.0	0.5			1.0	1.0	1.0	
33	1.0					1.0						
34	1.0		1.0		1.0		1.0					
35	1.0		1.0		1.0		0.5					

7. INPUT DATA

```
*VERSION
   8.3.1

*UNIT    ; Unit System
; FORCE, LENGTH, HEAT, TEMPER
   KN   , M, J, C

*STRUCTYPE    ; Structure Type
; iSTYP, iMASS, iSMAS, bMASSOFFSET, bSELFWEIGHT, GRAV, TEMPER, bALIGNBEAM, bALIGNSLAB, bROTRIGID
     1, 1, 1, NO, YES, 9.806, 0, NO, NO, NO

*REBAR-MATL-CODE    ; Rebar Material Code
; CONC_CODE, CONC_MDB, SRC_CODE, SRC_MDB
 KS01-Civil(RC), SD300, KS01-Civil(RC), SD300

*NODE    ; Nodes
; iNO, X, Y, Z
     1, 0, 0, 0
     2, 0.55, 0, 0
     3, 0.772, 0, 0
     4, 0.993, 0, 0
     5, 1.215, 0, 0
     6, 1.437, 0, 0
     7, 1.658, 0, 0
     8, 1.88, 0, 0
     9, 2.43, 0, 0
    10, 0, 0, 0.525
    11, 2.43, 0, 0.525
    12, 0, 0, 0.805
    13, 2.43, 0, 0.805
    14, 0, 0, 1.085
    15, 2.43, 0, 1.085
    16, 0, 0, 1.365
    17, 2.43, 0, 1.365
    18, 0, 0, 1.645
    19, 2.43, 0, 1.645
    20, 0, 0, 1.925
    21, 2.43, 0, 1.925
    22, 0, 0, 2.425
    23, 0.5, 0, 2.425
    24, 0.738, 0, 2.425
    25, 0.977, 0, 2.425
    26, 1.215, 0, 2.425
    27, 1.453, 0, 2.425
    28, 1.692, 0, 2.425
    29, 1.93, 0, 2.425
    30, 2.43, 0, 2.425

*ELEMENT    ; Elements
; iEL, TYPE, iMAT, iPRO, iN1, iN2, ANGLE, iSUB, EXVAL, iOPT(EXVAL2) ; Frame  Element
; iEL, TYPE, iMAT, iPRO, iN1, iN2, ANGLE, iSUB, EXVAL, EXVAL2, bLMT ; Comp/Tens Truss
; iEL, TYPE, iMAT, iPRO, iN1, iN2, iN3, iN4, iSUB, iWID             ; Planar Element
; iEL, TYPE, iMAT, iPRO, iN1, iN2, iN3, iN4, iN5, iN6, iN7, iN8     ; Solid  Element
; iEL, TYPE, iMAT, iPRO, iN1, iN2, REF, RPX, RPY, RPZ, iSUB, EXVAL  ; Frame(Ref. Point)
     1, BEAM  ,    2,    2,    1,    2,  180
     2, BEAM  ,    2,    2,    2,    3,  180
     3, BEAM  ,    2,    2,    3,    4,  180
     4, BEAM  ,    2,    2,    4,    5,  180
     5, BEAM  ,    2,    2,    5,    6,  180
     6, BEAM  ,    2,    2,    6,    7,  180
     7, BEAM  ,    2,    2,    7,    8,  180
     8, BEAM  ,    2,    2,    8,    9,  180
     9, BEAM  ,    2,    3,    1,   10,  180
    10, BEAM  ,    2,    3,    9,   11,    0
    11, BEAM  ,    2,    3,   10,   12,  180
    12, BEAM  ,    2,    3,   11,   13,    0
    13, BEAM  ,    2,    3,   12,   14,  180
    14, BEAM  ,    2,    3,   13,   15,    0
    15, BEAM  ,    2,    3,   14,   16,  180
    16, BEAM  ,    2,    3,   15,   17,    0
    17, BEAM  ,    2,    3,   16,   18,  180
    18, BEAM  ,    2,    3,   17,   19,    0
    19, BEAM  ,    2,    3,   18,   20,  180
    20, BEAM  ,    2,    3,   19,   21,    0
    21, BEAM  ,    2,    3,   20,   22,  180
    22, BEAM  ,    2,    3,   21,   30,    0
    23, BEAM  ,    2,    1,   22,   23,    0
    24, BEAM  ,    2,    1,   23,   24,    0
    25, BEAM  ,    2,    1,   24,   25,    0
    26, BEAM  ,    2,    1,   25,   26,    0
    27, BEAM  ,    2,    1,   26,   27,    0
    28, BEAM  ,    2,    1,   27,   28,    0
    29, BEAM  ,    2,    1,   28,   29,    0
```

```
    30, BEAM  ,    2,     1,    29,    30,     0

*MATERIAL    ; Material
; iMAT, TYPE, MNAME, SPHEAT, HEATCO, PLAST, TUNIT, bMASS, DAMPRATIO, [DATA1]          ; STEEL, CONC, USER
; iMAT, TYPE, MNAME, SPHEAT, HEATCO, PLAST, TUNIT, bMASS, DAMPRATIO, [DATA2], [DATA2] ; SRC
; [DATA1] : 1, DB, NAME, CODE
; [DATA1] : 2, ELAST, POISN, THERMAL, DEN, MASS
; [DATA1] : 3, Ex, Ey, Ez, Tx, Ty, Tz, Sxy, Sxz, Syz, Pxy, Pxz, Pyz, DEN, MASS   ; Orthotropic
; [DATA2] : 1, DB, NAME, CODE or 2, ELAST, POISN, THERMAL, DEN, MASS
    1, USER , STEEL             , 0, 0, , C, NO, 0, 2, 2.0000e+008,   0.3, 1.1700e-005, 76.8196,     0
    2, USER , CONC              , 0, 0, , C, NO, 0, 2, 2.7537e+007,  0.18, 1.0000e-005,  24.5,     0

*MATL-COLOR
; iMAT, W_R, W_G, W_B, HF_R, HF_G, HF_B, HE_R, HE_G, HE_B, bBLEND, FACT
    1, 255,   0,   0,    0, 255,   0,    0,   0, 255,  NO, 0.5
    2, 255,   0,   0,    0, 255,   0,    0,   0, 255,  NO, 0.5


*SECTION    ; Section
; iSEC, TYPE, SNAME, [OFFSET], bSD, SHAPE, [DATA1], [DATA2]                    ; 1st line - DB/USER
; iSEC, TYPE, SNAME, [OFFSET], bSD, SHAPE, BLT, D1, ..., D8, iCEL              ; 1st line - VALUE
;       AREA, ASy, ASz, Ixx, Iyy, Izz                                         ; 2nd line
;       CyP, CyM, CzP, CzM, QyB, QzB, PERI_OUT, PERI_IN, Cy, Cz               ; 3rd line
;       Y1, Y2, Y3, Y4, Z1, Z2, Z3, Z4, Zyy, Zzz                              ; 4th line
; iSEC, TYPE, SNAME, [OFFSET], bSD, SHAPE, ELAST, DEN, POIS, POIC, SF         ; 1st line - SRC
;       D1, D2, [SRC]                                                         ; 2nd line
; iSEC, TYPE, SNAME, [OFFSET], bSD, SHAPE, 1, DB, NAME1, NAME2, D1, D2        ; 1st line - COMBINED
; iSEC, TYPE, SNAME, [OFFSET], bSD, SHAPE, 2, D11, D12, D13, D14, D15, D21, D22, D23, D24
; iSEC, TYPE, SNAME, [OFFSET2], bSD, SHAPE, iyVAR, izVAR, STYPE                ; 1st line - TAPERED
;       DB, NAME1, NAME2                                                      ; 2nd line(STYPE=DB)
;       [DIM1], [DIM2]                                                        ; 2nd line(STYPE=USER)
;       D11, D12, D13, D14, D15, D16, D17, D18                                ; 2nd line(STYPE=VALUE)
;       AREA1, ASy1, ASz1, Ixx1, Iyy1, Izz1                                   ; 3rd line(STYPE=VALUE)
;       CyP1, CyM1, CzP1, CzM1, QyB1, QzB1, PERI_OUT1, PERI_IN1, Cy1, Cz1     ; 4th line(STYPE=VALUE)
;       Y11, Y12, Y13, Y14, Z11, Z12, Z13, Z14, Zyy1, Zyy2                    ; 5th line(STYPE=VALUE)
;       D21, D22, D23, D24, D25, D26, D27, D28                                ; 6th line(STYPE=VALUE)
;       AREA2, ASy2, ASz2, Ixx2, Iyy2, Izz2                                   ; 7th line(STYPE=VALUE)
;       CyP2, CyM2, CzP2, CzM2, QyB2, QzB2, PERI_OUT2, PERI_IN2, Cy2, Cz2     ; 8th line(STYPE=VALUE)
;       Y21, Y22, Y23, Y24, Z21, Z22, Z23, Z24, Zyy2, Zzz2                    ; 9th line(STYPE=VALUE)
;       OPT1, OPT2, [JOINT]                                                   ; 2nd line(STYPE=PSC)
;       ELAST, DEN, POIS, POIC                                                ; 2nd line(STYPE=PSC-CMPW)
;       bSHEARCHK, [SCHK-I], [SCHK-J], [WT-I], [WT-J], WI, WJ, bSYM, bSIDEHOLE ; 3rd line(STYPE=PSC)
;       bSHEARCHK, bSYM, bHUNCH, [CMPWEB-I], [CMPWEB-J]                       ; 3rd line(STYPE=PSC-CMPW)
;       bUSERDEFMESHSIZE, MESHSIZE, bUSERINPSTIFF, [STIFF-I], [STIFF-J]       ; 4th line(STYPE=PSC)
;       [SIZE-A]-i                                                            ; 5th line(STYPE=PSC)
;       [SIZE-B]-i                                                            ; 6th line(STYPE=PSC)
;       [SIZE-C]-i                                                            ; 7th line(STYPE=PSC)
;       [SIZE-D]-i                                                            ; 8th line(STYPE=PSC)
;       [SIZE-A]-i                                                            ; 9th line(STYPE=PSC)
;       [SIZE-B]-i                                                            ; 10th line(STYPE=PSC)
;       [SIZE-C]-i                                                            ; 11th line(STYPE=PSC)
;       [SIZE-D]-i                                                            ; 12th line(STYPE=PSC)
;       GN, CTC, Bc, Tc, Hh, EsEc, DsDc, Ps, Pc, bMULTI, EsEc-L, EsEc-S       ; 2nd line(STYPE=CMP-B/I)
;       SW_i, Hw_i, tw_i, B_i, Bf1_i, tf1_i, B2_i, Bf2_i, tf2_i               ; 3rd line(STYPE=CMP-B/I)
;       SW_i, Hw_i, tw_i, B_i, Bf1_i, tf1_i, B2_i, Bf2_i, tf2_i               ; 4th line(STYPE=CMP-B/I)
;       N1, N2, Hr, Hr2, tr1, tr2                                             ; 5th line(STYPE=CMP-B)
;       GN, CTC, Bc, Tc, Hh, EgdEsb, DgdDsb, Pgd, Psb, bSYM, SW_i, SW_i       ; 2nd line(STYPE=CMP-CI/CT)
;       OPT1, OPT2, [JOINT]                                                   ; 3rd line(STYPE=CMP-CI/CT)
;       [SIZE-A]-i                                                            ; 4th line(STYPE=CMP-CI/CT)
;       [SIZE-B]-i                                                            ; 5th line(STYPE=CMP-CI/CT)
;       [SIZE-C]-i                                                            ; 6th line(STYPE=CMP-CI/CT)
;       [SIZE-D]-i                                                            ; 7th line(STYPE=CMP-CI/CT)
;       [SIZE-A]-i                                                            ; 8th line(STYPE=CMP-CI/CT)
;       [SIZE-B]-i                                                            ; 9th line(STYPE=CMP-CI/CT)
;       [SIZE-C]-i                                                            ; 10th line(STYPE=CMP-CI/CT)
;       [SIZE-D]-i                                                            ; 11th line(STYPE=CMP-CI/CT)
; iSEC, TYPE, SNAME, [OFFSET], bSD, STYPE1, STYPE2                            ; 1st line - CONSTRUCT
;       SHAPE, ...(same with other type data from shape)                      ; Before (STYPE1)
;       SHAPE, ...(same with other type data from shape)                      ; After  (STYPE2)
; iSEC, TYPE, SNAME, [OFFSET], bSD, SHAPE                                     ; 1st line - COMPOSITE-SB
;       Hw, tw, B, Bf1, tf1, B2, Bf2, tf2                                     ; 2nd line
;       N1, N2, Hr, Hr2, tr1, tr2                                             ; 3rd line
;       SW, GN, CTC, Bc, Tc, Hh, EsEc, DsDc, Ps, Pc, bMulti, Elong, Esh       ; 4th line
; iSEC, TYPE, SNAME, [OFFSET], bSD, SHAPE                                     ; 1st line - COMPOSITE-SI
;       Hw, tw, B, tf1, B2, tf2                                               ; 2nd line
;       SW, GN, CTC, Bc, Tc, Hh, EsEc, DsDc, Ps, Pc, bMulti, Elong, Esh       ; 3rd line
; iSEC, TYPE, SNAME, [OFFSET], bSD, SHAPE                                     ; 1st line - COMPOSITE-CI/CT
;       OPT1, OPT2, [JOINT]                                                   ; 2nd line
;       [SIZE-A]                                                              ; 3rd line
;       [SIZE-B]                                                              ; 4th line
;       [SIZE-C]                                                              ; 5th line
;       [SIZE-D]                                                              ; 6th line
;       SW, GN, CTC, Bc, Tc, Hh, EgdEsb, DgdDsb, Pgd, Psb                     ; 7th line
; iSEC, TYPE, SNAME, [OFFSET], bSD, SHAPE                                     ; 1st line - PSC
;       OPT1, OPT2, [JOINT]                                                   ; 2nd line
;       bSHEARCHK, [SCHK], [WT], WIDTH, bSYM, bSIDEHOLE                       ; 3rd line
;       bUSERDEFMESHSIZE, MESHSIZE, bUSERINPSTIFF, [STIFF]                    ; 4th line
```

```
;       [SIZE-A]                                                                ; 5th line
;       [SIZE-B]                                                                ; 6th line
;       [SIZE-C]                                                                ; 7th line
;       [SIZE-D]                                                                ; 8th line
; [DATA1] : 1, DB, NAME or 2, D1, D2, D3, D4, D5, D6, D7, D8, D9, D10
; [DATA2] : CCSHAPE or iCEL or iN1, iN2
; [SRC]  : 1, DB, NAME1, NAME2 or 2, D1, D2, D3, D4, D5, D6, D7, D8, D9, D10, iN1, iN2
; [DIM1], [DIM2] : D1, D2, D3, D4, D5, D6, D7, D8
; [OFFSET] : OFFSET, iCENT, iREF, iHORZ, HUSER, iVERT, VUSER
; [OFFSET2]: OFFSET, iCENT, iREF, iHORZ, HUSERI, HUSERJ, iVERT, VUSERI, VUSERJ
; [JOINT]  :  8(1CELL, 2CELL), 13(3CELL),  9(PSCM),  8(PSCH), 9(PSCT),  2(PSCB), 0(nCELL),  2(nCEL2)
; [SIZE-A] :  6(1CELL, 2CELL), 10(3CELL), 10(PSCM),  6(PSCH), 8(PSCT), 10(PSCB), 5(nCELL), 11(nCEL2)
; [SIZE-B] :  6(1CELL, 2CELL), 12(3CELL),  6(PSCM),  6(PSCH), 8(PSCT),  6(PSCB), 8(nCELL), 18(nCEL2)
; [SIZE-C] : 10(1CELL, 2CELL), 13(3CELL),  9(PSCM), 10(PSCH), 7(PSCT),  8(PSCB), 0(nCELL), 11(nCEL2)
; [SIZE-D] :  8(1CELL, 2CELL), 13(3CELL),  6(PSCM),  7(PSCH), 8(PSCT),  5(PSCB), 0(nCELL), 18(nCEL2)
; [STIFF]  : AREA, ASy, ASz, Ixx, Iyy, Izz
; [SCHK]   : bAUTO_Z1, Z1, bAUTO_Z3, Z3
; [WT]     : bAUTO_TOR, TOR, bAUTO_SHR1, SHR1, bAUTO_SHR2, SHR2, bAUTO_SHR3, SHR3
; [CMPWEB] : EFD, LRF, A, B, H, T
   1, DBUSER    , TOPSLAB           , CC, 0, 0, 0, 0, 0, 0, YES, SB , 2, 0.4, 1, 0, 0, 0, 0, 0, 0, 0, 0
   2, DBUSER    , BOTSLAB           , CC, 0, 0, 0, 0, 0, 0, YES, SB , 2, 0.45, 1, 0, 0, 0, 0, 0, 0, 0, 0
   3, DBUSER    , WALL              , CC, 0, 0, 0, 0, 0, 0, YES, SB , 2, 0.4, 1, 0, 0, 0, 0, 0, 0, 0, 0

*SECT-COLOR
; iSEC, W_R, W_G, W_B, HF_R, HF_G, HF_B, HE_R, HE_G, HE_B, bBLEND, FACT
   1, 255,   0,   0,    0, 255,   0,    0,   0, 255,  NO, 0.5
   2, 255,   0,   0,    0, 255,   0,    0,   0, 255,  NO, 0.5
   3, 255,   0,   0,    0, 255,   0,    0,   0, 255,  NO, 0.5

*DGN-SECT
; iSEC, TYPE, SNAME, [OFFSET], bSD, SHAPE, [DATA1], [DATA2]                    ; 1st line - DB/USER
; iSEC, TYPE, SNAME, [OFFSET], bSD, SHAPE, BLT, D1, ..., D8, iCEL             ; 1st line - VALUE
;       AREA, ASy, ASz, Ixx, Iyy, Izz                                         ; 2nd line
;       CyP, CyM, CzP, CzM, QyB, QzB, PERI_OUT, PERI_IN, Cy, Cz               ; 3rd line
;       Y1, Y2, Y3, Y4, Z1, Z2, Z3, Z4, Zyy, Zzz                              ; 4th line
; iSEC, TYPE, SNAME, [OFFSET], bSD, SHAPE, ELAST, DEN, POIS, POIC, SF         ; 1st line - SRC
;       D1, D2, [SRC]                                                         ; 2nd line
; iSEC, TYPE, SNAME, [OFFSET], bSD, SHAPE, 1, DB, NAME1, NAME2, D1, D2        ; 1st line - COMBINED
; iSEC, TYPE, SNAME, [OFFSET], bSD, SHAPE, 2, D11, D12, D13, D14, D15, D21, D22, D23, D24
; iSEC, TYPE, SNAME, [OFFSET2], bSD, SHAPE, iyVAR, izVAR, STYPE               ; 1st line - TAPERED
;       DB, NAME1, NAME2                                                      ; 2nd line(STYPE=DB)
;       [DIM1], [DIM2]                                                        ; 2nd line(STYPE=USER)
;       D11, D12, D13, D14, D15, D16, D17, D18                                ; 2nd line(STYPE=VALUE)
;       AREA1, ASy1, ASz1, Ixx1, Iyy1, Izz1                                   ; 3rd line(STYPE=VALUE)
;       CyP1, CyM1, CzP1, CzM1, QyB1, QzB1, PERI_OUT1, PERI_IN1, Cy1, Cz1     ; 4th line(STYPE=VALUE)
;       Y11, Y12, Y13, Y14, Z11, Z12, Z13, Z14, Zyy1, Zyy2                    ; 5th line(STYPE=VALUE)
;       D21, D22, D23, D24, D25, D26, D27, D28                                ; 6th line(STYPE=VALUE)
;       AREA2, ASy2, ASz2, Ixx2, Iyy2, Izz2                                   ; 7th line(STYPE=VALUE)
;       CyP2, CyM2, CzP2, CzM2, QyB2, QzB2, PERI_OUT2, PERI_IN2, Cy2, Cz2     ; 8th line(STYPE=VALUE)
;       Y21, Y22, Y23, Y24, Z21, Z22, Z23, Z24, Zyy2, Zzz2                    ; 9th line(STYPE=VALUE)
;       OPT1, OPT2, [JOINT]                                                   ; 2nd line(STYPE=PSC)
;       ELAST, DEN, POIS, POIC                                                ; 2nd line(STYPE=PSC-CMPW)
;       bSHEARCHK, [SCHK-I], [SCHK-J], [WT-I], [WT-J], WI, WJ, bSYM, bSIDEHOLE ; 3rd line(STYPE=PSC)
;       bSHEARCHK, bSYM, bHUNCH, [CMPWEB-I], [CMPWEB-J]                       ; 3rd line(STYPE=PSC-CMPW)
;       bUSERDEFMESHSIZE, MESHSIZE, bUSERINPSTIFF, [STIFF-I], [STIFF-J]       ; 4th line(STYPE=PSC)
;       [SIZE-A]-i                                                            ; 5th line(STYPE=PSC)
;       [SIZE-B]-i                                                            ; 6th line(STYPE=PSC)
;       [SIZE-C]-i                                                            ; 7th line(STYPE=PSC)
;       [SIZE-D]-i                                                            ; 8th line(STYPE=PSC)
;       [SIZE-A]-i                                                            ; 9th line(STYPE=PSC)
;       [SIZE-B]-i                                                            ; 10th line(STYPE=PSC)
;       [SIZE-C]-i                                                            ; 11th line(STYPE=PSC)
;       [SIZE-D]-i                                                            ; 12th line(STYPE=PSC)
;       GN, CTC, Bc, Tc, Hh, EsEc, DsDc, Ps, Pc, bMULTI, EsEc-L, EsEc-S       ; 2nd line(STYPE=CMP-B/I)
;       SW_i, Hw_i, tw_i, B_i, Bf1_i, tf1_i, B2_i, Bf2_i, tf2_i               ; 3rd line(STYPE=CMP-B/I)
;       SW_i, Hw_i, tw_i, B_i, Bf1_i, tf1_i, B2_i, Bf2_i, tf2_i               ; 4th line(STYPE=CMP-B/I)
;       N1, N2, Hr, Hr2, tr1, tr2                                             ; 5th line(STYPE=CMP-B)
;       GN, CTC, Bc, Tc, Hh, EgdEsb, DgdDsb, Pgd, Psb, bSYM, SW_i, SW_i       ; 2nd line(STYPE=CMP-CI/CT)
;       OPT1, OPT2, [JOINT]                                                   ; 3rd line(STYPE=CMP-CI/CT)
;       [SIZE-A]-i                                                            ; 4th line(STYPE=CMP-CI/CT)
;       [SIZE-B]-i                                                            ; 5th line(STYPE=CMP-CI/CT)
;       [SIZE-C]-i                                                            ; 6th line(STYPE=CMP-CI/CT)
;       [SIZE-D]-i                                                            ; 7th line(STYPE=CMP-CI/CT)
;       [SIZE-A]-i                                                            ; 8th line(STYPE=CMP-CI/CT)
;       [SIZE-B]-i                                                            ; 9th line(STYPE=CMP-CI/CT)
;       [SIZE-C]-i                                                            ; 10th line(STYPE=CMP-CI/CT)
;       [SIZE-D]-i                                                            ; 11th line(STYPE=CMP-CI/CT)
; iSEC, TYPE, SNAME, [OFFSET], bSD, STYPE1, STYPE2                            ; 1st line - CONSTRUCT
;       SHAPE, ...(same with other type data from shape)                      ; Before (STYPE1)
;       SHAPE, ...(same with other type data from shape)                      ; After  (STYPE2)
; iSEC, TYPE, SNAME, [OFFSET], bSD, SHAPE                                     ; 1st line - COMPOSITE-SB
;       Hw, tw, B, Bf1, tf1, B2, Bf2, tf2                                     ; 2nd line
;       N1, N2, Hr, Hr2, tr1, tr2                                             ; 3rd line
;       SW, GN, CTC, Bc, Tc, Hh, EsEc, DsDc, Ps, Pc, bMulti, Elong, Esh       ; 4th line
; iSEC, TYPE, SNAME, [OFFSET], bSD, SHAPE                                     ; 1st line - COMPOSITE-SI
;       Hw, tw, B, tf1, B2, tf2                                               ; 2nd line
;       SW, GN, CTC, Bc, Tc, Hh, EsEc, DsDc, Ps, Pc, bMulti, Elong, Esh       ; 3rd line
```

```
; iSEC, TYPE, SNAME, [OFFSET], bSD, SHAPE                                    ; 1st line - COMPOSITE-CI/CT
;       OPT1, OPT2, [JOINT]                                                  ; 2nd line
;       [SIZE-A]                                                             ; 3rd line
;       [SIZE-B]                                                             ; 4th line
;       [SIZE-C]                                                             ; 5th line
;       [SIZE-D]                                                             ; 6th line
;       SW, GN, CTC, Bc, Tc, Hh, EqdEsb, DqdDsb, Pqd, Psb                    ; 7th line
; iSEC, TYPE, SNAME, [OFFSET], bSD, SHAPE                                    ; 1st line - PSC
;       OPT1, OPT2, [JOINT]                                                  ; 2nd line
;       bSHEARCHK, [SCHK], [WT], WIDTH, bSYM, bSIDEHOLE                      ; 3rd line
;       bUSERDEFMESHSIZE, MESHSIZE, bUSERINPSTIFF, [STIFF]                   ; 4th line
;       [SIZE-A]                                                             ; 5th line
;       [SIZE-B]                                                             ; 6th line
;       [SIZE-C]                                                             ; 7th line
;       [SIZE-D]                                                             ; 8th line
; [DATA1] : 1, DB, NAME or 2, D1, D2, D3, D4, D5, D6, D7, D8, D9, D10
; [DATA2] : CCSHAPE or iCEL or iN1, iN2
; [SRC]  : 1, DB, NAME1, NAME2 or 2, D1, D2, D3, D4, D5, D6, D7, D8, D9, D10, iN1, iN2
; [DIM1], [DIM2] : D1, D2, D3, D4, D5, D6, D7, D8
; [OFFSET] : OFFSET, iCENT, iREF, iHORZ, HUSER, iVERT, VUSER
; [OFFSET2]: OFFSET, iCENT, iREF, iHORZ, HUSERI, HUSERJ, iVERT, VUSERI, VUSERJ
; [JOINT]  :  8(1CELL, 2CELL), 13(3CELL),  9(PSCM),  8(PSCH), 9(PSCT),  2(PSCB), 0(nCELL),  2(nCEL2)
; [SIZE-A] :  6(1CELL, 2CELL), 10(3CELL), 10(PSCM),  6(PSCH), 8(PSCT), 10(PSCB), 5(nCELL), 11(nCEL2)
; [SIZE-B] :  6(1CELL, 2CELL), 12(3CELL),  6(PSCM),  6(PSCH), 8(PSCT),  6(PSCB), 8(nCELL), 18(nCEL2)
; [SIZE-C] : 10(1CELL, 2CELL), 13(3CELL),  9(PSCM), 10(PSCH), 7(PSCT),  8(PSCB), 0(nCELL), 11(nCEL2)
; [SIZE-D] :  8(1CELL, 2CELL), 13(3CELL),  6(PSCM),  7(PSCH), 8(PSCT),  5(PSCB), 0(nCELL), 18(nCEL2)
; [STIFF]  : AREA, ASy, ASz, Ixx, Iyy, Izz
; [SCHK]   : bAUTO_Z1, Z1, bAUTO_Z3, Z3
; [WT]     : bAUTO_TOR, TOR, bAUTO_SHR1, SHR1, bAUTO_SHR2, SHR2, bAUTO_SHR3, SHR3
; [CMPWEB] : EFD, LRF, A, B, H, T
   1, DBUSER    , TOPSLAB          , CC, 0, 0, 0, 0, 0, 0, YES, SB , 2, 0.4, 1, 0, 0, 0, 0, 0, 0, 0, 0
   2, DBUSER    , BOTSLAB          , CC, 0, 0, 0, 0, 0, 0, YES, SB , 2, 0.45, 1, 0, 0, 0, 0, 0, 0, 0, 0
   3, DBUSER    , WALL             , CC, 0, 0, 0, 0, 0, 0, YES, SB , 2, 0.4, 1, 0, 0, 0, 0, 0, 0, 0, 0


*STLDCASE    ; Static Load Cases
; LCNAME, LCTYPE, DESC
   LC1  , USER,
   LC2  , USER,
   LC3  , USER,
   LC4  , USER,
   LC5  , USER,
   LC6  , USER,
   LC7  , USER,
   LC8  , USER,
   LC9  , USER,
   LC10 , USER,
   LC11 , USER,
   NCOMB1, USER,
   NCOMB2, USER,
   NCOMB3, USER,
   NCOMB4, USER,
   NCOMB5, USER,
   NCOMB6, USER,
   NCOMB7, USER,
   NCOMB8, USER,
   NCOMB9, USER,
   NCOMB10, USER,
   NCOMB11, USER,
   NCOMB12, USER,
   NCOMB13, USER,
   NCOMB14, USER,
   NCOMB15, USER,
   NCOMB16, USER,
   NCOMB17, USER,
   NCOMB18, USER,
   NCOMB19, USER,
   NCOMB20, USER,
   NCOMB21, USER,
   NCOMB22, USER,
   NCOMB23, USER,
   NCOMB24, USER,
   NCOMB25, USER,
   NCOMB26, USER,
   NCOMB27, USER,
   NCOMB28, USER,
   NCOMB29, USER,
   NCOMB30, USER,
   NCOMB31, USER,
   NCOMB32, USER,
   NCOMB33, USER,
   NCOMB34, USER,
   NCOMB35, USER,


*SPRING    ; Point Spring Supports
; NODE_LIST, Type, SDx, SDy, SDz, SRx, SRy, SRz, GROUP, FROMTYPE, EFFAREA, Kx, Ky, Kz
```

```
; NODE_LIST, Type, Direction, Vx, Vy, Vz, Stiffness, GROUP, FROMTYPE, EFFAREA
; NODE_LIST, Type, Multi-Linear Type, Direction, Vx, Vy, Vz, ax, ay, bx, by, cx, cy, dx, dy, ex, ey, fx, fy, GROUP, FROMTYPE, EFFAREA
   1, LINEAR, 1e+010, 0, 0, 0, 0, 0, NO, 0, 0, 0, 0, 0, 0, 0, , 0, 0, 0, 0, 0
   2 8, COMP  ,  5, 0, 0, 0, 12000, , 0, 0, 0, 0, 0
   3to7, COMP  ,  5, 0, 0, 0, 6894, , 0, 0, 0, 0, 0
   9, COMP  ,  5, 0, 0, 0, 14774, , 0, 0, 0, 0, 0

*OFFSET    ; Beam End Offsets
; ELEM_LIST, TYPE, RGDXi, RGDYi, RGDZi, RGDXi, RGDYi, RGDZi, GROUP  ; TYPE=GLOBAL
; ELEM_LIST, TYPE, RGDi, RGDj, GROUP                                ; TYPE=ELEMENT
     1, ELEMENT, 0.275, 0,
     8, ELEMENT, 0, 0.275,
     9, ELEMENT, 0.325, 0,
    10, ELEMENT, 0.325, 0,
    21, ELEMENT, 0, 0.3,
    22, ELEMENT, 0, 0.3,
    23, ELEMENT, 0.3, 0,
    30, ELEMENT, 0, 0.3,

*USE-STLD, LC1

; *SELFWEIGHT, X, Y, Z, GROUP
*SELFWEIGHT, 0, 0, -1,

*BEAMLOAD    ; Element Beam Loads
; ELEM_LIST, CMD, TYPE, DIR, bPROJ, [ECCEN], [VALUE], GROUP
; ELEM_LIST, CMD, TYPE, TYPE, DIR, VX, VY, VZ, bPROJ, [ECCEN], [VALUE], GROUP
; [VALUE]       : D1, P1, D2, P2, D3, P3, D4, P4
; [ECCEN]       : bECCEN, ECCDIR, I-END, J-END, bJ-END
; [ADDITIONAL]  : bADDITIONAL, ADDITIONAL_I-END, ADDITIONAL_J-END, bADDITIONAL_J-END
    23, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -88.785, 1, -88.785, 0, 0, 0, 0, , NO, 0, 0, NO
    24, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -88.785, 1, -88.785, 0, 0, 0, 0, , NO, 0, 0, NO
    25, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -88.785, 1, -88.785, 0, 0, 0, 0, , NO, 0, 0, NO
    26, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -88.785, 1, -88.785, 0, 0, 0, 0, , NO, 0, 0, NO
    27, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -88.785, 1, -88.785, 0, 0, 0, 0, , NO, 0, 0, NO
    28, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -88.785, 1, -88.785, 0, 0, 0, 0, , NO, 0, 0, NO
    29, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -88.785, 1, -88.785, 0, 0, 0, 0, , NO, 0, 0, NO
    30, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -88.785, 1, -88.785, 0, 0, 0, 0, , NO, 0, 0, NO

; End of data for load case [LC1] ----------

*USE-STLD, LC2

*BEAMLOAD    ; Element Beam Loads
; ELEM_LIST, CMD, TYPE, DIR, bPROJ, [ECCEN], [VALUE], GROUP
; ELEM_LIST, CMD, TYPE, TYPE, DIR, VX, VY, VZ, bPROJ, [ECCEN], [VALUE], GROUP
; [VALUE]       : D1, P1, D2, P2, D3, P3, D4, P4
; [ECCEN]       : bECCEN, ECCDIR, I-END, J-END, bJ-END
; [ADDITIONAL]  : bADDITIONAL, ADDITIONAL_I-END, ADDITIONAL_J-END, bADDITIONAL_J-END
    23, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -21.019, 1, -21.019, 0, 0, 0, 0, , NO, 0, 0, NO
    24, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -21.019, 1, -21.019, 0, 0, 0, 0, , NO, 0, 0, NO
    25, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -21.019, 1, -21.019, 0, 0, 0, 0, , NO, 0, 0, NO
    26, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -21.019, 1, -21.019, 0, 0, 0, 0, , NO, 0, 0, NO
    27, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -21.019, 1, -21.019, 0, 0, 0, 0, , NO, 0, 0, NO
    28, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -21.019, 1, -21.019, 0, 0, 0, 0, , NO, 0, 0, NO
    29, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -21.019, 1, -21.019, 0, 0, 0, 0, , NO, 0, 0, NO
    30, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -21.019, 1, -21.019, 0, 0, 0, 0, , NO, 0, 0, NO

; End of data for load case [LC2] ----------

*USE-STLD, LC3

*BEAMLOAD    ; Element Beam Loads
; ELEM_LIST, CMD, TYPE, DIR, bPROJ, [ECCEN], [VALUE], GROUP
; ELEM_LIST, CMD, TYPE, TYPE, DIR, VX, VY, VZ, bPROJ, [ECCEN], [VALUE], GROUP
; [VALUE]       : D1, P1, D2, P2, D3, P3, D4, P4
; [ECCEN]       : bECCEN, ECCDIR, I-END, J-END, bJ-END
; [ADDITIONAL]  : bADDITIONAL, ADDITIONAL_I-END, ADDITIONAL_J-END, bADDITIONAL_J-END
    23, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -21.019, 1, -21.019, 0, 0, 0, 0, , NO, 0, 0, NO
    24, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -21.019, 1, -21.019, 0, 0, 0, 0, , NO, 0, 0, NO
    25, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -21.019, 1, -21.019, 0, 0, 0, 0, , NO, 0, 0, NO
    26, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -21.019, 1, -21.019, 0, 0, 0, 0, , NO, 0, 0, NO

; End of data for load case [LC3] ----------

*USE-STLD, LC4

*BEAMLOAD    ; Element Beam Loads
; ELEM_LIST, CMD, TYPE, DIR, bPROJ, [ECCEN], [VALUE], GROUP
; ELEM_LIST, CMD, TYPE, TYPE, DIR, VX, VY, VZ, bPROJ, [ECCEN], [VALUE], GROUP
; [VALUE]       : D1, P1, D2, P2, D3, P3, D4, P4
; [ECCEN]       : bECCEN, ECCDIR, I-END, J-END, bJ-END
; [ADDITIONAL]  : bADDITIONAL, ADDITIONAL_I-END, ADDITIONAL_J-END, bADDITIONAL_J-END
     9, BEAM   , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 8.408, 1, 8.408, 0, 0, 0, 0, , NO, 0, 0, NO
    10, BEAM   , UNILOAD, GX, NO , NO, aDir[1], , , , 0, -8.408, 1, -8.408, 0, 0, 0, 0, , NO, 0, 0, NO
    11, BEAM   , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 8.408, 1, 8.408, 0, 0, 0, 0, , NO, 0, 0, NO
    12, BEAM   , UNILOAD, GX, NO , NO, aDir[1], , , , 0, -8.408, 1, -8.408, 0, 0, 0, 0, , NO, 0, 0, NO
```

```
    13, BEAM   , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 8.408, 1, 8.408, 0, 0, 0, 0, , NO, 0, 0, NO
    14, BEAM   , UNILOAD, GX, NO , NO, aDir[1], , , , 0, -8.408, 1, -8.408, 0, 0, 0, 0, , NO, 0, 0, NO
    15, BEAM   , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 8.408, 1, 8.408, 0, 0, 0, 0, , NO, 0, 0, NO
    16, BEAM   , UNILOAD, GX, NO , NO, aDir[1], , , , 0, -8.408, 1, -8.408, 0, 0, 0, 0, , NO, 0, 0, NO
    17, BEAM   , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 8.408, 1, 8.408, 0, 0, 0, 0, , NO, 0, 0, NO
    18, BEAM   , UNILOAD, GX, NO , NO, aDir[1], , , , 0, -8.408, 1, -8.408, 0, 0, 0, 0, , NO, 0, 0, NO
    19, BEAM   , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 8.408, 1, 8.408, 0, 0, 0, 0, , NO, 0, 0, NO
    20, BEAM   , UNILOAD, GX, NO , NO, aDir[1], , , , 0, -8.408, 1, -8.408, 0, 0, 0, 0, , NO, 0, 0, NO
    21, BEAM   , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 8.408, 1, 8.408, 0, 0, 0, 0, , NO, 0, 0, NO
    22, BEAM   , UNILOAD, GX, NO , NO, aDir[1], , , , 0, -8.408, 1, -8.408, 0, 0, 0, 0, , NO, 0, 0, NO

; End of data for load case [LC4] ------------------------

*USE-STLD, LC5

*BEAMLOAD    ; Element Beam Loads
; ELEM_LIST, CMD, TYPE, DIR, bPROJ, [ECCEN], [VALUE], GROUP
; ELEM_LIST, CMD, TYPE, TYPE, DIR, VX, VY, VZ, bPROJ, [ECCEN], [VALUE], GROUP
; [VALUE]       : D1, P1, D2, P2, D3, P3, D4, P4
; [ECCEN]       : bECCEN, ECCDIR, I-END, J-END, bJ-END
; [ADDITIONAL]  : bADDITIONAL, ADDITIONAL_I-END, ADDITIONAL_J-END, bADDITIONAL_J-END
     9, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 8.408, 1, 8.408, 0, 0, 0, 0, , NO, 0, 0, NO
    11, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 8.408, 1, 8.408, 0, 0, 0, 0, , NO, 0, 0, NO
    13, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 8.408, 1, 8.408, 0, 0, 0, 0, , NO, 0, 0, NO
    15, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 8.408, 1, 8.408, 0, 0, 0, 0, , NO, 0, 0, NO
    17, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 8.408, 1, 8.408, 0, 0, 0, 0, , NO, 0, 0, NO
    19, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 8.408, 1, 8.408, 0, 0, 0, 0, , NO, 0, 0, NO
    21, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 8.408, 1, 8.408, 0, 0, 0, 0, , NO, 0, 0, NO

; End of data for load case [LC5] ------------------------

*USE-STLD, LC6

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST, CMD, TYPE, DIR, bPROJ, [ECCEN], [VALUE], GROUP
; ELEM LIST, CMD, TYPE, TYPE, DIR, VX, VY, VZ, bPROJ, [ECCEN], [VALUE], GROUP
; [VALUE]       : D1, P1, D2, P2, D3, P3, D4, P4
; [ECCEN]       : bECCEN, ECCDIR, I-END, J-END, bJ-END
; [ADDITIONAL]  : bADDITIONAL, ADDITIONAL I-END, ADDITIONAL J-END, bADDITIONAL J-END
     9, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 60.189, 1, 55.716, 0, 0, 0, 0, , NO, 0, 0, NO
    10, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, -60.189, 1, -55.716, 0, 0, 0, 0, , NO, 0, 0, NO
    11, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 55.716, 1, 53.33, 0, 0, 0, 0, , NO, 0, 0, NO
    12, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, -55.716, 1, -53.33, 0, 0, 0, 0, , NO, 0, 0, NO
    13, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 53.33, 1, 50.944, 0, 0, 0, 0, , NO, 0, 0, NO
    14, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, -53.33, 1, -50.944, 0, 0, 0, 0, , NO, 0, 0, NO
    15, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 50.944, 1, 48.558, 0, 0, 0, 0, , NO, 0, 0, NO
    16, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, -50.944, 1, -48.558, 0, 0, 0, 0, , NO, 0, 0, NO
    17, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 48.558, 1, 46.172, 0, 0, 0, 0, , NO, 0, 0, NO
    18, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, -48.558, 1, -46.172, 0, 0, 0, 0, , NO, 0, 0, NO
    19, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 46.172, 1, 43.786, 0, 0, 0, 0, , NO, 0, 0, NO
    20, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, -46.172, 1, -43.786, 0, 0, 0, 0, , NO, 0, 0, NO
    21, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 43.786, 1, 39.526, 0, 0, 0, 0, , NO, 0, 0, NO
    22, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, -43.786, 1, -39.526, 0, 0, 0, 0, , NO, 0, 0, NO

; End of data for load case [LC6] ------------------------

*USE-STLD, LC7

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST, CMD, TYPE, DIR, bPROJ, [ECCEN], [VALUE], GROUP
; ELEM LIST, CMD, TYPE, TYPE, DIR, VX, VY, VZ, bPROJ, [ECCEN], [VALUE], GROUP
; [VALUE]       : D1, P1, D2, P2, D3, P3, D4, P4
; [ECCEN]       : bECCEN, ECCDIR, I-END, J-END, bJ-END
; [ADDITIONAL]  : bADDITIONAL, ADDITIONAL I-END, ADDITIONAL J-END, bADDITIONAL J-END
     9, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 22.367, 1, 17.894, 0, 0, 0, 0, , NO, 0, 0, NO
    11, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 17.894, 1, 15.508, 0, 0, 0, 0, , NO, 0, 0, NO
    13, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 15.508, 1, 13.122, 0, 0, 0, 0, , NO, 0, 0, NO
    15, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 13.122, 1, 10.736, 0, 0, 0, 0, , NO, 0, 0, NO
    17, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 10.736, 1, 8.35, 0, 0, 0, 0, , NO, 0, 0, NO
    19, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 8.35, 1, 5.964, 0, 0, 0, 0, , NO, 0, 0, NO
    21, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 5.964, 1, 1.704, 0, 0, 0, 0, , NO, 0, 0, NO

; End of data for load case [LC7] ------------------------

*USE-STLD, LC10

*ELTEMPER    ; Element Temperatures
; ELEM LIST, TEMPER, GROUP
     1, -15.
     2, -15.
     3, -15.
     4, -15.
     5, -15.
     6, -15.
     7, -15.
     8, -15.
     9, -15.
```

```
    10. -15.
    11. -15.
    12. -15.
    13. -15.
    14. -15.
    15. -15.
    16. -15.
    17. -15.
    18. -15.
    19. -15.
    20. -15.
    21. -15.
    22. -15.
    23. -15.
    24. -15.
    25. -15.
    26. -15.
    27. -15.
    28. -15.
    29. -15.
    30. -15.

; End of data for load case [LC10] ------------------------

*USE-STLD. NCOMB1

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.35.

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. [ECCEN]. [VALUE]. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. [ECCEN]. [VALUE]. GROUP
; [VALUE]       : D1. P1. D2. P2. D3. P3. D4. P4
; [ECCEN]       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; [ADDITIONAL]  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 96.3024. 1. 89.1456. 0. 0. 0. 0. . NO. 0. 0. NO
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -15.5548. 1. -15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -96.3024. 1. -89.1456. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 89.1456. 1. 85.328. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -15.5548. 1. -15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -89.1456. 1. -85.328. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 85.328. 1. 81.5104. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -85.328. 1. -81.5104. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -15.5548. 1. -15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 81.5104. 1. 77.6928. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -15.5548. 1. -15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -81.5104. 1. -77.6928. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 77.6928. 1. 73.8752. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -77.6928. 1. -73.8752. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -15.5548. 1. -15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 73.8752. 1. 70.0576. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -73.8752. 1. -70.0576. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -15.5548. 1. -15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 70.0576. 1. 63.2416. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -15.5548. 1. -15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -70.0576. 1. -63.2416. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.8851. 1. -38.8851. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.8851. 1. -38.8851. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.8851. 1. -38.8851. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.8851. 1. -38.8851. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.8851. 1. -38.8851. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.8851. 1. -38.8851. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.8851. 1. -38.8851. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.8851. 1. -38.8851. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO

; End of data for load case [NCOMB1] ------------------------

*USE-STLD. NCOMB2

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.35.
```

```
*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. [ECCEN]. [VALUE]. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. [ECCEN]. [VALUE]. GROUP
; [VALUE]       : D1. P1. D2. P2. D3. P3. D4. P4
; [ECCEN]       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; [ADDITIONAL]  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 36.1134. 1. 33.4296. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -36.1134. 1. -33.4296. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -15.5548. 1. -15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 33.4296. 1. 31.998. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -33.4296. 1. -31.998. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -15.5548. 1. -15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 31.998. 1. 30.5664. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -15.5548. 1. -15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -31.998. 1. -30.5664. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 30.5664. 1. 29.1348. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -15.5548. 1. -15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -30.5664. 1. -29.1348. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 29.1348. 1. 27.7032. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -15.5548. 1. -15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -29.1348. 1. -27.7032. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 27.7032. 1. 26.2716. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -15.5548. 1. -15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -27.7032. 1. -26.2716. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 26.2716. 1. 23.7156. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -15.5548. 1. -15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -26.2716. 1. -23.7156. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.8851. 1. -38.8851. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.8851. 1. -38.8851. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.8851. 1. -38.8851. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.8851. 1. -38.8851. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.8851. 1. -38.8851. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.8851. 1. -38.8851. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.8851. 1. -38.8851. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.8851. 1. -38.8851. 0. 0. 0. 0. . NO. 0. 0. NO

; End of data for load case [NCOMB2] ------------------------

*USE-STLD. NCOMB3

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.35.

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. [ECCEN]. [VALUE]. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. [ECCEN]. [VALUE]. GROUP
; [VALUE]       : D1. P1. D2. P2. D3. P3. D4. P4
; [ECCEN]       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; [ADDITIONAL]  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 96.3024. 1. 89.1456. 0. 0. 0. 0. . NO. 0. 0. NO
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -96.3024. 1. -89.1456. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 89.1456. 1. 85.328. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -89.1456. 1. -85.328. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 85.328. 1. 81.5104. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -85.328. 1. -81.5104. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 81.5104. 1. 77.6928. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -81.5104. 1. -77.6928. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 77.6928. 1. 73.8752. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -77.6928. 1. -73.8752. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 73.8752. 1. 70.0576. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -73.8752. 1. -70.0576. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 70.0576. 1. 63.2416. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -70.0576. 1. -63.2416. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.8851. 1. -38.8851. 0. 0. 0. 0. . NO. 0. 0. NO
```

```
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.8851. 1. -38.8851. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.8851. 1. -38.8851. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.8851. 1. -38.8851. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO

; End of data for load case [NCOMB3] ------------------------

*USE-STLD. NCOMB4

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.35.

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. [ECCEN]. [VALUE]. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. [ECCEN]. [VALUE]. GROUP
; [VALUE]       : D1. P1. D2. P2. D3. P3. D4. P4
; [ECCEN]       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; [ADDITIONAL]  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 36.1134. 1. 33.4296. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -36.1134. 1. -33.4296. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 33.4296. 1. 31.998. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -33.4296. 1. -31.998. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 31.998. 1. 30.5664. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -31.998. 1. -30.5664. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 30.5664. 1. 29.1348. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -30.5664. 1. -29.1348. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 29.1348. 1. 27.7032. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -29.1348. 1. -27.7032. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 27.7032. 1. 26.2716. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -27.7032. 1. -26.2716. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 26.2716. 1. 23.7156. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -26.2716. 1. -23.7156. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.8851. 1. -38.8851. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.8851. 1. -38.8851. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.8851. 1. -38.8851. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.8851. 1. -38.8851. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO

; End of data for load case [NCOMB4] ------------------------

*USE-STLD. NCOMB5

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.6.

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. [ECCEN]. [VALUE]. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. [ECCEN]. [VALUE]. GROUP
; [VALUE]       : D1. P1. D2. P2. D3. P3. D4. P4
; [ECCEN]       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; [ADDITIONAL]  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 96.3024. 1. 89.1456. 0. 0. 0. 0. . NO. 0. 0. NO
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -13.4528. 1. -13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -96.3024. 1. -89.1456. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 89.1456. 1. 85.328. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -89.1456. 1. -85.328. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -13.4528. 1. -13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 85.328. 1. 81.5104. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -13.4528. 1. -13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -85.328. 1. -81.5104. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 81.5104. 1. 77.6928. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -81.5104. 1. -77.6928. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -13.4528. 1. -13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
```

```
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 77.6928. 1. 73.8752. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -77.6928. 1. -73.8752. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -13.4528. 1. -13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 73.8752. 1. 70.0576. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -73.8752. 1. -70.0576. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -13.4528. 1. -13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 70.0576. 1. 63.2416. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -13.4528. 1. -13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -70.0576. 1. -63.2416. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -142.056. 1. -142.056. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.6304. 1. -33.6304. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.6304. 1. -33.6304. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -142.056. 1. -142.056. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.6304. 1. -33.6304. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -142.056. 1. -142.056. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -142.056. 1. -142.056. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.6304. 1. -33.6304. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -142.056. 1. -142.056. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.6304. 1. -33.6304. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -142.056. 1. -142.056. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.6304. 1. -33.6304. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -142.056. 1. -142.056. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.6304. 1. -33.6304. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.6304. 1. -33.6304. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -142.056. 1. -142.056. 0. 0. 0. 0. . NO. 0. 0. NO

; End of data for load case [NCOMB5] ------------------------

*USE-STLD. NCOMB6

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.6.

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. [ECCEN]. [VALUE]. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. [ECCEN]. [VALUE]. GROUP
; [VALUE]       : D1. P1. D2. P2. D3. P3. D4. P4
; [ECCEN]       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; [ADDITIONAL]  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 36.1134. 1. 33.4296. 0. 0. 0. 0. . NO. 0. 0. NO
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -36.1134. 1. -33.4296. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -13.4528. 1. -13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 33.4296. 1. 31.998. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -13.4528. 1. -13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -33.4296. 1. -31.998. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 31.998. 1. 30.5664. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -31.998. 1. -30.5664. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -13.4528. 1. -13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 30.5664. 1. 29.1348. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -13.4528. 1. -13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -30.5664. 1. -29.1348. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 29.1348. 1. 27.7032. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -29.1348. 1. -27.7032. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -13.4528. 1. -13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 27.7032. 1. 26.2716. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -27.7032. 1. -26.2716. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -13.4528. 1. -13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 26.2716. 1. 23.7156. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -26.2716. 1. -23.7156. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -13.4528. 1. -13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -142.056. 1. -142.056. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.6304. 1. -33.6304. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -142.056. 1. -142.056. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.6304. 1. -33.6304. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.6304. 1. -33.6304. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -142.056. 1. -142.056. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.6304. 1. -33.6304. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -142.056. 1. -142.056. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -142.056. 1. -142.056. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.6304. 1. -33.6304. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -142.056. 1. -142.056. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.6304. 1. -33.6304. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -142.056. 1. -142.056. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.6304. 1. -33.6304. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -142.056. 1. -142.056. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.6304. 1. -33.6304. 0. 0. 0. 0. . NO. 0. 0. NO
```

```
; End of data for load case [NCOMB6] ------------------------

*USE-STLD. NCOMB7

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.6.

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. [ECCEN]. [VALUE]. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. [ECCEN]. [VALUE]. GROUP
; [VALUE]       : D1. P1. D2. P2. D3. P3. D4. P4
; [ECCEN]       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; [ADDITIONAL]  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 96.3024. 1. 89.1456. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -96.3024. 1. -89.1456. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 89.1456. 1. 85.328. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -89.1456. 1. -85.328. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 85.328. 1. 81.5104. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -85.328. 1. -81.5104. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 81.5104. 1. 77.6928. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -81.5104. 1. -77.6928. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 77.6928. 1. 73.8752. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -77.6928. 1. -73.8752. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 73.8752. 1. 70.0576. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -73.8752. 1. -70.0576. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 70.0576. 1. 63.2416. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -70.0576. 1. -63.2416. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -142.056. 1. -142.056. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.6304. 1. -33.6304. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -142.056. 1. -142.056. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.6304. 1. -33.6304. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -142.056. 1. -142.056. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.6304. 1. -33.6304. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.6304. 1. -33.6304. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -142.056. 1. -142.056. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -142.056. 1. -142.056. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -142.056. 1. -142.056. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -142.056. 1. -142.056. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -142.056. 1. -142.056. 0. 0. 0. 0. . NO. 0. 0. NO

; End of data for load case [NCOMB7] ------------------------

*USE-STLD. NCOMB8

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.6.

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. [ECCEN]. [VALUE]. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. [ECCEN]. [VALUE]. GROUP
; [VALUE]       : D1. P1. D2. P2. D3. P3. D4. P4
; [ECCEN]       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; [ADDITIONAL]  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 36.1134. 1. 33.4296. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -36.1134. 1. -33.4296. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 33.4296. 1. 31.998. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -33.4296. 1. -31.998. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 31.998. 1. 30.5664. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -31.998. 1. -30.5664. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 30.5664. 1. 29.1348. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -30.5664. 1. -29.1348. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 29.1348. 1. 27.7032. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -29.1348. 1. -27.7032. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 27.7032. 1. 26.2716. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -27.7032. 1. -26.2716. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 26.2716. 1. 23.7156. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -26.2716. 1. -23.7156. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -142.056. 1. -142.056. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.6304. 1. -33.6304. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -142.056. 1. -142.056. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.6304. 1. -33.6304. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -142.056. 1. -142.056. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.6304. 1. -33.6304. 0. 0. 0. 0. . NO. 0. 0. NO
```

```
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.6304. 1. -33.6304. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -142.056. 1. -142.056. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -142.056. 1. -142.056. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -142.056. 1. -142.056. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -142.056. 1. -142.056. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -142.056. 1. -142.056. 0. 0. 0. 0. . NO. 0. 0. NO

; End of data for load case [NCOMB8] ------------------------

*USE-STLD. NCOMB9

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.35.

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. [ECCEN]. [VALUE]. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. [ECCEN]. [VALUE]. GROUP
; [VALUE]       : D1. P1. D2. P2. D3. P3. D4. P4
; [ECCEN]       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; [ADDITIONAL]  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 96.3024. 1. 89.1456. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -96.3024. 1. -89.1456. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -11.7712. 1. -11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 89.1456. 1. 85.328. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -89.1456. 1. -85.328. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -11.7712. 1. -11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 85.328. 1. 81.5104. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -85.328. 1. -81.5104. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -11.7712. 1. -11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 81.5104. 1. 77.6928. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -11.7712. 1. -11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -81.5104. 1. -77.6928. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 77.6928. 1. 73.8752. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -11.7712. 1. -11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -77.6928. 1. -73.8752. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 73.8752. 1. 70.0576. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -11.7712. 1. -11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -73.8752. 1. -70.0576. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 70.0576. 1. 63.2416. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -70.0576. 1. -63.2416. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -11.7712. 1. -11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.4266. 1. -29.4266. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.4266. 1. -29.4266. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.4266. 1. -29.4266. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.4266. 1. -29.4266. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.4266. 1. -29.4266. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.4266. 1. -29.4266. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.4266. 1. -29.4266. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.4266. 1. -29.4266. 0. 0. 0. 0. . NO. 0. 0. NO

; End of data for load case [NCOMB9] ------------------------

*USE-STLD. NCOMB10

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.35.

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. [ECCEN]. [VALUE]. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. [ECCEN]. [VALUE]. GROUP
; [VALUE]       : D1. P1. D2. P2. D3. P3. D4. P4
; [ECCEN]       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; [ADDITIONAL]  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 36.1134. 1. 33.4296. 0. 0. 0. 0. . NO. 0. 0. NO
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -36.1134. 1. -33.4296. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -11.7712. 1. -11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 33.4296. 1. 31.998. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -11.7712. 1. -11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -33.4296. 1. -31.998. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
```

```
    13 BEAM    UNILOAD GX NO NO aDir[1]     0 31.998 1 30.5664 0 0 0 0 NO 0 0 NO
    14 BEAM    UNILOAD GX NO NO aDir[1]     0 -11.7712 1 -11.7712 0 0 0 0 NO 0 0 NO
    14 BEAM    UNILOAD GX NO NO aDir[1]     0 -31.998 1 -30.5664 0 0 0 0 NO 0 0 NO
    15 BEAM    UNILOAD GX NO NO aDir[1]     0 11.7712 1 11.7712 0 0 0 0 NO 0 0 NO
    15 BEAM    UNILOAD GX NO NO aDir[1]     0 30.5664 1 29.1348 0 0 0 0 NO 0 0 NO
    16 BEAM    UNILOAD GX NO NO aDir[1]     0 -11.7712 1 -11.7712 0 0 0 0 NO 0 0 NO
    16 BEAM    UNILOAD GX NO NO aDir[1]     0 -30.5664 1 -29.1348 0 0 0 0 NO 0 0 NO
    17 BEAM    UNILOAD GX NO NO aDir[1]     0 11.7712 1 11.7712 0 0 0 0 NO 0 0 NO
    17 BEAM    UNILOAD GX NO NO aDir[1]     0 29.1348 1 27.7032 0 0 0 0 NO 0 0 NO
    18 BEAM    UNILOAD GX NO NO aDir[1]     0 -11.7712 1 -11.7712 0 0 0 0 NO 0 0 NO
    18 BEAM    UNILOAD GX NO NO aDir[1]     0 -29.1348 1 -27.7032 0 0 0 0 NO 0 0 NO
    19 BEAM    UNILOAD GX NO NO aDir[1]     0 11.7712 1 11.7712 0 0 0 0 NO 0 0 NO
    19 BEAM    UNILOAD GX NO NO aDir[1]     0 27.7032 1 26.2716 0 0 0 0 NO 0 0 NO
    20 BEAM    UNILOAD GX NO NO aDir[1]     0 -27.7032 1 -26.2716 0 0 0 0 NO 0 0 NO
    20 BEAM    UNILOAD GX NO NO aDir[1]     0 -11.7712 1 -11.7712 0 0 0 0 NO 0 0 NO
    21 BEAM    UNILOAD GX NO NO aDir[1]     0 11.7712 1 11.7712 0 0 0 0 NO 0 0 NO
    21 BEAM    UNILOAD GX NO NO aDir[1]     0 26.2716 1 23.7156 0 0 0 0 NO 0 0 NO
    22 BEAM    UNILOAD GX NO NO aDir[1]     0 -11.7712 1 -11.7712 0 0 0 0 NO 0 0 NO
    22 BEAM    UNILOAD GX NO NO aDir[1]     0 -26.2716 1 -23.7156 0 0 0 0 NO 0 0 NO
    23 BEAM    UNILOAD GZ NO NO aDir[1]     0 -119.86 1 -119.86 0 0 0 0 NO 0 0 NO
    23 BEAM    UNILOAD GZ NO NO aDir[1]     0 -29.4266 1 -29.4266 0 0 0 0 NO 0 0 NO
    24 BEAM    UNILOAD GZ NO NO aDir[1]     0 -119.86 1 -119.86 0 0 0 0 NO 0 0 NO
    24 BEAM    UNILOAD GZ NO NO aDir[1]     0 -29.4266 1 -29.4266 0 0 0 0 NO 0 0 NO
    25 BEAM    UNILOAD GZ NO NO aDir[1]     0 -119.86 1 -119.86 0 0 0 0 NO 0 0 NO
    25 BEAM    UNILOAD GZ NO NO aDir[1]     0 -29.4266 1 -29.4266 0 0 0 0 NO 0 0 NO
    26 BEAM    UNILOAD GZ NO NO aDir[1]     0 -29.4266 1 -29.4266 0 0 0 0 NO 0 0 NO
    26 BEAM    UNILOAD GZ NO NO aDir[1]     0 -119.86 1 -119.86 0 0 0 0 NO 0 0 NO
    27 BEAM    UNILOAD GZ NO NO aDir[1]     0 -29.4266 1 -29.4266 0 0 0 0 NO 0 0 NO
    27 BEAM    UNILOAD GZ NO NO aDir[1]     0 -119.86 1 -119.86 0 0 0 0 NO 0 0 NO
    28 BEAM    UNILOAD GZ NO NO aDir[1]     0 -29.4266 1 -29.4266 0 0 0 0 NO 0 0 NO
    28 BEAM    UNILOAD GZ NO NO aDir[1]     0 -119.86 1 -119.86 0 0 0 0 NO 0 0 NO
    29 BEAM    UNILOAD GZ NO NO aDir[1]     0 -29.4266 1 -29.4266 0 0 0 0 NO 0 0 NO
    29 BEAM    UNILOAD GZ NO NO aDir[1]     0 -119.86 1 -119.86 0 0 0 0 NO 0 0 NO
    30 BEAM    UNILOAD GZ NO NO aDir[1]     0 -29.4266 1 -29.4266 0 0 0 0 NO 0 0 NO
    30 BEAM    UNILOAD GZ NO NO aDir[1]     0 -119.86 1 -119.86 0 0 0 0 NO 0 0 NO

; End of data for load case [NCOMB10] ------------------------

*USE-STLD. NCOMB11

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.35.

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. [ECCEN]. [VALUE]. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. [ECCEN]. [VALUE]. GROUP
; [VALUE]       : D1. P1. D2. P2. D3. P3. D4. P4
; [ECCEN]       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; [ADDITIONAL]  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9 BEAM    UNILOAD GX NO NO aDir[1]     0 11.7712 1 11.7712 0 0 0 0 NO 0 0 NO
     9 BEAM    UNILOAD GX NO NO aDir[1]     0 96.3024 1 89.1456 0 0 0 0 NO 0 0 NO
    10 BEAM    UNILOAD GX NO NO aDir[1]     0 -96.3024 1 -89.1456 0 0 0 0 NO 0 0 NO
    10 BEAM    UNILOAD GX NO NO aDir[1]     0 -11.7712 1 -11.7712 0 0 0 0 NO 0 0 NO
    11 BEAM    UNILOAD GX NO NO aDir[1]     0 11.7712 1 11.7712 0 0 0 0 NO 0 0 NO
    11 BEAM    UNILOAD GX NO NO aDir[1]     0 89.1456 1 85.328 0 0 0 0 NO 0 0 NO
    12 BEAM    UNILOAD GX NO NO aDir[1]     0 -89.1456 1 -85.328 0 0 0 0 NO 0 0 NO
    12 BEAM    UNILOAD GX NO NO aDir[1]     0 -11.7712 1 -11.7712 0 0 0 0 NO 0 0 NO
    13 BEAM    UNILOAD GX NO NO aDir[1]     0 11.7712 1 11.7712 0 0 0 0 NO 0 0 NO
    13 BEAM    UNILOAD GX NO NO aDir[1]     0 85.328 1 81.5104 0 0 0 0 NO 0 0 NO
    14 BEAM    UNILOAD GX NO NO aDir[1]     0 -85.328 1 -81.5104 0 0 0 0 NO 0 0 NO
    14 BEAM    UNILOAD GX NO NO aDir[1]     0 -11.7712 1 -11.7712 0 0 0 0 NO 0 0 NO
    15 BEAM    UNILOAD GX NO NO aDir[1]     0 81.5104 1 77.6928 0 0 0 0 NO 0 0 NO
    15 BEAM    UNILOAD GX NO NO aDir[1]     0 11.7712 1 11.7712 0 0 0 0 NO 0 0 NO
    16 BEAM    UNILOAD GX NO NO aDir[1]     0 -11.7712 1 -11.7712 0 0 0 0 NO 0 0 NO
    16 BEAM    UNILOAD GX NO NO aDir[1]     0 -81.5104 1 -77.6928 0 0 0 0 NO 0 0 NO
    17 BEAM    UNILOAD GX NO NO aDir[1]     0 77.6928 1 73.8752 0 0 0 0 NO 0 0 NO
    17 BEAM    UNILOAD GX NO NO aDir[1]     0 11.7712 1 11.7712 0 0 0 0 NO 0 0 NO
    18 BEAM    UNILOAD GX NO NO aDir[1]     0 -11.7712 1 -11.7712 0 0 0 0 NO 0 0 NO
    18 BEAM    UNILOAD GX NO NO aDir[1]     0 -77.6928 1 -73.8752 0 0 0 0 NO 0 0 NO
    19 BEAM    UNILOAD GX NO NO aDir[1]     0 73.8752 1 70.0576 0 0 0 0 NO 0 0 NO
    19 BEAM    UNILOAD GX NO NO aDir[1]     0 11.7712 1 11.7712 0 0 0 0 NO 0 0 NO
    20 BEAM    UNILOAD GX NO NO aDir[1]     0 -11.7712 1 -11.7712 0 0 0 0 NO 0 0 NO
    20 BEAM    UNILOAD GX NO NO aDir[1]     0 -73.8752 1 -70.0576 0 0 0 0 NO 0 0 NO
    21 BEAM    UNILOAD GX NO NO aDir[1]     0 11.7712 1 11.7712 0 0 0 0 NO 0 0 NO
    21 BEAM    UNILOAD GX NO NO aDir[1]     0 70.0576 1 63.2416 0 0 0 0 NO 0 0 NO
    22 BEAM    UNILOAD GX NO NO aDir[1]     0 -70.0576 1 -63.2416 0 0 0 0 NO 0 0 NO
    22 BEAM    UNILOAD GX NO NO aDir[1]     0 -11.7712 1 -11.7712 0 0 0 0 NO 0 0 NO
    23 BEAM    UNILOAD GZ NO NO aDir[1]     0 -29.4266 1 -29.4266 0 0 0 0 NO 0 0 NO
    23 BEAM    UNILOAD GZ NO NO aDir[1]     0 -119.86 1 -119.86 0 0 0 0 NO 0 0 NO
    24 BEAM    UNILOAD GZ NO NO aDir[1]     0 -29.4266 1 -29.4266 0 0 0 0 NO 0 0 NO
    24 BEAM    UNILOAD GZ NO NO aDir[1]     0 -119.86 1 -119.86 0 0 0 0 NO 0 0 NO
    25 BEAM    UNILOAD GZ NO NO aDir[1]     0 -119.86 1 -119.86 0 0 0 0 NO 0 0 NO
    25 BEAM    UNILOAD GZ NO NO aDir[1]     0 -29.4266 1 -29.4266 0 0 0 0 NO 0 0 NO
    26 BEAM    UNILOAD GZ NO NO aDir[1]     0 -119.86 1 -119.86 0 0 0 0 NO 0 0 NO
    26 BEAM    UNILOAD GZ NO NO aDir[1]     0 -29.4266 1 -29.4266 0 0 0 0 NO 0 0 NO
    27 BEAM    UNILOAD GZ NO NO aDir[1]     0 -29.4266 1 -29.4266 0 0 0 0 NO 0 0 NO
    27 BEAM    UNILOAD GZ NO NO aDir[1]     0 -119.86 1 -119.86 0 0 0 0 NO 0 0 NO
```

```
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.4266. 1. -29.4266. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.4266. 1. -29.4266. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.4266. 1. -29.4266. 0. 0. 0. 0. . NO. 0. 0. NO

*ELTEMPER    ; Element Temperatures
; ELEM LIST. TEMPER. GROUP
     1. -20.25.
     2. -20.25.
     3. -20.25.
     4. -20.25.
     5. -20.25.
     6. -20.25.
     7. -20.25.
     8. -20.25.
     9. -20.25.
    10. -20.25.
    11. -20.25.
    12. -20.25.
    13. -20.25.
    14. -20.25.
    15. -20.25.
    16. -20.25.
    17. -20.25.
    18. -20.25.
    19. -20.25.
    20. -20.25.
    21. -20.25.
    22. -20.25.
    23. -20.25.
    24. -20.25.
    25. -20.25.
    26. -20.25.
    27. -20.25.
    28. -20.25.
    29. -20.25.
    30. -20.25.

; End of data for load case [NCOMB11] ------------------------

*USE-STLD. NCOMB12

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.35.

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. [ECCEN]. [VALUE]. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. [ECCEN]. [VALUE]. GROUP
; [VALUE]       : D1. P1. D2. P2. D3. P3. D4. P4
; [ECCEN]       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; [ADDITIONAL]  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 36.1134. 1. 33.4296. 0. 0. 0. 0. . NO. 0. 0. NO
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -36.1134. 1. -33.4296. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -11.7712. 1. -11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 33.4296. 1. 31.998. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -11.7712. 1. -11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -33.4296. 1. -31.998. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 31.998. 1. 30.5664. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -11.7712. 1. -11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -31.998. 1. -30.5664. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 30.5664. 1. 29.1348. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -11.7712. 1. -11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -30.5664. 1. -29.1348. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 29.1348. 1. 27.7032. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -11.7712. 1. -11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -29.1348. 1. -27.7032. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 27.7032. 1. 26.2716. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -27.7032. 1. -26.2716. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -11.7712. 1. -11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 26.2716. 1. 23.7156. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -11.7712. 1. -11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -26.2716. 1. -23.7156. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.4266. 1. -29.4266. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.4266. 1. -29.4266. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.4266. 1. -29.4266. 0. 0. 0. 0. . NO. 0. 0. NO
```

```
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.4266. 1. -29.4266. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.4266. 1. -29.4266. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.4266. 1. -29.4266. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.4266. 1. -29.4266. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.4266. 1. -29.4266. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO

*ELTEMPER    ; Element Temperatures
; ELEM LIST. TEMPER. GROUP
     1. -20.25.
     2. -20.25.
     3. -20.25.
     4. -20.25.
     5. -20.25.
     6. -20.25.
     7. -20.25.
     8. -20.25.
     9. -20.25.
    10. -20.25.
    11. -20.25.
    12. -20.25.
    13. -20.25.
    14. -20.25.
    15. -20.25.
    16. -20.25.
    17. -20.25.
    18. -20.25.
    19. -20.25.
    20. -20.25.
    21. -20.25.
    22. -20.25.
    23. -20.25.
    24. -20.25.
    25. -20.25.
    26. -20.25.
    27. -20.25.
    28. -20.25.
    29. -20.25.
    30. -20.25.

; End of data for load case [NCOMB12] ------------------------

*USE-STLD. NCOMB13

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.35.

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. [ECCEN]. [VALUE]. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. [ECCEN]. [VALUE]. GROUP
; [VALUE]       : D1. P1. D2. P2. D3. P3. D4. P4
; [ECCEN]       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; [ADDITIONAL]  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 96.3024. 1. 89.1456. 0. 0. 0. 0. . NO. 0. 0. NO
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -96.3024. 1. -89.1456. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 89.1456. 1. 85.328. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -89.1456. 1. -85.328. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 85.328. 1. 81.5104. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -85.328. 1. -81.5104. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 81.5104. 1. 77.6928. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -81.5104. 1. -77.6928. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 77.6928. 1. 73.8752. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -77.6928. 1. -73.8752. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 73.8752. 1. 70.0576. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -73.8752. 1. -70.0576. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 70.0576. 1. 63.2416. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -70.0576. 1. -63.2416. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.4266. 1. -29.4266. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.4266. 1. -29.4266. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.4266. 1. -29.4266. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.4266. 1. -29.4266. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
```

```
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO

; End of data for load case [NCOMB13] ------------------------

*USE-STLD. NCOMB14

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.35.

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. [ECCEN]. [VALUE]. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. [ECCEN]. [VALUE]. GROUP
; [VALUE]       : D1. P1. D2. P2. D3. P3. D4. P4
; [ECCEN]       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; [ADDITIONAL]  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 36.1134. 1. 33.4296. 0. 0. 0. 0. . NO. 0. 0. NO
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -36.1134. 1. -33.4296. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 33.4296. 1. 31.998. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -33.4296. 1. -31.998. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 31.998. 1. 30.5664. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -31.998. 1. -30.5664. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 30.5664. 1. 29.1348. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -30.5664. 1. -29.1348. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 29.1348. 1. 27.7032. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -29.1348. 1. -27.7032. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 27.7032. 1. 26.2716. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -27.7032. 1. -26.2716. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 26.2716. 1. 23.7156. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -26.2716. 1. -23.7156. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.4266. 1. -29.4266. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.4266. 1. -29.4266. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.4266. 1. -29.4266. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.4266. 1. -29.4266. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO

; End of data for load case [NCOMB14] ------------------------

*USE-STLD. NCOMB15

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.35.

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. [ECCEN]. [VALUE]. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. [ECCEN]. [VALUE]. GROUP
; [VALUE]       : D1. P1. D2. P2. D3. P3. D4. P4
; [ECCEN]       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; [ADDITIONAL]  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 96.3024. 1. 89.1456. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -96.3024. 1. -89.1456. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 89.1456. 1. 85.328. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -89.1456. 1. -85.328. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 85.328. 1. 81.5104. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -85.328. 1. -81.5104. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 81.5104. 1. 77.6928. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -81.5104. 1. -77.6928. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 77.6928. 1. 73.8752. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -77.6928. 1. -73.8752. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 73.8752. 1. 70.0576. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -73.8752. 1. -70.0576. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 70.0576. 1. 63.2416. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -70.0576. 1. -63.2416. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.4266. 1. -29.4266. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
```

```
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.4266. 1. -29.4266. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.4266. 1. -29.4266. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.4266. 1. -29.4266. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO

*ELTEMPER    ; Element Temperatures
; ELEM LIST. TEMPER. GROUP
     1. -20.25.
     2. -20.25.
     3. -20.25.
     4. -20.25.
     5. -20.25.
     6. -20.25.
     7. -20.25.
     8. -20.25.
     9. -20.25.
    10. -20.25.
    11. -20.25.
    12. -20.25.
    13. -20.25.
    14. -20.25.
    15. -20.25.
    16. -20.25.
    17. -20.25.
    18. -20.25.
    19. -20.25.
    20. -20.25.
    21. -20.25.
    22. -20.25.
    23. -20.25.
    24. -20.25.
    25. -20.25.
    26. -20.25.
    27. -20.25.
    28. -20.25.
    29. -20.25.
    30. -20.25.

; End of data for load case [NCOMB15] ------------------------

*USE-STLD. NCOMB16

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.35.

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. [ECCEN]. [VALUE]. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. [ECCEN]. [VALUE]. GROUP
; [VALUE]       : D1. P1. D2. P2. D3. P3. D4. P4
; [ECCEN]       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; [ADDITIONAL]  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 36.1134. 1. 33.4296. 0. 0. 0. 0. . NO. 0. 0. NO
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -36.1134. 1. -33.4296. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 33.4296. 1. 31.998. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -33.4296. 1. -31.998. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 31.998. 1. 30.5664. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -31.998. 1. -30.5664. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 30.5664. 1. 29.1348. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -30.5664. 1. -29.1348. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 29.1348. 1. 27.7032. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -29.1348. 1. -27.7032. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 27.7032. 1. 26.2716. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -27.7032. 1. -26.2716. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 26.2716. 1. 23.7156. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -26.2716. 1. -23.7156. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.4266. 1. -29.4266. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.4266. 1. -29.4266. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.4266. 1. -29.4266. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.4266. 1. -29.4266. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
```

```
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO

*ELTEMPER    ; Element Temperatures
; ELEM LIST. TEMPER. GROUP
     1. -20.25.
     2. -20.25.
     3. -20.25.
     4. -20.25.
     5. -20.25.
     6. -20.25.
     7. -20.25.
     8. -20.25.
     9. -20.25.
    10. -20.25.
    11. -20.25.
    12. -20.25.
    13. -20.25.
    14. -20.25.
    15. -20.25.
    16. -20.25.
    17. -20.25.
    18. -20.25.
    19. -20.25.
    20. -20.25.
    21. -20.25.
    22. -20.25.
    23. -20.25.
    24. -20.25.
    25. -20.25.
    26. -20.25.
    27. -20.25.
    28. -20.25.
    29. -20.25.
    30. -20.25.

; End of data for load case [NCOMB16] ------------------------

*USE-STLD. NCOMB17

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.35.

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. [ECCEN]. [VALUE]. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. [ECCEN]. [VALUE]. GROUP
; [VALUE]       : D1. P1. D2. P2. D3. P3. D4. P4
; [ECCEN]       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; [ADDITIONAL]  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 35.7872. 1. 28.6304. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 28.6304. 1. 24.8128. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 24.8128. 1. 20.9952. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 20.9952. 1. 17.1776. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 17.1776. 1. 13.36. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.36. 1. 9.5424. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 9.5424. 1. 2.7264. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.8851. 1. -38.8851. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.8851. 1. -38.8851. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.8851. 1. -38.8851. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.8851. 1. -38.8851. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO

; End of data for load case [NCOMB17] ------------------------

*USE-STLD. NCOMB18

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.35.

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. [ECCEN]. [VALUE]. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. [ECCEN]. [VALUE]. GROUP
```

```
; [VALUE]       : D1. P1. D2. P2. D3. P3. D4. P4
; [ECCEN]       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; [ADDITIONAL]  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4202. 1. 10.7364. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 10.7364. 1. 9.3048. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 9.3048. 1. 7.8732. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 7.8732. 1. 6.4416. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 6.4416. 1. 5.01. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 5.01. 1. 3.5784. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 3.5784. 1. 1.0224. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.8851. 1. -38.8851. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.8851. 1. -38.8851. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.8851. 1. -38.8851. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.8851. 1. -38.8851. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO

; End of data for load case [NCOMB18] ------------------------

*USE-STLD. NCOMB19

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.6.

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. [ECCEN]. [VALUE]. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. [ECCEN]. [VALUE]. GROUP
; [VALUE]       : D1. P1. D2. P2. D3. P3. D4. P4
; [ECCEN]       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; [ADDITIONAL]  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 35.7872. 1. 28.6304. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 28.6304. 1. 24.8128. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 24.8128. 1. 20.9952. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 20.9952. 1. 17.1776. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 17.1776. 1. 13.36. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.36. 1. 9.5424. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 9.5424. 1. 2.7264. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.6304. 1. -33.6304. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -142.056. 1. -142.056. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.6304. 1. -33.6304. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -142.056. 1. -142.056. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.6304. 1. -33.6304. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -142.056. 1. -142.056. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -142.056. 1. -142.056. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.6304. 1. -33.6304. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -142.056. 1. -142.056. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -142.056. 1. -142.056. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -142.056. 1. -142.056. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -142.056. 1. -142.056. 0. 0. 0. 0. . NO. 0. 0. NO

; End of data for load case [NCOMB19] ------------------------

*USE-STLD. NCOMB20

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.6.

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. [ECCEN]. [VALUE]. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. [ECCEN]. [VALUE]. GROUP
; [VALUE]       : D1. P1. D2. P2. D3. P3. D4. P4
; [ECCEN]       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; [ADDITIONAL]  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4202. 1. 10.7364. 0. 0. 0. 0. . NO. 0. 0. NO
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 10.7364. 1. 9.3048. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
```

```
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 9.3048. 1. 7.8732. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 7.8732. 1. 6.4416. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 6.4416. 1. 5.01. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 5.01. 1. 3.5784. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 3.5784. 1. 1.0224. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -142.056. 1. -142.056. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.6304. 1. -33.6304. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -142.056. 1. -142.056. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.6304. 1. -33.6304. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.6304. 1. -33.6304. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -142.056. 1. -142.056. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -142.056. 1. -142.056. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.6304. 1. -33.6304. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -142.056. 1. -142.056. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -142.056. 1. -142.056. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -142.056. 1. -142.056. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -142.056. 1. -142.056. 0. 0. 0. 0. . NO. 0. 0. NO

; End of data for load case [NCOMB20] ------------------------

*USE-STLD. NCOMB21

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. [ECCEN]. [VALUE]. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. [ECCEN]. [VALUE]. GROUP
; [VALUE]       : D1. P1. D2. P2. D3. P3. D4. P4
; [ECCEN]       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; [ADDITIONAL]  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 60.189. 1. 55.716. 0. 0. 0. 0. . NO. 0. 0. NO
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -60.189. 1. -55.716. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 55.716. 1. 53.33. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -55.716. 1. -53.33. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 53.33. 1. 50.944. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -53.33. 1. -50.944. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 50.944. 1. 48.558. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -50.944. 1. -48.558. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 48.558. 1. 46.172. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -48.558. 1. -46.172. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 46.172. 1. 43.786. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -46.172. 1. -43.786. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 43.786. 1. 39.526. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -43.786. 1. -39.526. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -21.019. 1. -21.019. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -21.019. 1. -21.019. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -21.019. 1. -21.019. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -21.019. 1. -21.019. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -21.019. 1. -21.019. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -21.019. 1. -21.019. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -21.019. 1. -21.019. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -21.019. 1. -21.019. 0. 0. 0. 0. . NO. 0. 0. NO

; End of data for load case [NCOMB21] ------------------------

*USE-STLD. NCOMB22

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.
```

```
*BEAMLOAD    ; Element Beam Loads
; ELEM LIST, CMD, TYPE, DIR, bPROJ, [ECCEN], [VALUE], GROUP
; ELEM LIST, CMD, TYPE, TYPE, DIR, VX, VY, VZ, bPROJ, [ECCEN], [VALUE], GROUP
; [VALUE]       : D1, P1, D2, P2, D3, P3, D4, P4
; [ECCEN]       : bECCEN, ECCDIR, I-END, J-END, bJ-END
; [ADDITIONAL]  : bADDITIONAL, ADDITIONAL I-END, ADDITIONAL J-END, bADDITIONAL J-END
     9, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 30.0945, 1, 27.858, 0, 0, 0, 0, , NO, 0, 0, NO
     9, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 8.408, 1, 8.408, 0, 0, 0, 0, , NO, 0, 0, NO
    10, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, -8.408, 1, -8.408, 0, 0, 0, 0, , NO, 0, 0, NO
    10, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, -30.0945, 1, -27.858, 0, 0, 0, 0, , NO, 0, 0, NO
    11, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 8.408, 1, 8.408, 0, 0, 0, 0, , NO, 0, 0, NO
    11, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 27.858, 1, 26.665, 0, 0, 0, 0, , NO, 0, 0, NO
    12, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, -27.858, 1, -26.665, 0, 0, 0, 0, , NO, 0, 0, NO
    12, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, -8.408, 1, -8.408, 0, 0, 0, 0, , NO, 0, 0, NO
    13, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 8.408, 1, 8.408, 0, 0, 0, 0, , NO, 0, 0, NO
    13, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 26.665, 1, 25.472, 0, 0, 0, 0, , NO, 0, 0, NO
    14, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, -26.665, 1, -25.472, 0, 0, 0, 0, , NO, 0, 0, NO
    14, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, -8.408, 1, -8.408, 0, 0, 0, 0, , NO, 0, 0, NO
    15, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 25.472, 1, 24.279, 0, 0, 0, 0, , NO, 0, 0, NO
    15, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 8.408, 1, 8.408, 0, 0, 0, 0, , NO, 0, 0, NO
    16, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, -8.408, 1, -8.408, 0, 0, 0, 0, , NO, 0, 0, NO
    16, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, -25.472, 1, -24.279, 0, 0, 0, 0, , NO, 0, 0, NO
    17, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 8.408, 1, 8.408, 0, 0, 0, 0, , NO, 0, 0, NO
    17, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 24.279, 1, 23.086, 0, 0, 0, 0, , NO, 0, 0, NO
    18, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, -8.408, 1, -8.408, 0, 0, 0, 0, , NO, 0, 0, NO
    18, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, -24.279, 1, -23.086, 0, 0, 0, 0, , NO, 0, 0, NO
    19, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 8.408, 1, 8.408, 0, 0, 0, 0, , NO, 0, 0, NO
    19, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 23.086, 1, 21.893, 0, 0, 0, 0, , NO, 0, 0, NO
    20, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, -23.086, 1, -21.893, 0, 0, 0, 0, , NO, 0, 0, NO
    20, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, -8.408, 1, -8.408, 0, 0, 0, 0, , NO, 0, 0, NO
    21, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 8.408, 1, 8.408, 0, 0, 0, 0, , NO, 0, 0, NO
    21, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 21.893, 1, 19.763, 0, 0, 0, 0, , NO, 0, 0, NO
    22, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, -21.893, 1, -19.763, 0, 0, 0, 0, , NO, 0, 0, NO
    22, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, -8.408, 1, -8.408, 0, 0, 0, 0, , NO, 0, 0, NO
    23, BEAM    , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -21.019, 1, -21.019, 0, 0, 0, 0, , NO, 0, 0, NO
    23, BEAM    , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -88.785, 1, -88.785, 0, 0, 0, 0, , NO, 0, 0, NO
    24, BEAM    , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -88.785, 1, -88.785, 0, 0, 0, 0, , NO, 0, 0, NO
    24, BEAM    , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -21.019, 1, -21.019, 0, 0, 0, 0, , NO, 0, 0, NO
    25, BEAM    , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -88.785, 1, -88.785, 0, 0, 0, 0, , NO, 0, 0, NO
    25, BEAM    , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -21.019, 1, -21.019, 0, 0, 0, 0, , NO, 0, 0, NO
    26, BEAM    , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -88.785, 1, -88.785, 0, 0, 0, 0, , NO, 0, 0, NO
    26, BEAM    , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -21.019, 1, -21.019, 0, 0, 0, 0, , NO, 0, 0, NO
    27, BEAM    , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -21.019, 1, -21.019, 0, 0, 0, 0, , NO, 0, 0, NO
    27, BEAM    , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -88.785, 1, -88.785, 0, 0, 0, 0, , NO, 0, 0, NO
    28, BEAM    , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -21.019, 1, -21.019, 0, 0, 0, 0, , NO, 0, 0, NO
    28, BEAM    , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -88.785, 1, -88.785, 0, 0, 0, 0, , NO, 0, 0, NO
    29, BEAM    , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -88.785, 1, -88.785, 0, 0, 0, 0, , NO, 0, 0, NO
    29, BEAM    , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -21.019, 1, -21.019, 0, 0, 0, 0, , NO, 0, 0, NO
    30, BEAM    , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -88.785, 1, -88.785, 0, 0, 0, 0, , NO, 0, 0, NO
    30, BEAM    , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -21.019, 1, -21.019, 0, 0, 0, 0, , NO, 0, 0, NO

; End of data for load case [NCOMB22] ------------------------

*USE-STLD, NCOMB23

; *SELFWEIGHT, X, Y, Z, GROUP
*SELFWEIGHT, 0, 0, -1,

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST, CMD, TYPE, DIR, bPROJ, [ECCEN], [VALUE], GROUP
; ELEM LIST, CMD, TYPE, TYPE, DIR, VX, VY, VZ, bPROJ, [ECCEN], [VALUE], GROUP
; [VALUE]       : D1, P1, D2, P2, D3, P3, D4, P4
; [ECCEN]       : bECCEN, ECCDIR, I-END, J-END, bJ-END
; [ADDITIONAL]  : bADDITIONAL, ADDITIONAL I-END, ADDITIONAL J-END, bADDITIONAL J-END
     9, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 8.408, 1, 8.408, 0, 0, 0, 0, , NO, 0, 0, NO
     9, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 60.189, 1, 55.716, 0, 0, 0, 0, , NO, 0, 0, NO
    10, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, -60.189, 1, -55.716, 0, 0, 0, 0, , NO, 0, 0, NO
    11, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 8.408, 1, 8.408, 0, 0, 0, 0, , NO, 0, 0, NO
    11, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 55.716, 1, 53.33, 0, 0, 0, 0, , NO, 0, 0, NO
    12, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, -55.716, 1, -53.33, 0, 0, 0, 0, , NO, 0, 0, NO
    13, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 53.33, 1, 50.944, 0, 0, 0, 0, , NO, 0, 0, NO
    13, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 8.408, 1, 8.408, 0, 0, 0, 0, , NO, 0, 0, NO
    14, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, -53.33, 1, -50.944, 0, 0, 0, 0, , NO, 0, 0, NO
    15, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 8.408, 1, 8.408, 0, 0, 0, 0, , NO, 0, 0, NO
    15, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 50.944, 1, 48.558, 0, 0, 0, 0, , NO, 0, 0, NO
    16, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, -50.944, 1, -48.558, 0, 0, 0, 0, , NO, 0, 0, NO
    17, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 8.408, 1, 8.408, 0, 0, 0, 0, , NO, 0, 0, NO
    17, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 48.558, 1, 46.172, 0, 0, 0, 0, , NO, 0, 0, NO
    18, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, -48.558, 1, -46.172, 0, 0, 0, 0, , NO, 0, 0, NO
    19, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 8.408, 1, 8.408, 0, 0, 0, 0, , NO, 0, 0, NO
    19, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 46.172, 1, 43.786, 0, 0, 0, 0, , NO, 0, 0, NO
    20, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, -46.172, 1, -43.786, 0, 0, 0, 0, , NO, 0, 0, NO
    21, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 43.786, 1, 39.526, 0, 0, 0, 0, , NO, 0, 0, NO
    21, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 8.408, 1, 8.408, 0, 0, 0, 0, , NO, 0, 0, NO
    22, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, -43.786, 1, -39.526, 0, 0, 0, 0, , NO, 0, 0, NO
    23, BEAM    , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -88.785, 1, -88.785, 0, 0, 0, 0, , NO, 0, 0, NO
```

```
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -21.019. 1. -21.019. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -21.019. 1. -21.019. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -21.019. 1. -21.019. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -21.019. 1. -21.019. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO

; End of data for load case [NCOMB23] ------------------------

*USE-STLD. NCOMB24

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. [ECCEN]. [VALUE]. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. [ECCEN]. [VALUE]. GROUP
; [VALUE]       : D1. P1. D2. P2. D3. P3. D4. P4
; [ECCEN]       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; [ADDITIONAL]  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 30.0945. 1. 27.858. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -30.0945. 1. -27.858. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 27.858. 1. 26.665. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -27.858. 1. -26.665. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 26.665. 1. 25.472. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -26.665. 1. -25.472. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 25.472. 1. 24.279. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -25.472. 1. -24.279. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 24.279. 1. 23.086. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -24.279. 1. -23.086. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 23.086. 1. 21.893. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -23.086. 1. -21.893. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 21.893. 1. 19.763. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -21.893. 1. -19.763. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -21.019. 1. -21.019. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -21.019. 1. -21.019. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -21.019. 1. -21.019. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -21.019. 1. -21.019. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO

; End of data for load case [NCOMB24] ------------------------

*USE-STLD. NCOMB25

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. [ECCEN]. [VALUE]. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. [ECCEN]. [VALUE]. GROUP
; [VALUE]       : D1. P1. D2. P2. D3. P3. D4. P4
; [ECCEN]       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; [ADDITIONAL]  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 60.189. 1. 55.716. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -60.189. 1. -55.716. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 55.716. 1. 53.33. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -55.716. 1. -53.33. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 53.33. 1. 50.944. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -53.33. 1. -50.944. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 50.944. 1. 48.558. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -50.944. 1. -48.558. 0. 0. 0. 0. . NO. 0. 0. NO
```

```
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 48.558. 1. 46.172. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -48.558. 1. -46.172. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 46.172. 1. 43.786. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -46.172. 1. -43.786. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 43.786. 1. 39.526. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -43.786. 1. -39.526. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -21.019. 1. -21.019. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -21.019. 1. -21.019. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -21.019. 1. -21.019. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -21.019. 1. -21.019. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -21.019. 1. -21.019. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -21.019. 1. -21.019. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -21.019. 1. -21.019. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -21.019. 1. -21.019. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO

; End of data for load case [NCOMB25] ------------------------

*USE-STLD. NCOMB26

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. [ECCEN]. [VALUE]. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. [ECCEN]. [VALUE]. GROUP
; [VALUE]       : D1. P1. D2. P2. D3. P3. D4. P4
; [ECCEN]       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; [ADDITIONAL]  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 30.0945. 1. 27.858. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -30.0945. 1. -27.858. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 27.858. 1. 26.665. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -27.858. 1. -26.665. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 26.665. 1. 25.472. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -26.665. 1. -25.472. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 25.472. 1. 24.279. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -25.472. 1. -24.279. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 24.279. 1. 23.086. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -24.279. 1. -23.086. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 23.086. 1. 21.893. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -23.086. 1. -21.893. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 21.893. 1. 19.763. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -21.893. 1. -19.763. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -21.019. 1. -21.019. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -21.019. 1. -21.019. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -21.019. 1. -21.019. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -21.019. 1. -21.019. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -21.019. 1. -21.019. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -21.019. 1. -21.019. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -21.019. 1. -21.019. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -21.019. 1. -21.019. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
```

```
; End of data for load case [NCOMB26] ------------------------

*USE-STLD. NCOMB27

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. [ECCEN]. [VALUE]. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. [ECCEN]. [VALUE]. GROUP
; [VALUE]       : D1. P1. D2. P2. D3. P3. D4. P4
; [ECCEN]       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; [ADDITIONAL]  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 60.189. 1. 55.716. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -60.189. 1. -55.716. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 55.716. 1. 53.33. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -55.716. 1. -53.33. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 53.33. 1. 50.944. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -53.33. 1. -50.944. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 50.944. 1. 48.558. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -50.944. 1. -48.558. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 48.558. 1. 46.172. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -48.558. 1. -46.172. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 46.172. 1. 43.786. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -46.172. 1. -43.786. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 43.786. 1. 39.526. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -43.786. 1. -39.526. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -21.019. 1. -21.019. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -21.019. 1. -21.019. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -21.019. 1. -21.019. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -21.019. 1. -21.019. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -21.019. 1. -21.019. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -21.019. 1. -21.019. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -21.019. 1. -21.019. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -21.019. 1. -21.019. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO

*ELTEMPER    ; Element Temperatures
; ELEM LIST. TEMPER. GROUP
     1. -15.
     2. -15.
     3. -15.
     4. -15.
     5. -15.
     6. -15.
     7. -15.
     8. -15.
     9. -15.
    10. -15.
    11. -15.
    12. -15.
    13. -15.
    14. -15.
    15. -15.
    16. -15.
    17. -15.
    18. -15.
    19. -15.
    20. -15.
    21. -15.
    22. -15.
    23. -15.
    24. -15.
    25. -15.
    26. -15.
```

```
    27. -15.
    28. -15.
    29. -15.
    30. -15.

; End of data for load case [NCOMB27] ------------------------

*USE-STLD. NCOMB28

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. [ECCEN]. [VALUE]. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. [ECCEN]. [VALUE]. GROUP
; [VALUE]       : D1. P1. D2. P2. D3. P3. D4. P4
; [ECCEN]       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; [ADDITIONAL]  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 30.0945. 1. 27.858. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -30.0945. 1. -27.858. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 27.858. 1. 26.665. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -27.858. 1. -26.665. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 26.665. 1. 25.472. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -26.665. 1. -25.472. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 25.472. 1. 24.279. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -25.472. 1. -24.279. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 24.279. 1. 23.086. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -24.279. 1. -23.086. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 23.086. 1. 21.893. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -23.086. 1. -21.893. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 21.893. 1. 19.763. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -21.893. 1. -19.763. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -21.019. 1. -21.019. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -21.019. 1. -21.019. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -21.019. 1. -21.019. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -21.019. 1. -21.019. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -21.019. 1. -21.019. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -21.019. 1. -21.019. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -21.019. 1. -21.019. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -21.019. 1. -21.019. 0. 0. 0. 0. . NO. 0. 0. NO

*ELTEMPER    ; Element Temperatures
; ELEM LIST. TEMPER. GROUP
     1. -15.
     2. -15.
     3. -15.
     4. -15.
     5. -15.
     6. -15.
     7. -15.
     8. -15.
     9. -15.
    10. -15.
    11. -15.
    12. -15.
    13. -15.
    14. -15.
    15. -15.
    16. -15.
    17. -15.
    18. -15.
    19. -15.
    20. -15.
    21. -15.
    22. -15.
```

```
    23. -15.
    24. -15.
    25. -15.
    26. -15.
    27. -15.
    28. -15.
    29. -15.
    30. -15.

; End of data for load case [NCOMB28] ------------------------

*USE-STLD. NCOMB29

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. [ECCEN]. [VALUE]. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. [ECCEN]. [VALUE]. GROUP
; [VALUE]       : D1. P1. D2. P2. D3. P3. D4. P4
; [ECCEN]       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; [ADDITIONAL]  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 60.189. 1. 55.716. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -60.189. 1. -55.716. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 55.716. 1. 53.33. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -55.716. 1. -53.33. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 53.33. 1. 50.944. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -53.33. 1. -50.944. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 50.944. 1. 48.558. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -50.944. 1. -48.558. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 48.558. 1. 46.172. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -48.558. 1. -46.172. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 46.172. 1. 43.786. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -46.172. 1. -43.786. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 43.786. 1. 39.526. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -43.786. 1. -39.526. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -21.019. 1. -21.019. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -21.019. 1. -21.019. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -21.019. 1. -21.019. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -21.019. 1. -21.019. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO

; End of data for load case [NCOMB29] ------------------------

*USE-STLD. NCOMB30

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. [ECCEN]. [VALUE]. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. [ECCEN]. [VALUE]. GROUP
; [VALUE]       : D1. P1. D2. P2. D3. P3. D4. P4
; [ECCEN]       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; [ADDITIONAL]  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 30.0945. 1. 27.858. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -30.0945. 1. -27.858. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 27.858. 1. 26.665. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -27.858. 1. -26.665. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 26.665. 1. 25.472. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -26.665. 1. -25.472. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 25.472. 1. 24.279. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -25.472. 1. -24.279. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 24.279. 1. 23.086. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -24.279. 1. -23.086. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 23.086. 1. 21.893. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -23.086. 1. -21.893. 0. 0. 0. 0. . NO. 0. 0. NO
```

```
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 21.893. 1. 19.763. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -21.893. 1. -19.763. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -21.019. 1. -21.019. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -21.019. 1. -21.019. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -21.019. 1. -21.019. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -21.019. 1. -21.019. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO

; End of data for load case [NCOMB30] ------------------------

*USE-STLD. NCOMB31

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. [ECCEN]. [VALUE]. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. [ECCEN]. [VALUE]. GROUP
; [VALUE]       : D1. P1. D2. P2. D3. P3. D4. P4
; [ECCEN]       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; [ADDITIONAL]  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 60.189. 1. 55.716. 0. 0. 0. 0. . NO. 0. 0. NO
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -60.189. 1. -55.716. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 55.716. 1. 53.33. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -55.716. 1. -53.33. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 53.33. 1. 50.944. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -53.33. 1. -50.944. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 50.944. 1. 48.558. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -50.944. 1. -48.558. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 48.558. 1. 46.172. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -48.558. 1. -46.172. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 46.172. 1. 43.786. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -46.172. 1. -43.786. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 43.786. 1. 39.526. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -43.786. 1. -39.526. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -21.019. 1. -21.019. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -21.019. 1. -21.019. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -21.019. 1. -21.019. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -21.019. 1. -21.019. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO

*ELTEMPER    ; Element Temperatures
; ELEM LIST. TEMPER. GROUP
     1. -15.
     2. -15.
     3. -15.
     4. -15.
     5. -15.
     6. -15.
     7. -15.
     8. -15.
     9. -15.
    10. -15.
    11. -15.
    12. -15.
    13. -15.
    14. -15.
    15. -15.
    16. -15.
    17. -15.
    18. -15.
    19. -15.
    20. -15.
    21. -15.
    22. -15.
```

```
     23. -15.
     24. -15.
     25. -15.
     26. -15.
     27. -15.
     28. -15.
     29. -15.
     30. -15.

; End of data for load case [NCOMB31] ------------------------

*USE-STLD. NCOMB32

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. [ECCEN]. [VALUE]. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. [ECCEN]. [VALUE]. GROUP
; [VALUE]       : D1. P1. D2. P2. D3. P3. D4. P4
; [ECCEN]       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; [ADDITIONAL]  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 30.0945. 1. 27.858. 0. 0. 0. 0. . NO. 0. 0. NO
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -30.0945. 1. -27.858. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 27.858. 1. 26.665. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -27.858. 1. -26.665. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 26.665. 1. 25.472. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -26.665. 1. -25.472. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 25.472. 1. 24.279. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -25.472. 1. -24.279. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 24.279. 1. 23.086. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -24.279. 1. -23.086. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 23.086. 1. 21.893. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -23.086. 1. -21.893. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 21.893. 1. 19.763. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -21.893. 1. -19.763. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -21.019. 1. -21.019. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -21.019. 1. -21.019. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -21.019. 1. -21.019. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -21.019. 1. -21.019. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO

*ELTEMPER    ; Element Temperatures
; ELEM LIST. TEMPER. GROUP
     1. -15.
     2. -15.
     3. -15.
     4. -15.
     5. -15.
     6. -15.
     7. -15.
     8. -15.
     9. -15.
    10. -15.
    11. -15.
    12. -15.
    13. -15.
    14. -15.
    15. -15.
    16. -15.
    17. -15.
    18. -15.
    19. -15.
    20. -15.
    21. -15.
    22. -15.
    23. -15.
    24. -15.
    25. -15.
    26. -15.
    27. -15.
    28. -15.
    29. -15.
```

```
    30. -15.

; End of data for load case [NCOMB32] ------------------------

*USE-STLD. NCOMB33

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. [ECCEN]. [VALUE]. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. [ECCEN]. [VALUE]. GROUP
; [VALUE]       : D1. P1. D2. P2. D3. P3. D4. P4
; [ECCEN]       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; [ADDITIONAL]  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 60.189. 1. 55.716. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -60.189. 1. -55.716. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 55.716. 1. 53.33. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -55.716. 1. -53.33. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 53.33. 1. 50.944. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -53.33. 1. -50.944. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 50.944. 1. 48.558. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -50.944. 1. -48.558. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 48.558. 1. 46.172. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -48.558. 1. -46.172. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 46.172. 1. 43.786. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -46.172. 1. -43.786. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 43.786. 1. 39.526. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -43.786. 1. -39.526. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO

; End of data for load case [NCOMB33] ------------------------

*USE-STLD. NCOMB34

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. [ECCEN]. [VALUE]. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. [ECCEN]. [VALUE]. GROUP
; [VALUE]       : D1. P1. D2. P2. D3. P3. D4. P4
; [ECCEN]       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; [ADDITIONAL]  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 22.367. 1. 17.894. 0. 0. 0. 0. . NO. 0. 0. NO
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 17.894. 1. 15.508. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.508. 1. 13.122. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.122. 1. 10.736. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 10.736. 1. 8.35. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.35. 1. 5.964. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 5.964. 1. 1.704. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -21.019. 1. -21.019. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -21.019. 1. -21.019. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -21.019. 1. -21.019. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -21.019. 1. -21.019. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO

; End of data for load case [NCOMB34] ------------------------

*USE-STLD. NCOMB35

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. [ECCEN]. [VALUE]. GROUP
```

```
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. [ECCEN]. [VALUE]. GROUP
; [VALUE]       : D1. P1. D2. P2. D3. P3. D4. P4
; [ECCEN]       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; [ADDITIONAL]  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.1835. 1. 8.947. 0. 0. 0. 0. . NO. 0. 0. NO
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.947. 1. 7.754. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 7.754. 1. 6.561. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 6.561. 1. 5.368. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 5.368. 1. 4.175. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 4.175. 1. 2.982. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 2.982. 1. 0.852. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -21.019. 1. -21.019. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -21.019. 1. -21.019. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -21.019. 1. -21.019. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -21.019. 1. -21.019. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO

; End of data for load case [NCOMB35] ------------------------


*LOADCOMB    ; Combinations
; NAME=NAME. KIND. ACTIVE. bES. iTYPE. DESC. iSERV-TYPE. nLCOMTYPE   ; line 1
;      ANAL1. LCNAME1. FACT1. ...                                    ; from line 2
  NAME=COMB1. GEN. INACTIVE. 0. 0. . 0. 0
       ST. LC1. 1.35. ST. LC2. 1.85. ST. LC4. 1.85. ST. LC6. 1.6
  NAME=COMB2. GEN. INACTIVE. 0. 0. . 0. 0
       ST. LC1. 1.35. ST. LC2. 1.85. ST. LC4. 1.85. ST. LC6. 0.6
  NAME=COMB3. GEN. INACTIVE. 0. 0. . 0. 0
       ST. LC1. 1.35. ST. LC3. 1.85. ST. LC5. 1.85. ST. LC6. 1.6
  NAME=COMB4. GEN. INACTIVE. 0. 0. . 0. 0
       ST. LC1. 1.35. ST. LC3. 1.85. ST. LC5. 1.85. ST. LC6. 0.6
  NAME=COMB5. GEN. INACTIVE. 0. 0. . 0. 0
       ST. LC1. 1.6. ST. LC2. 1.6. ST. LC4. 1.6. ST. LC6. 1.6
  NAME=COMB6. GEN. INACTIVE. 0. 0. . 0. 0
       ST. LC1. 1.6. ST. LC2. 1.6. ST. LC4. 1.6. ST. LC6. 0.6
  NAME=COMB7. GEN. INACTIVE. 0. 0. . 0. 0
       ST. LC1. 1.6. ST. LC3. 1.6. ST. LC5. 1.6. ST. LC6. 1.6
  NAME=COMB8. GEN. INACTIVE. 0. 0. . 0. 0
       ST. LC1. 1.6. ST. LC3. 1.6. ST. LC5. 1.6. ST. LC6. 0.6
  NAME=COMB9. GEN. INACTIVE. 0. 0. . 0. 0
       ST. LC1. 1.35. ST. LC2. 1.4. ST. LC4. 1.4. ST. LC6. 1.6. ST. LC8. 1.35
       ST. LC11. 1.35
  NAME=COMB10. GEN. INACTIVE. 0. 0. . 0. 0
       ST. LC1. 1.35. ST. LC2. 1.4. ST. LC4. 1.4. ST. LC6. 0.6. ST. LC8. 1.35
       ST. LC11. 1.35
  NAME=COMB11. GEN. INACTIVE. 0. 0. . 0. 0
       ST. LC1. 1.35. ST. LC2. 1.4. ST. LC4. 1.4. ST. LC6. 1.6. ST. LC9. 1.35
       ST. LC10. 1.35. ST. LC11. 1.4
  NAME=COMB12. GEN. INACTIVE. 0. 0. . 0. 0
       ST. LC1. 1.35. ST. LC2. 1.4. ST. LC4. 1.4. ST. LC6. 0.6. ST. LC9. 1.35
       ST. LC10. 1.35. ST. LC11. 1.4
  NAME=COMB13. GEN. INACTIVE. 0. 0. . 0. 0
       ST. LC1. 1.35. ST. LC3. 1.4. ST. LC5. 1.4. ST. LC6. 1.6. ST. LC8. 1.35
       ST. LC11. 1.35
  NAME=COMB14. GEN. INACTIVE. 0. 0. . 0. 0
       ST. LC1. 1.35. ST. LC3. 1.4. ST. LC5. 1.4. ST. LC6. 0.6. ST. LC8. 1.35
       ST. LC11. 1.35
  NAME=COMB15. GEN. INACTIVE. 0. 0. . 0. 0
       ST. LC1. 1.35. ST. LC3. 1.4. ST. LC5. 1.4. ST. LC6. 1.6. ST. LC9. 1.35
       ST. LC10. 1.35. ST. LC11. 1.4
  NAME=COMB16. GEN. INACTIVE. 0. 0. . 0. 0
       ST. LC1. 1.35. ST. LC3. 1.4. ST. LC5. 1.4. ST. LC6. 0.6. ST. LC9. 1.35
       ST. LC10. 1.35. ST. LC11. 1.4
  NAME=COMB17. GEN. INACTIVE. 0. 0. . 0. 0
       ST. LC1. 1.35. ST. LC3. 1.85. ST. LC5. 1.85. ST. LC7. 1.6
  NAME=COMB18. GEN. INACTIVE. 0. 0. . 0. 0
       ST. LC1. 1.35. ST. LC3. 1.85. ST. LC5. 1.85. ST. LC7. 0.6
  NAME=COMB19. GEN. INACTIVE. 0. 0. . 0. 0
       ST. LC1. 1.6. ST. LC3. 1.6. ST. LC5. 1.6. ST. LC7. 1.6
  NAME=COMB20. GEN. INACTIVE. 0. 0. . 0. 0
       ST. LC1. 1.6. ST. LC3. 1.6. ST. LC5. 1.6. ST. LC7. 0.6
  NAME=COMB21. GEN. INACTIVE. 0. 0. . 0. 0
       ST. LC1. 1. ST. LC2. 1. ST. LC4. 1. ST. LC6. 1
```

```
NAME=COMB22. GEN. INACTIVE. 0. 0. . 0. 0
     ST. LC1. 1. ST. LC2. 1. ST. LC4. 1. ST. LC6. 0.5
NAME=COMB23. GEN. INACTIVE. 0. 0. . 0. 0
     ST. LC1. 1. ST. LC3. 1. ST. LC5. 1. ST. LC6. 1
NAME=COMB24. GEN. INACTIVE. 0. 0. . 0. 0
     ST. LC1. 1. ST. LC3. 1. ST. LC5. 1. ST. LC6. 0.5
NAME=COMB25. GEN. INACTIVE. 0. 0. . 0. 0
     ST. LC1. 1. ST. LC2. 1. ST. LC4. 1. ST. LC6. 1. ST. LC8. 1. ST. LC11. 1
NAME=COMB26. GEN. INACTIVE. 0. 0. . 0. 0
     ST. LC1. 1. ST. LC2. 1. ST. LC4. 1. ST. LC6. 0.5. ST. LC8. 1
     ST. LC11. 1
NAME=COMB27. GEN. INACTIVE. 0. 0. . 0. 0
     ST. LC1. 1. ST. LC2. 1. ST. LC4. 1. ST. LC6. 1. ST. LC9. 1. ST. LC10. 1
     ST. LC11. 1
NAME=COMB28. GEN. INACTIVE. 0. 0. . 0. 0
     ST. LC1. 1. ST. LC2. 1. ST. LC4. 1. ST. LC6. 0.5. ST. LC9. 1
     ST. LC10. 1. ST. LC11. 1
NAME=COMB29. GEN. INACTIVE. 0. 0. . 0. 0
     ST. LC1. 1. ST. LC3. 1. ST. LC5. 1. ST. LC6. 1. ST. LC8. 1. ST. LC11. 1
NAME=COMB30. GEN. INACTIVE. 0. 0. . 0. 0
     ST. LC1. 1. ST. LC3. 1. ST. LC5. 1. ST. LC6. 0.5. ST. LC8. 1
     ST. LC11. 1
NAME=COMB31. GEN. INACTIVE. 0. 0. . 0. 0
     ST. LC1. 1. ST. LC3. 1. ST. LC5. 1. ST. LC6. 1. ST. LC9. 1. ST. LC10. 1
     ST. LC11. 1
NAME=COMB32. GEN. INACTIVE. 0. 0. . 0. 0
     ST. LC1. 1. ST. LC3. 1. ST. LC5. 1. ST. LC6. 0.5. ST. LC9. 1
     ST. LC10. 1. ST. LC11. 1
NAME=COMB33. GEN. INACTIVE. 0. 0. . 0. 0
     ST. LC1. 1. ST. LC6. 1
NAME=COMB34. GEN. INACTIVE. 0. 0. . 0. 0
     ST. LC1. 1. ST. LC3. 1. ST. LC5. 1. ST. LC7. 1
NAME=COMB35. GEN. INACTIVE. 0. 0. . 0. 0
     ST. LC1. 1. ST. LC3. 1. ST. LC5. 1. ST. LC7. 0.5
NAME=USD. GEN. ACTIVE. 0. 1. . 0. 0
     ST. NCOMB1. 1. ST. NCOMB2. 1. ST. NCOMB3. 1. ST. NCOMB4. 1
     ST. NCOMB5. 1. ST. NCOMB6. 1. ST. NCOMB7. 1. ST. NCOMB8. 1
     ST. NCOMB9. 1. ST. NCOMB10. 1. ST. NCOMB11. 1. ST. NCOMB12. 1
     ST. NCOMB13. 1. ST. NCOMB14. 1. ST. NCOMB15. 1. ST. NCOMB16. 1
     ST. NCOMB17. 1. ST. NCOMB18. 1. ST. NCOMB19. 1. ST. NCOMB20. 1
NAME=WSD. GEN. ACTIVE. 0. 1. . 0. 0
     ST. NCOMB21. 1. ST. NCOMB22. 1. ST. NCOMB23. 1. ST. NCOMB24. 1
     ST. NCOMB25. 1. ST. NCOMB26. 1. ST. NCOMB27. 1. ST. NCOMB28. 1
     ST. NCOMB29. 1. ST. NCOMB30. 1. ST. NCOMB31. 1. ST. NCOMB32. 1
     ST. NCOMB33. 1. ST. NCOMB34. 1. ST. NCOMB35. 1
NAME=NCOMB1. CONC. STRENGTH. 0. 0. . 0. 0
     ST. NCOMB1. 1
NAME=NCOMB2. CONC. STRENGTH. 0. 0. . 0. 0
     ST. NCOMB2. 1
NAME=NCOMB3. CONC. STRENGTH. 0. 0. . 0. 0
     ST. NCOMB3. 1
NAME=NCOMB4. CONC. STRENGTH. 0. 0. . 0. 0
     ST. NCOMB4. 1
NAME=NCOMB5. CONC. STRENGTH. 0. 0. . 0. 0
     ST. NCOMB5. 1
NAME=NCOMB6. CONC. STRENGTH. 0. 0. . 0. 0
     ST. NCOMB6. 1
NAME=NCOMB7. CONC. STRENGTH. 0. 0. . 0. 0
     ST. NCOMB7. 1
NAME=NCOMB8. CONC. STRENGTH. 0. 0. . 0. 0
     ST. NCOMB8. 1
NAME=NCOMB9. CONC. STRENGTH. 0. 0. . 0. 0
     ST. NCOMB9. 1
NAME=NCOMB10. CONC. STRENGTH. 0. 0. . 0. 0
     ST. NCOMB10. 1
NAME=NCOMB11. CONC. STRENGTH. 0. 0. . 0. 0
     ST. NCOMB11. 1
NAME=NCOMB12. CONC. STRENGTH. 0. 0. . 0. 0
     ST. NCOMB12. 1
NAME=NCOMB13. CONC. STRENGTH. 0. 0. . 0. 0
     ST. NCOMB13. 1
NAME=NCOMB14. CONC. STRENGTH. 0. 0. . 0. 0
     ST. NCOMB14. 1
NAME=NCOMB15. CONC. STRENGTH. 0. 0. . 0. 0
     ST. NCOMB15. 1
NAME=NCOMB16. CONC. STRENGTH. 0. 0. . 0. 0
     ST. NCOMB16. 1
NAME=NCOMB17. CONC. STRENGTH. 0. 0. . 0. 0
     ST. NCOMB17. 1
NAME=NCOMB18. CONC. STRENGTH. 0. 0. . 0. 0
     ST. NCOMB18. 1
NAME=NCOMB19. CONC. STRENGTH. 0. 0. . 0. 0
     ST. NCOMB19. 1
NAME=NCOMB20. CONC. STRENGTH. 0. 0. . 0. 0
     ST. NCOMB20. 1
NAME=NCOMB21. CONC. STRENGTH. 0. 0. . 0. 0
     ST. NCOMB21. 1
```

```
   NAME=NCOMB22. CONC. STRENGTH. 0. 0. . 0. 0
         ST. NCOMB22. 1
   NAME=NCOMB23. CONC. STRENGTH. 0. 0. . 0. 0
         ST. NCOMB23. 1
   NAME=NCOMB24. CONC. STRENGTH. 0. 0. . 0. 0
         ST. NCOMB24. 1
   NAME=NCOMB25. CONC. STRENGTH. 0. 0. . 0. 0
         ST. NCOMB25. 1
   NAME=NCOMB26. CONC. STRENGTH. 0. 0. . 0. 0
         ST. NCOMB26. 1
   NAME=NCOMB27. CONC. STRENGTH. 0. 0. . 0. 0
         ST. NCOMB27. 1
   NAME=NCOMB28. CONC. STRENGTH. 0. 0. . 0. 0
         ST. NCOMB28. 1
   NAME=NCOMB29. CONC. STRENGTH. 0. 0. . 0. 0
         ST. NCOMB29. 1
   NAME=NCOMB30. CONC. STRENGTH. 0. 0. . 0. 0
         ST. NCOMB30. 1
   NAME=NCOMB31. CONC. STRENGTH. 0. 0. . 0. 0
         ST. NCOMB31. 1
   NAME=NCOMB32. CONC. STRENGTH. 0. 0. . 0. 0
         ST. NCOMB32. 1
   NAME=NCOMB33. CONC. STRENGTH. 0. 0. . 0. 0
         ST. NCOMB33. 1
   NAME=NCOMB34. CONC. STRENGTH. 0. 0. . 0. 0
         ST. NCOMB34. 1
   NAME=NCOMB35. CONC. STRENGTH. 0. 0. . 0. 0
         ST. NCOMB35. 1

*LOADCONST    ; Load Constribution for Nonlinear Load Case
; NAME=STLDCASE. DESC                                          ; 1st line
;      LCNAME1. LCTYPE1. FACTOR1. LCNAME2. LCTYPE2. FACTOR2. ...   ; from line 2
   NAME=NCOMB1.
         LC1. ST. 1.35. LC2. ST. 1.85. LC4. ST. 1.85. LC6. ST. 1.6
   NAME=NCOMB2.
         LC1. ST. 1.35. LC2. ST. 1.85. LC4. ST. 1.85. LC6. ST. 0.6
   NAME=NCOMB3.
         LC1. ST. 1.35. LC3. ST. 1.85. LC5. ST. 1.85. LC6. ST. 1.6
   NAME=NCOMB4.
         LC1. ST. 1.35. LC3. ST. 1.85. LC5. ST. 1.85. LC6. ST. 0.6
   NAME=NCOMB5.
         LC1. ST. 1.6. LC2. ST. 1.6. LC4. ST. 1.6. LC6. ST. 1.6
   NAME=NCOMB6.
         LC1. ST. 1.6. LC2. ST. 1.6. LC4. ST. 1.6. LC6. ST. 0.6
   NAME=NCOMB7.
         LC1. ST. 1.6. LC3. ST. 1.6. LC5. ST. 1.6. LC6. ST. 1.6
   NAME=NCOMB8.
         LC1. ST. 1.6. LC3. ST. 1.6. LC5. ST. 1.6. LC6. ST. 0.6
   NAME=NCOMB9.
         LC1. ST. 1.35. LC2. ST. 1.4. LC4. ST. 1.4. LC6. ST. 1.6. LC8. ST. 1.35
         LC11. ST. 1.35
   NAME=NCOMB10.
         LC1. ST. 1.35. LC2. ST. 1.4. LC4. ST. 1.4. LC6. ST. 0.6. LC8. ST. 1.35
         LC11. ST. 1.35
   NAME=NCOMB11.
         LC1. ST. 1.35. LC2. ST. 1.4. LC4. ST. 1.4. LC6. ST. 1.6. LC9. ST. 1.35
         LC10. ST. 1.35. LC11. ST. 1.4
   NAME=NCOMB12.
         LC1. ST. 1.35. LC2. ST. 1.4. LC4. ST. 1.4. LC6. ST. 0.6. LC9. ST. 1.35
         LC10. ST. 1.35. LC11. ST. 1.4
   NAME=NCOMB13.
         LC1. ST. 1.35. LC3. ST. 1.4. LC5. ST. 1.4. LC6. ST. 1.6. LC8. ST. 1.35
         LC11. ST. 1.35
   NAME=NCOMB14.
         LC1. ST. 1.35. LC3. ST. 1.4. LC5. ST. 1.4. LC6. ST. 0.6. LC8. ST. 1.35
         LC11. ST. 1.35
   NAME=NCOMB15.
         LC1. ST. 1.35. LC3. ST. 1.4. LC5. ST. 1.4. LC6. ST. 1.6. LC9. ST. 1.35
         LC10. ST. 1.35. LC11. ST. 1.4
   NAME=NCOMB16.
         LC1. ST. 1.35. LC3. ST. 1.4. LC5. ST. 1.4. LC6. ST. 0.6. LC9. ST. 1.35
         LC10. ST. 1.35. LC11. ST. 1.4
   NAME=NCOMB17.
         LC1. ST. 1.35. LC3. ST. 1.85. LC5. ST. 1.85. LC7. ST. 1.6
   NAME=NCOMB18.
         LC1. ST. 1.35. LC3. ST. 1.85. LC5. ST. 1.85. LC7. ST. 0.6
   NAME=NCOMB19.
         LC1. ST. 1.6. LC3. ST. 1.6. LC5. ST. 1.6. LC7. ST. 1.6
   NAME=NCOMB20.
         LC1. ST. 1.6. LC3. ST. 1.6. LC5. ST. 1.6. LC7. ST. 0.6
   NAME=NCOMB21.
         LC1. ST. 1. LC2. ST. 1. LC4. ST. 1. LC6. ST. 1
   NAME=NCOMB22.
         LC1. ST. 1. LC2. ST. 1. LC4. ST. 1. LC6. ST. 0.5
   NAME=NCOMB23.
         LC1. ST. 1. LC3. ST. 1. LC5. ST. 1. LC6. ST. 1
   NAME=NCOMB24.
```

```
        LC1. ST. 1. LC3. ST. 1. LC5. ST. 1. LC6. ST. 0.5
    NAME=NCOMB25.
        LC1. ST. 1. LC2. ST. 1. LC4. ST. 1. LC6. ST. 1. LC8. ST. 1. LC11. ST. 1
    NAME=NCOMB26.
        LC1. ST. 1. LC2. ST. 1. LC4. ST. 1. LC6. ST. 0.5. LC8. ST. 1
        LC11. ST. 1
    NAME=NCOMB27.
        LC1. ST. 1. LC2. ST. 1. LC4. ST. 1. LC6. ST. 1. LC9. ST. 1. LC10. ST. 1
        LC11. ST. 1
    NAME=NCOMB28.
        LC1. ST. 1. LC2. ST. 1. LC4. ST. 1. LC6. ST. 0.5. LC9. ST. 1
        LC10. ST. 1. LC11. ST. 1
    NAME=NCOMB29.
        LC1. ST. 1. LC3. ST. 1. LC5. ST. 1. LC6. ST. 1. LC8. ST. 1. LC11. ST. 1
    NAME=NCOMB30.
        LC1. ST. 1. LC3. ST. 1. LC5. ST. 1. LC6. ST. 0.5. LC8. ST. 1
        LC11. ST. 1
    NAME=NCOMB31.
        LC1. ST. 1. LC3. ST. 1. LC5. ST. 1. LC6. ST. 1. LC9. ST. 1. LC10. ST. 1
        LC11. ST. 1
    NAME=NCOMB32.
        LC1. ST. 1. LC3. ST. 1. LC5. ST. 1. LC6. ST. 0.5. LC9. ST. 1
        LC10. ST. 1. LC11. ST. 1
    NAME=NCOMB33.
        LC1. ST. 1. LC6. ST. 1
    NAME=NCOMB34.
        LC1. ST. 1. LC3. ST. 1. LC5. ST. 1. LC7. ST. 1
    NAME=NCOMB35.
        LC1. ST. 1. LC3. ST. 1. LC5. ST. 1. LC7. ST. 0.5

*LC-COLOR    ; Diagram Color for Load Case
; ANAL. LCNAME. iR1(ALL). iG1(ALL). iB1(ALL). iR2(MIN). iG2(MIN). iB2(MIN). iR3(MAX). iG2(MAX). iB2(MAX)
 CB. COMB1. 160. 255. 255. 255. 87. 87. 192. 192. 0
 CB. COMB2. 192. 192. 0. 0. 128. 128. 0. 192. 192
 CB. COMB3. 192. 72. 0. 85. 0. 192. 160. 192. 255
 CB. COMB4. 192. 128. 0. 212. 160. 255. 93. 255. 87
 CB. COMB5. 255. 192. 87. 85. 192. 0. 192. 192. 192
 CB. COMB6. 192. 192. 192. 192. 0. 192. 160. 255. 255
 CB. COMB7. 255. 87. 128. 93. 255. 87. 0. 192. 128
 CB. COMB8. 210. 210. 210. 0. 128. 255. 85. 0. 192
 CB. COMB9. 163. 255. 160. 192. 128. 0. 148. 87. 255
 CB. COMB10. 0. 128. 255. 0. 128. 255. 85. 192. 0
 CB. COMB11. 93. 255. 87. 192. 0. 192. 192. 128. 0
 CB. COMB12. 85. 192. 0. 255. 87. 128. 192. 72. 0
 CB. COMB13. 0. 157. 192. 0. 128. 57. 0. 192. 128
 CB. COMB14. 0. 192. 128. 255. 0. 192. 0. 192. 128
 CB. COMB15. 0. 128. 255. 163. 160. 255. 192. 192. 0
 CB. COMB16. 0. 128. 255. 85. 0. 192. 148. 87. 255
 CB. COMB17. 163. 255. 160. 160. 255. 255. 128. 192. 0
 CB. COMB18. 0. 128. 192. 192. 0. 192. 163. 160. 255
 CB. COMB19. 0. 128. 192. 255. 160. 255. 255. 160. 255
 CB. COMB20. 0. 128. 128. 0. 128. 57. 255. 87. 128
 CB. COMB21. 255. 255. 87. 192. 192. 192. 212. 160. 255
 CB. COMB22. 0. 192. 192. 163. 160. 255. 163. 255. 160
 CB. COMB23. 255. 87. 128. 192. 72. 0. 192. 128. 0
 CB. COMB24. 0. 192. 192. 192. 128. 0. 0. 128. 57
 CB. COMB25. 148. 87. 255. 212. 160. 255. 128. 192. 0
 CB. COMB26. 0. 192. 128. 210. 210. 210. 0. 128. 255
 CB. COMB27. 255. 0. 192. 192. 0. 192. 0. 192. 192
 CB. COMB28. 160. 192. 255. 192. 72. 0. 85. 0. 192
 CB. COMB29. 78. 0. 255. 210. 210. 210. 255. 87. 128
 CB. COMB30. 0. 128. 57. 255. 160. 255. 148. 87. 255
 CB. COMB31. 0. 192. 128. 85. 192. 0. 0. 157. 192
 CB. COMB32. 160. 255. 255. 146. 0. 255. 255. 87. 87
 CB. COMB33. 160. 192. 255. 0. 128. 192. 212. 160. 255
 CB. COMB34. 148. 87. 255. 0. 157. 192. 163. 160. 255
 CB. COMB35. 163. 160. 255. 255. 192. 160. 146. 0. 255
 CB. USD. 255. 192. 160. 255. 255. 87. 255. 160. 255
 CB. WSD. 128. 192. 0. 163. 255. 160. 160. 255. 255
 ST. LC1. 146. 0. 255. 255. 128. 0. 255. 192. 160
 ST. LC2. 85. 0. 192. 192. 72. 0. 148. 87. 255
 ST. LC3. 192. 128. 0. 85. 192. 0. 255. 255. 255
 ST. LC4. 0. 192. 192. 163. 255. 160. 255. 255. 87
 ST. LC5. 85. 192. 0. 255. 255. 87. 192. 128. 0
 ST. LC6. 255. 255. 255. 0. 128. 255. 163. 160. 255
 ST. LC7. 0. 128. 255. 192. 128. 0. 255. 0. 128
 ST. LC8. 255. 192. 160. 85. 192. 0. 255. 0. 192
 ST. LC9. 255. 160. 255. 93. 255. 87. 0. 192. 192
 ST. LC10. 148. 87. 255. 78. 0. 255. 255. 160. 255
 ST. LC11. 78. 0. 255. 163. 255. 160. 255. 192. 87
 CBC. NCOMB1. 163. 255. 160. 146. 0. 255. 85. 192. 0
 CBC. NCOMB2. 255. 255. 255. 163. 255. 160. 255. 128. 0
 CBC. NCOMB3. 163. 255. 160. 85. 0. 192. 192. 72. 0
 CBC. NCOMB4. 148. 87. 255. 255. 128. 0. 0. 157. 192
 CBC. NCOMB5. 0. 128. 128. 148. 87. 255. 210. 210. 210
 CBC. NCOMB6. 255. 128. 0. 255. 255. 255. 128. 192. 0
 CBC. NCOMB7. 255. 255. 87. 192. 192. 192. 0. 128. 255
```

```
CBC. NCOMB8. 255. 0. 192. 0. 192. 192. 192. 128. 0
CBC. NCOMB9. 148. 87. 255. 0. 128. 255. 0. 128. 128
CBC. NCOMB10. 192. 72. 0. 160. 192. 255. 0. 128. 128
CBC. NCOMB11. 255. 192. 87. 0. 128. 255. 148. 87. 255
CBC. NCOMB12. 192. 0. 128. 163. 160. 255. 192. 0. 128
CBC. NCOMB13. 0. 128. 255. 255. 0. 192. 160. 255. 255
CBC. NCOMB14. 192. 128. 0. 0. 128. 128. 192. 72. 0
CBC. NCOMB15. 212. 160. 255. 0. 128. 57. 0. 192. 192
CBC. NCOMB16. 255. 87. 87. 212. 160. 255. 0. 128. 57
CBC. NCOMB17. 255. 160. 255. 0. 128. 128. 163. 255. 160
CBC. NCOMB18. 192. 192. 192. 255. 160. 255. 192. 0. 128
CBC. NCOMB19. 78. 0. 255. 192. 0. 192. 192. 0. 128
CBC. NCOMB20. 0. 192. 192. 255. 87. 128. 255. 255. 255
CBC. NCOMB21. 0. 128. 57. 163. 255. 160. 160. 255. 255
CBC. NCOMB22. 255. 255. 255. 192. 128. 0. 0. 192. 192
CBC. NCOMB23. 85. 192. 0. 255. 0. 128. 255. 0. 192
CBC. NCOMB24. 160. 192. 255. 78. 0. 255. 192. 72. 0
CBC. NCOMB25. 212. 160. 255. 192. 128. 0. 93. 255. 87
CBC. NCOMB26. 255. 0. 192. 212. 160. 255. 128. 192. 0
CBC. NCOMB27. 255. 160. 255. 146. 0. 255. 160. 192. 255
CBC. NCOMB28. 148. 87. 255. 255. 255. 255. 146. 0. 255
CBC. NCOMB29. 192. 128. 0. 255. 128. 0. 192. 128. 0
CBC. NCOMB30. 255. 87. 87. 255. 128. 0. 255. 255. 87
CBC. NCOMB31. 255. 0. 128. 160. 255. 255. 255. 192. 160
CBC. NCOMB32. 146. 0. 255. 0. 192. 192. 255. 160. 255
CBC. NCOMB33. 255. 160. 255. 255. 192. 160. 0. 192. 192
CBC. NCOMB34. 255. 255. 87. 210. 210. 210. 78. 0. 255
CBC. NCOMB35. 0. 192. 192. 212. 160. 255. 192. 192. 0
ST. NCOMB1. 93. 255. 87. 210. 210. 210. 163. 255. 160
```

8.OUPUT

FRAME ELEMENT FORCES

Elem	Load	Part	Axial (kN)	Shear-y (kN)	Shear-z (kN)	Torsion (kN · m)	Moment-y (kN · m)	Moment-z (kN · m)
1	USD(max)	I[1]	31.650	0.000	-249.900	0.00E+00	-17.430	0.000
1	USD(max)	1/4	31.650	0.000	-250.930	0.00E+00	3.070	0.000
1	USD(max)	2/4	31.650	0.000	-251.950	0.00E+00	23.660	0.000
1	USD(max)	3/4	31.650	0.000	-252.970	0.00E+00	44.330	0.000
1	USD(max)	J[2]	31.650	0.000	-254.000	0.00E+00	65.090	0.000
1	USD(min)	I[1]	-172.190	0.000	-302.090	0.00E+00	-59.220	0.000
1	USD(min)	1/4	-172.190	0.000	-303.300	0.00E+00	-41.500	0.000
1	USD(min)	2/4	-172.190	0.000	-304.510	0.00E+00	-23.710	0.000
1	USD(min)	3/4	-172.190	0.000	-305.730	0.00E+00	-5.850	0.000
1	USD(min)	J[2]	-172.190	0.000	-306.940	0.00E+00	12.080	0.000
1	WSD(max)	I[1]	19.780	0.000	-169.310	0.00E+00	-12.200	0.000
1	WSD(max)	1/4	19.780	0.000	-170.070	0.00E+00	0.650	0.000
1	WSD(max)	2/4	19.780	0.000	-170.820	0.00E+00	13.560	0.000
1	WSD(max)	3/4	19.780	0.000	-171.580	0.00E+00	26.520	0.000
1	WSD(max)	J[2]	19.780	0.000	-172.340	0.00E+00	39.530	0.000
1	WSD(min)	I[1]	-104.760	0.000	-188.800	0.00E+00	-35.470	0.000
1	WSD(min)	1/4	-104.760	0.000	-189.560	0.00E+00	-22.750	0.000
1	WSD(min)	2/4	-104.760	0.000	-190.320	0.00E+00	-9.970	0.000
1	WSD(min)	3/4	-104.760	0.000	-191.080	0.00E+00	2.870	0.000
1	WSD(min)	J[2]	-104.760	0.000	-191.840	0.00E+00	15.750	0.000
2	USD(max)	I[2]	31.650	0.000	-154.170	0.00E+00	65.090	0.000
2	USD(max)	1/4	31.650	0.000	-155.130	0.00E+00	77.210	0.000
2	USD(max)	2/4	31.650	0.000	-156.090	0.00E+00	89.400	0.000
2	USD(max)	3/4	31.650	0.000	-157.040	0.00E+00	101.660	0.000
2	USD(max)	J[3]	31.650	0.000	-158.000	0.00E+00	114.000	0.000
2	USD(min)	I[2]	-172.190	0.000	-195.870	0.00E+00	12.080	0.000
2	USD(min)	1/4	-172.190	0.000	-197.010	0.00E+00	22.490	0.000
2	USD(min)	2/4	-172.190	0.000	-198.140	0.00E+00	32.960	0.000
2	USD(min)	3/4	-172.190	0.000	-199.270	0.00E+00	43.500	0.000
2	USD(min)	J[3]	-172.190	0.000	-200.410	0.00E+00	54.090	0.000
2	WSD(max)	I[2]	19.780	0.000	-102.320	0.00E+00	39.530	0.000
2	WSD(max)	1/4	19.780	0.000	-103.030	0.00E+00	47.160	0.000
2	WSD(max)	2/4	19.780	0.000	-103.740	0.00E+00	54.850	0.000
2	WSD(max)	3/4	19.780	0.000	-104.450	0.00E+00	62.570	0.000
2	WSD(max)	J[3]	19.780	0.000	-105.160	0.00E+00	70.350	0.000
2	WSD(min)	I[2]	-104.760	0.000	-122.420	0.00E+00	15.750	0.000
2	WSD(min)	1/4	-104.760	0.000	-123.130	0.00E+00	23.160	0.000
2	WSD(min)	2/4	-104.760	0.000	-123.840	0.00E+00	30.610	0.000
2	WSD(min)	3/4	-104.760	0.000	-124.550	0.00E+00	38.110	0.000
2	WSD(min)	J[3]	-104.760	0.000	-125.250	0.00E+00	45.650	0.000
3	USD(max)	I[3]	31.650	0.000	-91.610	0.00E+00	114.000	0.000
3	USD(max)	1/4	31.650	0.000	-92.570	0.00E+00	121.680	0.000
3	USD(max)	2/4	31.650	0.000	-93.520	0.00E+00	129.430	0.000
3	USD(max)	3/4	31.650	0.000	-94.470	0.00E+00	137.250	0.000
3	USD(max)	J[4]	31.650	0.000	-95.420	0.00E+00	145.150	0.000
3	USD(min)	I[3]	-172.190	0.000	-128.650	0.00E+00	54.090	0.000
3	USD(min)	1/4	-172.190	0.000	-129.780	0.00E+00	60.630	0.000
3	USD(min)	2/4	-172.190	0.000	-130.910	0.00E+00	67.040	0.000
3	USD(min)	3/4	-172.190	0.000	-132.040	0.00E+00	73.400	0.000
3	USD(min)	J[4]	-172.190	0.000	-133.170	0.00E+00	79.820	0.000
3	WSD(max)	I[3]	19.780	0.000	-60.760	0.00E+00	70.350	0.000
3	WSD(max)	1/4	19.780	0.000	-61.460	0.00E+00	75.220	0.000
3	WSD(max)	2/4	19.780	0.000	-62.170	0.00E+00	80.140	0.000
3	WSD(max)	3/4	19.780	0.000	-62.870	0.00E+00	85.100	0.000
3	WSD(max)	J[4]	19.780	0.000	-63.580	0.00E+00	90.110	0.000
3	WSD(min)	I[3]	-104.760	0.000	-80.410	0.00E+00	45.650	0.000
3	WSD(min)	1/4	-104.760	0.000	-81.110	0.00E+00	50.240	0.000
3	WSD(min)	2/4	-104.760	0.000	-81.820	0.00E+00	54.450	0.000
3	WSD(min)	3/4	-104.760	0.000	-82.530	0.00E+00	58.450	0.000
3	WSD(min)	J[4]	-104.760	0.000	-83.230	0.00E+00	62.490	0.000
4	USD(max)	I[4]	31.650	0.000	-29.230	0.00E+00	145.150	0.000
4	USD(max)	1/4	31.650	0.000	-30.190	0.00E+00	148.420	0.000
4	USD(max)	2/4	31.650	0.000	-31.150	0.00E+00	151.760	0.000
4	USD(max)	3/4	31.650	0.000	-32.100	0.00E+00	155.170	0.000
4	USD(max)	J[5]	31.650	0.000	-33.060	0.00E+00	158.660	0.000
4	USD(min)	I[4]	-172.190	0.000	-60.230	0.00E+00	79.820	0.000
4	USD(min)	1/4	-172.190	0.000	-61.370	0.00E+00	82.290	0.000
4	USD(min)	2/4	-172.190	0.000	-62.500	0.00E+00	84.820	0.000
4	USD(min)	3/4	-172.190	0.000	-63.640	0.00E+00	87.410	0.000
4	USD(min)	J[5]	-172.190	0.000	-64.770	0.00E+00	90.070	0.000
4	WSD(max)	I[4]	19.780	0.000	-19.290	0.00E+00	90.110	0.000
4	WSD(max)	1/4	19.780	0.000	-20.000	0.00E+00	92.230	0.000
4	WSD(max)	2/4	19.780	0.000	-20.710	0.00E+00	94.400	0.000
4	WSD(max)	3/4	19.780	0.000	-21.420	0.00E+00	96.610	0.000

Elem	Load	Part	Axial (kN)	Shear-y (kN)	Shear-z (kN)	Torsion (kN · m)	Moment-y (kN · m)	Moment-z (kN · m)
4	WSD(max)	J[5]	19.780	0.000	-22.130	0.00E+00	98.870	0.000
4	WSD(min)	I[4]	-104.760	0.000	-37.650	0.00E+00	62.490	0.000
4	WSD(min)	1/4	-104.760	0.000	-38.360	0.00E+00	63.760	0.000
4	WSD(min)	2/4	-104.760	0.000	-39.060	0.00E+00	65.060	0.000
4	WSD(min)	3/4	-104.760	0.000	-39.770	0.00E+00	66.420	0.000
4	WSD(min)	J[5]	-104.760	0.000	-40.480	0.00E+00	67.820	0.000
5	USD(max)	I[5]	31.650	0.000	39.120	0.00E+00	158.660	0.000
5	USD(max)	1/4	31.650	0.000	37.980	0.00E+00	157.450	0.000
5	USD(max)	2/4	31.650	0.000	36.850	0.00E+00	156.310	0.000
5	USD(max)	3/4	31.650	0.000	35.720	0.00E+00	155.240	0.000
5	USD(max)	J[6]	31.650	0.000	34.580	0.00E+00	154.490	0.000
5	USD(min)	I[5]	-172.190	0.000	2.460	0.00E+00	90.070	0.000
5	USD(min)	1/4	-172.190	0.000	1.500	0.00E+00	88.730	0.000
5	USD(min)	2/4	-172.190	0.000	0.540	0.00E+00	87.460	0.000
5	USD(min)	3/4	-172.190	0.000	-0.410	0.00E+00	86.250	0.000
5	USD(min)	J[6]	-172.190	0.000	-1.370	0.00E+00	85.100	0.000
5	WSD(max)	I[5]	19.780	0.000	24.450	0.00E+00	98.870	0.000
5	WSD(max)	1/4	19.780	0.000	23.740	0.00E+00	98.190	0.000
5	WSD(max)	2/4	19.780	0.000	23.030	0.00E+00	97.560	0.000
5	WSD(max)	3/4	19.780	0.000	22.320	0.00E+00	96.970	0.000
5	WSD(max)	J[6]	19.780	0.000	21.610	0.00E+00	96.560	0.000
5	WSD(min)	I[5]	-104.760	0.000	5.940	0.00E+00	67.820	0.000
5	WSD(min)	1/4	-104.760	0.000	5.240	0.00E+00	66.420	0.000
5	WSD(min)	2/4	-104.760	0.000	4.530	0.00E+00	65.060	0.000
5	WSD(min)	3/4	-104.760	0.000	3.820	0.00E+00	63.760	0.000
5	WSD(min)	J[6]	-104.760	0.000	3.110	0.00E+00	62.490	0.000
6	USD(max)	I[6]	31.650	0.000	112.890	0.00E+00	154.490	0.000
6	USD(max)	1/4	31.650	0.000	111.760	0.00E+00	149.360	0.000
6	USD(max)	2/4	31.650	0.000	110.630	0.00E+00	144.300	0.000
6	USD(max)	3/4	31.650	0.000	109.500	0.00E+00	139.310	0.000
6	USD(max)	J[7]	31.650	0.000	108.370	0.00E+00	134.390	0.000
6	USD(min)	I[6]	-172.190	0.000	64.020	0.00E+00	85.100	0.000
6	USD(min)	1/4	-172.190	0.000	63.060	0.00E+00	79.960	0.000
6	USD(min)	2/4	-172.190	0.000	62.110	0.00E+00	74.880	0.000
6	USD(min)	3/4	-172.190	0.000	61.160	0.00E+00	69.710	0.000
6	USD(min)	J[7]	-172.190	0.000	60.210	0.00E+00	63.800	0.000
6	WSD(max)	I[6]	19.780	0.000	70.550	0.00E+00	96.560	0.000
6	WSD(max)	1/4	19.780	0.000	69.850	0.00E+00	93.350	0.000
6	WSD(max)	2/4	19.780	0.000	69.140	0.00E+00	90.190	0.000
6	WSD(max)	3/4	19.780	0.000	68.440	0.00E+00	87.070	0.000
6	WSD(max)	J[7]	19.780	0.000	67.730	0.00E+00	83.990	0.000
6	WSD(min)	I[6]	-104.760	0.000	50.480	0.00E+00	62.490	0.000
6	WSD(min)	1/4	-104.760	0.000	49.780	0.00E+00	58.450	0.000
6	WSD(min)	2/4	-104.760	0.000	49.070	0.00E+00	54.450	0.000
6	WSD(min)	3/4	-104.760	0.000	48.370	0.00E+00	50.490	0.000
6	WSD(min)	J[7]	-104.760	0.000	47.660	0.00E+00	46.580	0.000
7	USD(max)	I[7]	31.650	0.000	186.870	0.00E+00	134.390	0.000
7	USD(max)	1/4	31.650	0.000	185.730	0.00E+00	124.550	0.000
7	USD(max)	2/4	31.650	0.000	184.600	0.00E+00	114.780	0.000
7	USD(max)	3/4	31.650	0.000	183.470	0.00E+00	105.090	0.000
7	USD(max)	J[8]	31.650	0.000	182.330	0.00E+00	95.470	0.000
7	USD(min)	I[7]	-172.190	0.000	127.280	0.00E+00	63.800	0.000
7	USD(min)	1/4	-172.190	0.000	126.320	0.00E+00	53.660	0.000
7	USD(min)	2/4	-172.190	0.000	125.370	0.00E+00	43.580	0.000
7	USD(min)	3/4	-172.190	0.000	124.410	0.00E+00	33.560	0.000
7	USD(min)	J[8]	-172.190	0.000	123.450	0.00E+00	23.600	0.000
7	WSD(max)	I[7]	19.780	0.000	116.790	0.00E+00	83.990	0.000
7	WSD(max)	1/4	19.780	0.000	116.080	0.00E+00	77.840	0.000
7	WSD(max)	2/4	19.780	0.000	115.370	0.00E+00	71.740	0.000
7	WSD(max)	3/4	19.780	0.000	114.670	0.00E+00	65.680	0.000
7	WSD(max)	J[8]	19.780	0.000	113.960	0.00E+00	59.670	0.000
7	WSD(min)	I[7]	-104.760	0.000	96.080	0.00E+00	46.580	0.000
7	WSD(min)	1/4	-104.760	0.000	95.370	0.00E+00	39.850	0.000
7	WSD(min)	2/4	-104.760	0.000	94.660	0.00E+00	33.160	0.000
7	WSD(min)	3/4	-104.760	0.000	93.960	0.00E+00	26.510	0.000
7	WSD(min)	J[8]	-104.760	0.000	93.250	0.00E+00	19.920	0.000
8	USD(max)	I[8]	31.650	0.000	306.130	0.00E+00	95.470	0.000
8	USD(max)	1/4	31.650	0.000	304.920	0.00E+00	76.680	0.000
8	USD(max)	2/4	31.650	0.000	303.710	0.00E+00	57.980	0.000
8	USD(max)	3/4	31.650	0.000	302.500	0.00E+00	39.370	0.000
8	USD(max)	J[9]	31.650	0.000	301.280	0.00E+00	21.920	0.000
8	USD(min)	I[8]	-172.190	0.000	231.710	0.00E+00	23.600	0.000
8	USD(min)	1/4	-172.190	0.000	230.690	0.00E+00	5.810	0.000
8	USD(min)	2/4	-172.190	0.000	229.670	0.00E+00	-11.920	0.000
8	USD(min)	3/4	-172.190	0.000	228.640	0.00E+00	-30.110	0.000
8	USD(min)	J[9]	-172.190	0.000	227.620	0.00E+00	-48.280	0.000
8	WSD(max)	I[8]	19.780	0.000	191.330	0.00E+00	59.670	0.000
8	WSD(max)	1/4	19.780	0.000	190.580	0.00E+00	47.930	0.000
8	WSD(max)	2/4	19.780	0.000	189.820	0.00E+00	36.240	0.000
8	WSD(max)	3/4	19.780	0.000	189.060	0.00E+00	24.600	0.000

Elem	Load	Part	Axial (kN)	Shear-y (kN)	Shear-z (kN)	Torsion (kN · m)	Moment-y (kN · m)	Moment-z (kN · m)
8	WSD(max)	J[9]	19.780	0.000	188.300	0.00E+00	13.020	0.000
8	WSD(min)	I[8]	-104.760	0.000	171.130	0.00E+00	19.920	0.000
8	WSD(min)	1/4	-104.760	0.000	170.380	0.00E+00	8.100	0.000
8	WSD(min)	2/4	-104.760	0.000	169.620	0.00E+00	-3.670	0.000
8	WSD(min)	3/4	-104.760	0.000	168.860	0.00E+00	-16.590	0.000
8	WSD(min)	J[9]	-104.760	0.000	168.100	0.00E+00	-29.560	0.000
9	USD(max)	I[1]	-362.020	0.000	-14.850	0.00E+00	-70.380	0.000
9	USD(max)	1/4	-360.280	0.000	-13.590	0.00E+00	-64.680	0.000
9	USD(max)	2/4	-358.550	0.000	-12.350	0.00E+00	-59.370	0.000
9	USD(max)	3/4	-356.810	0.000	-11.120	0.00E+00	-54.430	0.000
9	USD(max)	J[10]	-355.070	0.000	-9.910	0.00E+00	-49.880	0.000
9	USD(min)	I[1]	-443.480	0.000	-131.160	0.00E+00	-97.320	0.000
9	USD(min)	1/4	-441.430	0.000	-123.340	0.00E+00	-95.760	0.000
9	USD(min)	2/4	-439.370	0.000	-115.550	0.00E+00	-94.310	0.000
9	USD(min)	3/4	-437.310	0.000	-107.800	0.00E+00	-92.960	0.000
9	USD(min)	J[10]	-435.250	0.000	-100.080	0.00E+00	-91.720	0.000
9	WSD(max)	I[1]	-249.430	0.000	-11.470	0.00E+00	-46.830	0.000
9	WSD(max)	1/4	-248.150	0.000	-10.570	0.00E+00	-43.610	0.000
9	WSD(max)	2/4	-246.860	0.000	-9.670	0.00E+00	-40.610	0.000
9	WSD(max)	3/4	-245.570	0.000	-8.790	0.00E+00	-37.830	0.000
9	WSD(max)	J[10]	-244.290	0.000	-7.920	0.00E+00	-35.260	0.000
9	WSD(min)	I[1]	-277.180	0.000	-78.650	0.00E+00	-60.830	0.000
9	WSD(min)	1/4	-275.890	0.000	-73.820	0.00E+00	-59.850	0.000
9	WSD(min)	2/4	-274.600	0.000	-69.020	0.00E+00	-58.940	0.000
9	WSD(min)	3/4	-273.320	0.000	-64.240	0.00E+00	-58.100	0.000
9	WSD(min)	J[10]	-272.030	0.000	-59.480	0.00E+00	-57.330	0.000
10	USD(max)	I[9]	-350.290	0.000	31.650	0.00E+00	-50.100	0.000
10	USD(max)	1/4	-348.560	0.000	31.650	0.00E+00	-51.640	0.000
10	USD(max)	2/4	-346.820	0.000	31.650	0.00E+00	-48.390	0.000
10	USD(max)	3/4	-345.080	0.000	31.650	0.00E+00	-44.350	0.000
10	USD(max)	J[11]	-343.350	0.000	31.650	0.00E+00	-40.650	0.000
10	USD(min)	I[9]	-443.480	0.000	-120.520	0.00E+00	-84.120	0.000
10	USD(min)	1/4	-441.430	0.000	-112.700	0.00E+00	-82.170	0.000
10	USD(min)	2/4	-439.370	0.000	-104.910	0.00E+00	-80.380	0.000
10	USD(min)	3/4	-437.310	0.000	-97.160	0.00E+00	-78.760	0.000
10	USD(min)	J[11]	-435.250	0.000	-89.440	0.00E+00	-77.300	0.000
10	WSD(max)	I[9]	-249.430	0.000	19.780	0.00E+00	-39.220	0.000
10	WSD(max)	1/4	-248.150	0.000	19.780	0.00E+00	-40.210	0.000
10	WSD(max)	2/4	-246.860	0.000	19.780	0.00E+00	-38.210	0.000
10	WSD(max)	3/4	-245.570	0.000	19.780	0.00E+00	-35.710	0.000
10	WSD(max)	J[11]	-244.290	0.000	19.780	0.00E+00	-33.420	0.000
10	WSD(min)	I[9]	-277.180	0.000	-72.890	0.00E+00	-52.470	0.000
10	WSD(min)	1/4	-275.890	0.000	-68.070	0.00E+00	-50.790	0.000
10	WSD(min)	2/4	-274.600	0.000	-63.270	0.00E+00	-49.240	0.000
10	WSD(min)	3/4	-273.320	0.000	-58.490	0.00E+00	-47.830	0.000
10	WSD(min)	J[11]	-272.030	0.000	-53.730	0.00E+00	-46.540	0.000
11	USD(max)	I[10]	-355.070	0.000	-9.910	0.00E+00	-49.880	0.000
11	USD(max)	1/4	-354.150	0.000	-8.230	0.00E+00	-44.130	0.000
11	USD(max)	2/4	-353.220	0.000	-6.570	0.00E+00	-39.110	0.000
11	USD(max)	3/4	-352.290	0.000	-4.940	0.00E+00	-34.820	0.000
11	USD(max)	J[12]	-351.370	0.000	-3.330	0.00E+00	-31.250	0.000
11	USD(min)	I[10]	-435.250	0.000	-100.080	0.00E+00	-91.720	0.000
11	USD(min)	1/4	-434.150	0.000	-89.330	0.00E+00	-90.170	0.000
11	USD(min)	2/4	-433.060	0.000	-78.650	0.00E+00	-88.810	0.000
11	USD(min)	3/4	-431.960	0.000	-68.040	0.00E+00	-88.410	0.000
11	USD(min)	J[12]	-430.860	0.000	-57.490	0.00E+00	-88.120	0.000
11	WSD(max)	I[10]	-244.290	0.000	-7.920	0.00E+00	-35.260	0.000
11	WSD(max)	1/4	-243.600	0.000	-6.710	0.00E+00	-32.030	0.000
11	WSD(max)	2/4	-242.920	0.000	-5.530	0.00E+00	-29.220	0.000
11	WSD(max)	3/4	-242.230	0.000	-4.370	0.00E+00	-26.830	0.000
11	WSD(max)	J[12]	-241.540	0.000	-3.220	0.00E+00	-24.860	0.000
11	WSD(min)	I[10]	-272.030	0.000	-59.480	0.00E+00	-57.330	0.000
11	WSD(min)	1/4	-271.350	0.000	-52.860	0.00E+00	-56.350	0.000
11	WSD(min)	2/4	-270.660	0.000	-46.270	0.00E+00	-55.510	0.000
11	WSD(min)	3/4	-269.970	0.000	-39.730	0.00E+00	-55.160	0.000
11	WSD(min)	J[12]	-269.290	0.000	-33.230	0.00E+00	-54.890	0.000
12	USD(max)	I[11]	-343.350	0.000	31.650	0.00E+00	-40.650	0.000
12	USD(max)	1/4	-342.420	0.000	31.650	0.00E+00	-36.050	0.000
12	USD(max)	2/4	-341.490	0.000	31.650	0.00E+00	-32.120	0.000
12	USD(max)	3/4	-340.570	0.000	31.650	0.00E+00	-28.870	0.000
12	USD(max)	J[13]	-339.640	0.000	31.650	0.00E+00	-26.280	0.000
12	USD(min)	I[11]	-435.250	0.000	-89.440	0.00E+00	-77.300	0.000
12	USD(min)	1/4	-434.150	0.000	-78.690	0.00E+00	-75.540	0.000
12	USD(min)	2/4	-433.060	0.000	-68.010	0.00E+00	-77.310	0.000
12	USD(min)	3/4	-431.960	0.000	-57.400	0.00E+00	-79.180	0.000
12	USD(min)	J[13]	-430.860	0.000	-46.850	0.00E+00	-81.060	0.000
12	WSD(max)	I[11]	-244.290	0.000	19.780	0.00E+00	-33.420	0.000
12	WSD(max)	1/4	-243.600	0.000	19.780	0.00E+00	-30.590	0.000
12	WSD(max)	2/4	-242.920	0.000	19.780	0.00E+00	-28.180	0.000
12	WSD(max)	3/4	-242.230	0.000	19.780	0.00E+00	-26.180	0.000

Elem	Load	Part	Axial (kN)	Shear-y (kN)	Shear-z (kN)	Torsion (kN · m)	Moment-y (kN · m)	Moment-z (kN · m)
12	WSD(max)	J[13]	-241.540	0.000	19.780	0.00E+00	-24.600	0.000
12	WSD(min)	I[11]	-272.030	0.000	-53.730	0.00E+00	-46.540	0.000
12	WSD(min)	1/4	-271.350	0.000	-47.110	0.00E+00	-46.630	0.000
12	WSD(min)	2/4	-270.660	0.000	-40.520	0.00E+00	-47.840	0.000
12	WSD(min)	3/4	-269.970	0.000	-33.980	0.00E+00	-49.060	0.000
12	WSD(min)	J[13]	-269.290	0.000	-27.480	0.00E+00	-50.270	0.000
13	USD(max)	I[12]	-351.370	0.000	-3.330	0.00E+00	-31.250	0.000
13	USD(max)	1/4	-350.440	0.000	-1.750	0.00E+00	-28.270	0.000
13	USD(max)	2/4	-349.520	0.000	-0.200	0.00E+00	-25.560	0.000
13	USD(max)	3/4	-348.590	0.000	3.910	0.00E+00	-23.570	0.000
13	USD(max)	J[14]	-347.660	0.000	8.300	0.00E+00	-22.280	0.000
13	USD(min)	I[12]	-430.860	0.000	-57.490	0.00E+00	-88.120	0.000
13	USD(min)	1/4	-429.760	0.000	-47.010	0.00E+00	-87.940	0.000
13	USD(min)	2/4	-428.670	0.000	-36.590	0.00E+00	-87.870	0.000
13	USD(min)	3/4	-427.570	0.000	-26.240	0.00E+00	-87.910	0.000
13	USD(min)	J[14]	-426.470	0.000	-15.960	0.00E+00	-88.060	0.000
13	WSD(max)	I[12]	-241.540	0.000	-3.220	0.00E+00	-24.860	0.000
13	WSD(max)	1/4	-240.860	0.000	-2.100	0.00E+00	-23.300	0.000
13	WSD(max)	2/4	-240.170	0.000	-1.000	0.00E+00	-22.140	0.000
13	WSD(max)	3/4	-239.490	0.000	0.310	0.00E+00	-21.400	0.000
13	WSD(max)	J[14]	-238.800	0.000	3.770	0.00E+00	-21.050	0.000
13	WSD(min)	I[12]	-269.290	0.000	-33.230	0.00E+00	-54.890	0.000
13	WSD(min)	1/4	-268.600	0.000	-26.770	0.00E+00	-54.710	0.000
13	WSD(min)	2/4	-267.920	0.000	-20.350	0.00E+00	-54.600	0.000
13	WSD(min)	3/4	-267.230	0.000	-13.980	0.00E+00	-54.570	0.000
13	WSD(min)	J[14]	-266.540	0.000	-7.640	0.00E+00	-54.610	0.000
14	USD(max)	I[13]	-339.640	0.000	31.650	0.00E+00	-26.280	0.000
14	USD(max)	1/4	-338.720	0.000	31.650	0.00E+00	-24.280	0.000
14	USD(max)	2/4	-337.790	0.000	31.650	0.00E+00	-22.830	0.000
14	USD(max)	3/4	-336.860	0.000	31.650	0.00E+00	-22.030	0.000
14	USD(max)	J[15]	-335.940	0.000	31.650	0.00E+00	-21.870	0.000
14	USD(min)	I[13]	-430.860	0.000	-46.850	0.00E+00	-81.060	0.000
14	USD(min)	1/4	-429.760	0.000	-36.370	0.00E+00	-82.940	0.000
14	USD(min)	2/4	-428.670	0.000	-25.950	0.00E+00	-84.820	0.000
14	USD(min)	3/4	-427.570	0.000	-15.600	0.00E+00	-86.690	0.000
14	USD(min)	J[15]	-426.470	0.000	-5.380	0.00E+00	-88.570	0.000
14	WSD(max)	I[13]	-241.540	0.000	19.780	0.00E+00	-24.600	0.000
14	WSD(max)	1/4	-240.860	0.000	19.780	0.00E+00	-23.300	0.000
14	WSD(max)	2/4	-240.170	0.000	19.780	0.00E+00	-22.140	0.000
14	WSD(max)	3/4	-239.490	0.000	19.780	0.00E+00	-21.400	0.000
14	WSD(max)	J[15]	-238.800	0.000	19.780	0.00E+00	-21.050	0.000
14	WSD(min)	I[13]	-269.290	0.000	-27.480	0.00E+00	-50.270	0.000
14	WSD(min)	1/4	-268.600	0.000	-21.020	0.00E+00	-51.490	0.000
14	WSD(min)	2/4	-267.920	0.000	-14.600	0.00E+00	-52.700	0.000
14	WSD(min)	3/4	-267.230	0.000	-8.230	0.00E+00	-53.920	0.000
14	WSD(min)	J[15]	-266.540	0.000	-2.030	0.00E+00	-55.140	0.000
15	USD(max)	I[14]	-347.660	0.000	8.300	0.00E+00	-22.280	0.000
15	USD(max)	1/4	-346.740	0.000	12.670	0.00E+00	-21.690	0.000
15	USD(max)	2/4	-345.810	0.000	17.040	0.00E+00	-21.790	0.000
15	USD(max)	3/4	-344.890	0.000	26.970	0.00E+00	-22.580	0.000
15	USD(max)	J[16]	-343.960	0.000	36.840	0.00E+00	-24.060	0.000
15	USD(min)	I[14]	-426.470	0.000	-15.960	0.00E+00	-88.060	0.000
15	USD(min)	1/4	-425.370	0.000	-5.750	0.00E+00	-88.310	0.000
15	USD(min)	2/4	-424.280	0.000	-1.020	0.00E+00	-88.660	0.000
15	USD(min)	3/4	-423.180	0.000	1.370	0.00E+00	-89.120	0.000
15	USD(min)	J[16]	-422.080	0.000	3.700	0.00E+00	-89.670	0.000
15	WSD(max)	I[14]	-238.800	0.000	3.770	0.00E+00	-21.050	0.000
15	WSD(max)	1/4	-238.110	0.000	7.210	0.00E+00	-21.110	0.000
15	WSD(max)	2/4	-237.430	0.000	10.650	0.00E+00	-21.570	0.000
15	WSD(max)	3/4	-236.740	0.000	16.860	0.00E+00	-22.420	0.000
15	WSD(max)	J[16]	-236.060	0.000	23.020	0.00E+00	-23.660	0.000
15	WSD(min)	I[14]	-266.540	0.000	-7.640	0.00E+00	-54.610	0.000
15	WSD(min)	1/4	-265.860	0.000	-1.350	0.00E+00	-54.730	0.000
15	WSD(min)	2/4	-265.170	0.000	1.510	0.00E+00	-54.910	0.000
15	WSD(min)	3/4	-264.490	0.000	2.910	0.00E+00	-55.170	0.000
15	WSD(min)	J[16]	-263.800	0.000	4.280	0.00E+00	-55.500	0.000
16	USD(max)	I[15]	-335.940	0.000	31.650	0.00E+00	-21.870	0.000
16	USD(max)	1/4	-335.010	0.000	31.650	0.00E+00	-22.350	0.000
16	USD(max)	2/4	-334.090	0.000	31.650	0.00E+00	-23.470	0.000
16	USD(max)	3/4	-333.160	0.000	32.970	0.00E+00	-25.220	0.000
16	USD(max)	J[17]	-332.230	0.000	41.900	0.00E+00	-27.600	0.000
16	USD(min)	I[15]	-426.470	0.000	-5.380	0.00E+00	-88.570	0.000
16	USD(min)	1/4	-425.370	0.000	4.570	0.00E+00	-90.450	0.000
16	USD(min)	2/4	-424.280	0.000	14.420	0.00E+00	-92.330	0.000
16	USD(min)	3/4	-423.180	0.000	18.610	0.00E+00	-94.200	0.000
16	USD(min)	J[17]	-422.080	0.000	22.780	0.00E+00	-96.080	0.000
16	WSD(max)	I[15]	-238.800	0.000	19.780	0.00E+00	-21.050	0.000
16	WSD(max)	1/4	-238.110	0.000	19.780	0.00E+00	-21.110	0.000
16	WSD(max)	2/4	-237.430	0.000	19.780	0.00E+00	-21.570	0.000
16	WSD(max)	3/4	-236.740	0.000	20.610	0.00E+00	-22.420	0.000

Elem	Load	Part	Axial (kN)	Shear-y (kN)	Shear-z (kN)	Torsion (kN · m)	Moment-y (kN · m)	Moment-z (kN · m)
16	WSD(max)	J[17]	-236.060	0.000	26.190	0.00E+00	-23.660	0.000
16	WSD(min)	I[15]	-266.540	0.000	-2.030	0.00E+00	-55.140	0.000
16	WSD(min)	1/4	-265.860	0.000	3.680	0.00E+00	-56.350	0.000
16	WSD(min)	2/4	-265.170	0.000	9.340	0.00E+00	-57.570	0.000
16	WSD(min)	3/4	-264.490	0.000	14.030	0.00E+00	-58.780	0.000
16	WSD(min)	J[17]	-263.800	0.000	17.370	0.00E+00	-60.000	0.000
17	USD(max)	I[16]	-343.960	0.000	36.840	0.00E+00	-24.060	0.000
17	USD(max)	1/4	-343.030	0.000	46.640	0.00E+00	-26.220	0.000
17	USD(max)	2/4	-342.110	0.000	56.370	0.00E+00	-29.050	0.000
17	USD(max)	3/4	-341.180	0.000	66.040	0.00E+00	-32.490	0.000
17	USD(max)	J[18]	-340.250	0.000	75.640	0.00E+00	-36.620	0.000
17	USD(min)	I[16]	-422.080	0.000	3.700	0.00E+00	-89.670	0.000
17	USD(min)	1/4	-420.980	0.000	5.950	0.00E+00	-90.320	0.000
17	USD(min)	2/4	-419.890	0.000	8.150	0.00E+00	-91.070	0.000
17	USD(min)	3/4	-418.790	0.000	9.970	0.00E+00	-91.910	0.000
17	USD(min)	J[18]	-417.690	0.000	11.420	0.00E+00	-92.840	0.000
17	WSD(max)	I[16]	-236.060	0.000	23.020	0.00E+00	-23.660	0.000
17	WSD(max)	1/4	-235.370	0.000	29.150	0.00E+00	-25.290	0.000
17	WSD(max)	2/4	-234.680	0.000	35.230	0.00E+00	-27.310	0.000
17	WSD(max)	3/4	-234.000	0.000	41.270	0.00E+00	-29.590	0.000
17	WSD(max)	J[18]	-233.310	0.000	47.270	0.00E+00	-32.280	0.000
17	WSD(min)	I[16]	-263.800	0.000	4.280	0.00E+00	-55.500	0.000
17	WSD(min)	1/4	-263.110	0.000	5.590	0.00E+00	-55.890	0.000
17	WSD(min)	2/4	-262.430	0.000	6.870	0.00E+00	-56.350	0.000
17	WSD(min)	3/4	-261.740	0.000	7.960	0.00E+00	-56.880	0.000
17	WSD(min)	J[18]	-261.060	0.000	8.850	0.00E+00	-57.470	0.000
18	USD(max)	I[17]	-332.230	0.000	41.900	0.00E+00	-27.600	0.000
18	USD(max)	1/4	-331.310	0.000	50.760	0.00E+00	-30.600	0.000
18	USD(max)	2/4	-330.380	0.000	59.550	0.00E+00	-34.220	0.000
18	USD(max)	3/4	-329.450	0.000	68.270	0.00E+00	-38.320	0.000
18	USD(max)	J[19]	-328.530	0.000	76.930	0.00E+00	-43.050	0.000
18	USD(min)	I[17]	-422.080	0.000	22.780	0.00E+00	-96.080	0.000
18	USD(min)	1/4	-420.980	0.000	25.910	0.00E+00	-97.960	0.000
18	USD(min)	2/4	-419.890	0.000	25.910	0.00E+00	-100.100	0.000
18	USD(min)	3/4	-418.790	0.000	25.910	0.00E+00	-102.310	0.000
18	USD(min)	J[19]	-417.690	0.000	25.910	0.00E+00	-104.530	0.000
18	WSD(max)	I[17]	-236.060	0.000	26.190	0.00E+00	-23.660	0.000
18	WSD(max)	1/4	-235.370	0.000	31.720	0.00E+00	-25.290	0.000
18	WSD(max)	2/4	-234.680	0.000	37.220	0.00E+00	-27.310	0.000
18	WSD(max)	3/4	-234.000	0.000	42.670	0.00E+00	-29.710	0.000
18	WSD(max)	J[19]	-233.310	0.000	48.080	0.00E+00	-32.490	0.000
18	WSD(min)	I[17]	-263.800	0.000	17.370	0.00E+00	-60.000	0.000
18	WSD(min)	1/4	-263.110	0.000	17.370	0.00E+00	-61.210	0.000
18	WSD(min)	2/4	-262.430	0.000	17.370	0.00E+00	-62.560	0.000
18	WSD(min)	3/4	-261.740	0.000	17.370	0.00E+00	-63.940	0.000
18	WSD(min)	J[19]	-261.060	0.000	17.370	0.00E+00	-65.330	0.000
19	USD(max)	I[18]	-340.250	0.000	75.640	0.00E+00	-36.620	0.000
19	USD(max)	1/4	-339.330	0.000	85.170	0.00E+00	-41.440	0.000
19	USD(max)	2/4	-338.400	0.000	94.640	0.00E+00	-46.920	0.000
19	USD(max)	3/4	-337.480	0.000	104.030	0.00E+00	-53.080	0.000
19	USD(max)	J[20]	-336.550	0.000	113.370	0.00E+00	-59.900	0.000
19	USD(min)	I[18]	-417.690	0.000	11.420	0.00E+00	-92.840	0.000
19	USD(min)	1/4	-416.590	0.000	12.850	0.00E+00	-93.860	0.000
19	USD(min)	2/4	-415.490	0.000	14.250	0.00E+00	-94.980	0.000
19	USD(min)	3/4	-414.400	0.000	15.630	0.00E+00	-96.540	0.000
19	USD(min)	J[20]	-413.300	0.000	16.980	0.00E+00	-100.530	0.000
19	WSD(max)	I[18]	-233.310	0.000	47.270	0.00E+00	-32.280	0.000
19	WSD(max)	1/4	-232.630	0.000	53.230	0.00E+00	-35.400	0.000
19	WSD(max)	2/4	-231.940	0.000	59.150	0.00E+00	-38.930	0.000
19	WSD(max)	3/4	-231.250	0.000	65.020	0.00E+00	-42.870	0.000
19	WSD(max)	J[20]	-230.570	0.000	70.850	0.00E+00	-47.230	0.000
19	WSD(min)	I[18]	-261.060	0.000	8.850	0.00E+00	-57.470	0.000
19	WSD(min)	1/4	-260.370	0.000	9.720	0.00E+00	-58.120	0.000
19	WSD(min)	2/4	-259.680	0.000	10.570	0.00E+00	-58.830	0.000
19	WSD(min)	3/4	-259.000	0.000	11.400	0.00E+00	-59.600	0.000
19	WSD(min)	J[20]	-258.310	0.000	12.210	0.00E+00	-60.930	0.000
20	USD(max)	I[19]	-328.530	0.000	76.930	0.00E+00	-43.050	0.000
20	USD(max)	1/4	-327.600	0.000	85.520	0.00E+00	-48.440	0.000
20	USD(max)	2/4	-326.680	0.000	94.640	0.00E+00	-54.490	0.000
20	USD(max)	3/4	-325.750	0.000	104.030	0.00E+00	-61.200	0.000
20	USD(max)	J[21]	-324.820	0.000	113.370	0.00E+00	-68.550	0.000
20	USD(min)	I[19]	-417.690	0.000	25.910	0.00E+00	-104.530	0.000
20	USD(min)	1/4	-416.590	0.000	25.910	0.00E+00	-106.740	0.000
20	USD(min)	2/4	-415.490	0.000	25.910	0.00E+00	-108.960	0.000
20	USD(min)	3/4	-414.400	0.000	25.910	0.00E+00	-111.170	0.000
20	USD(min)	J[21]	-413.300	0.000	25.910	0.00E+00	-113.390	0.000
20	WSD(max)	I[19]	-233.310	0.000	48.080	0.00E+00	-32.490	0.000
20	WSD(max)	1/4	-232.630	0.000	53.450	0.00E+00	-35.650	0.000
20	WSD(max)	2/4	-231.940	0.000	59.150	0.00E+00	-39.180	0.000
20	WSD(max)	3/4	-231.250	0.000	65.020	0.00E+00	-43.090	0.000

Elem	Load	Part	Axial (kN)	Shear-y (kN)	Shear-z (kN)	Torsion (kN · m)	Moment-y (kN · m)	Moment-z (kN · m)
20	WSD(max)	J[21]	-230.570	0.000	70.850	0.00E+00	-47.360	0.000
20	WSD(min)	I[19]	-261.060	0.000	17.370	0.00E+00	-65.330	0.000
20	WSD(min)	1/4	-260.370	0.000	17.370	0.00E+00	-66.710	0.000
20	WSD(min)	2/4	-259.680	0.000	17.370	0.00E+00	-68.100	0.000
20	WSD(min)	3/4	-259.000	0.000	17.370	0.00E+00	-69.480	0.000
20	WSD(min)	J[21]	-258.310	0.000	17.370	0.00E+00	-70.870	0.000
21	USD(max)	I[20]	-336.550	0.000	113.370	0.00E+00	-59.900	0.000
21	USD(max)	1/4	-334.900	0.000	119.990	0.00E+00	-65.180	0.000
21	USD(max)	2/4	-333.240	0.000	126.580	0.00E+00	-70.770	0.000
21	USD(max)	3/4	-331.590	0.000	133.140	0.00E+00	-76.660	0.000
21	USD(max)	J[22]	-329.940	0.000	139.660	0.00E+00	-82.350	0.000
21	USD(min)	I[20]	-413.300	0.000	16.980	0.00E+00	-100.530	0.000
21	USD(min)	1/4	-411.340	0.000	17.930	0.00E+00	-103.550	0.000
21	USD(min)	2/4	-409.380	0.000	18.870	0.00E+00	-106.720	0.000
21	USD(min)	3/4	-407.420	0.000	19.790	0.00E+00	-110.030	0.000
21	USD(min)	J[22]	-405.460	0.000	20.710	0.00E+00	-113.490	0.000
21	WSD(max)	I[20]	-230.570	0.000	70.850	0.00E+00	-47.230	0.000
21	WSD(max)	1/4	-229.340	0.000	75.000	0.00E+00	-50.590	0.000
21	WSD(max)	2/4	-228.120	0.000	79.110	0.00E+00	-54.100	0.000
21	WSD(max)	3/4	-226.890	0.000	83.210	0.00E+00	-57.750	0.000
21	WSD(max)	J[22]	-225.670	0.000	87.290	0.00E+00	-61.480	0.000
21	WSD(min)	I[20]	-258.310	0.000	12.210	0.00E+00	-60.930	0.000
21	WSD(min)	1/4	-257.090	0.000	12.770	0.00E+00	-63.180	0.000
21	WSD(min)	2/4	-255.860	0.000	13.320	0.00E+00	-65.530	0.000
21	WSD(min)	3/4	-254.640	0.000	13.870	0.00E+00	-68.000	0.000
21	WSD(min)	J[22]	-253.410	0.000	14.400	0.00E+00	-70.580	0.000
22	USD(max)	I[21]	-324.820	0.000	113.370	0.00E+00	-68.550	0.000
22	USD(max)	1/4	-323.170	0.000	119.990	0.00E+00	-74.170	0.000
22	USD(max)	2/4	-321.520	0.000	126.580	0.00E+00	-79.990	0.000
22	USD(max)	3/4	-319.860	0.000	133.140	0.00E+00	-86.100	0.000
22	USD(max)	J[30]	-318.210	0.000	139.660	0.00E+00	-92.500	0.000
22	USD(min)	I[21]	-413.300	0.000	25.910	0.00E+00	-113.390	0.000
22	USD(min)	1/4	-411.340	0.000	25.910	0.00E+00	-114.970	0.000
22	USD(min)	2/4	-409.380	0.000	25.910	0.00E+00	-116.550	0.000
22	USD(min)	3/4	-407.420	0.000	25.910	0.00E+00	-118.140	0.000
22	USD(min)	J[30]	-405.460	0.000	25.910	0.00E+00	-119.720	0.000
22	WSD(max)	I[21]	-230.570	0.000	70.850	0.00E+00	-47.360	0.000
22	WSD(max)	1/4	-229.340	0.000	75.000	0.00E+00	-50.640	0.000
22	WSD(max)	2/4	-228.120	0.000	79.110	0.00E+00	-54.100	0.000
22	WSD(max)	3/4	-226.890	0.000	83.210	0.00E+00	-57.750	0.000
22	WSD(max)	J[30]	-225.670	0.000	87.290	0.00E+00	-61.570	0.000
22	WSD(min)	I[21]	-258.310	0.000	17.370	0.00E+00	-70.870	0.000
22	WSD(min)	1/4	-257.090	0.000	17.370	0.00E+00	-71.860	0.000
22	WSD(min)	2/4	-255.860	0.000	17.370	0.00E+00	-72.850	0.000
22	WSD(min)	3/4	-254.640	0.000	17.370	0.00E+00	-73.830	0.000
22	WSD(min)	J[30]	-253.410	0.000	17.370	0.00E+00	-74.820	0.000
23	USD(max)	I[22]	-25.910	0.000	-251.870	0.00E+00	-2.600	0.000
23	USD(max)	1/4	-25.910	0.000	-238.860	0.00E+00	9.720	0.000
23	USD(max)	2/4	-25.910	0.000	-225.850	0.00E+00	22.750	0.000
23	USD(max)	3/4	-25.910	0.000	-212.720	0.00E+00	35.520	0.000
23	USD(max)	J[23]	-25.910	0.000	-199.230	0.00E+00	47.520	0.000
23	USD(min)	I[22]	-178.610	0.000	-313.310	0.00E+00	-50.560	0.000
23	USD(min)	1/4	-178.610	0.000	-297.950	0.00E+00	-36.170	0.000
23	USD(min)	2/4	-178.610	0.000	-282.590	0.00E+00	-23.430	0.000
23	USD(min)	3/4	-178.610	0.000	-267.230	0.00E+00	-11.360	0.000
23	USD(min)	J[23]	-178.610	0.000	-251.880	0.00E+00	-0.240	0.000
23	WSD(max)	I[22]	-17.370	0.000	-174.380	0.00E+00	-3.190	0.000
23	WSD(max)	1/4	-17.370	0.000	-165.830	0.00E+00	5.760	0.000
23	WSD(max)	2/4	-17.370	0.000	-157.280	0.00E+00	14.220	0.000
23	WSD(max)	3/4	-17.370	0.000	-148.740	0.00E+00	22.200	0.000
23	WSD(max)	J[23]	-17.370	0.000	-140.190	0.00E+00	29.700	0.000
23	WSD(min)	I[22]	-111.300	0.000	-195.820	0.00E+00	-31.600	0.000
23	WSD(min)	1/4	-111.300	0.000	-186.220	0.00E+00	-22.050	0.000
23	WSD(min)	2/4	-111.300	0.000	-176.620	0.00E+00	-12.980	0.000
23	WSD(min)	3/4	-111.300	0.000	-167.020	0.00E+00	-4.390	0.000
23	WSD(min)	J[23]	-111.300	0.000	-157.420	0.00E+00	3.120	0.000
24	USD(max)	I[23]	-25.910	0.000	-199.230	0.00E+00	47.520	0.000
24	USD(max)	1/4	-25.910	0.000	-180.830	0.00E+00	62.670	0.000
24	USD(max)	2/4	-25.910	0.000	-162.420	0.00E+00	76.380	0.000
24	USD(max)	3/4	-25.910	0.000	-144.010	0.00E+00	88.670	0.000
24	USD(max)	J[24]	-25.910	0.000	-125.610	0.00E+00	99.560	0.000
24	USD(min)	I[23]	-178.610	0.000	-251.880	0.00E+00	-0.240	0.000
24	USD(min)	1/4	-178.610	0.000	-230.910	0.00E+00	13.720	0.000
24	USD(min)	2/4	-178.610	0.000	-209.950	0.00E+00	26.460	0.000
24	USD(min)	3/4	-178.610	0.000	-188.980	0.00E+00	38.000	0.000
24	USD(min)	J[24]	-178.610	0.000	-168.020	0.00E+00	48.320	0.000
24	WSD(max)	I[23]	-17.370	0.000	-140.190	0.00E+00	29.700	0.000
24	WSD(max)	1/4	-17.370	0.000	-128.520	0.00E+00	39.170	0.000
24	WSD(max)	2/4	-17.370	0.000	-116.850	0.00E+00	47.740	0.000
24	WSD(max)	3/4	-17.370	0.000	-105.180	0.00E+00	55.420	0.000

Elem	Load	Part	Axial (kN)	Shear-y (kN)	Shear-z (kN)	Torsion (kN · m)	Moment-y (kN · m)	Moment-z (kN · m)
24	WSD(max)	J[24]	-17.370	0.000	-92.830	0.00E+00	62.220	0.000
24	WSD(min)	I[23]	-111.300	0.000	-157.420	0.00E+00	3.120	0.000
24	WSD(min)	1/4	-111.300	0.000	-144.320	0.00E+00	12.290	0.000
24	WSD(min)	2/4	-111.300	0.000	-131.220	0.00E+00	20.670	0.000
24	WSD(min)	3/4	-111.300	0.000	-118.120	0.00E+00	28.240	0.000
24	WSD(min)	J[24]	-111.300	0.000	-105.010	0.00E+00	35.020	0.000
25	USD(max)	I[24]	-25.910	0.000	-125.610	0.00E+00	99.560	0.000
25	USD(max)	1/4	-25.910	0.000	-107.130	0.00E+00	109.180	0.000
25	USD(max)	2/4	-25.910	0.000	-88.660	0.00E+00	117.370	0.000
25	USD(max)	3/4	-25.910	0.000	-70.190	0.00E+00	124.110	0.000
25	USD(max)	J[25]	-25.910	0.000	-51.720	0.00E+00	129.410	0.000
25	USD(min)	I[24]	-178.610	0.000	-168.020	0.00E+00	48.320	0.000
25	USD(min)	1/4	-178.610	0.000	-146.980	0.00E+00	57.460	0.000
25	USD(min)	2/4	-178.610	0.000	-125.940	0.00E+00	65.380	0.000
25	USD(min)	3/4	-178.610	0.000	-104.900	0.00E+00	71.420	0.000
25	USD(min)	J[25]	-178.610	0.000	-83.860	0.00E+00	75.970	0.000
25	WSD(max)	I[24]	-17.370	0.000	-92.830	0.00E+00	62.220	0.000
25	WSD(max)	1/4	-17.370	0.000	-79.680	0.00E+00	68.210	0.000
25	WSD(max)	2/4	-17.370	0.000	-66.530	0.00E+00	73.310	0.000
25	WSD(max)	3/4	-17.370	0.000	-53.380	0.00E+00	77.500	0.000
25	WSD(max)	J[25]	-17.370	0.000	-40.230	0.00E+00	80.790	0.000
25	WSD(min)	I[24]	-111.300	0.000	-105.010	0.00E+00	35.020	0.000
25	WSD(min)	1/4	-111.300	0.000	-91.860	0.00E+00	41.030	0.000
25	WSD(min)	2/4	-111.300	0.000	-78.710	0.00E+00	46.230	0.000
25	WSD(min)	3/4	-111.300	0.000	-65.560	0.00E+00	50.630	0.000
25	WSD(min)	J[25]	-111.300	0.000	-52.410	0.00E+00	54.230	0.000
26	USD(max)	I[25]	-25.910	0.000	-51.720	0.00E+00	129.410	0.000
26	USD(max)	1/4	-25.910	0.000	-33.310	0.00E+00	133.260	0.000
26	USD(max)	2/4	-25.910	0.000	-14.900	0.00E+00	135.680	0.000
26	USD(max)	3/4	-25.910	0.000	3.500	0.00E+00	136.660	0.000
26	USD(max)	J[26]	-25.910	0.000	21.910	0.00E+00	136.220	0.000
26	USD(min)	I[25]	-178.610	0.000	-83.860	0.00E+00	75.970	0.000
26	USD(min)	1/4	-178.610	0.000	-62.890	0.00E+00	79.280	0.000
26	USD(min)	2/4	-178.610	0.000	-41.930	0.00E+00	81.390	0.000
26	USD(min)	3/4	-178.610	0.000	-20.960	0.00E+00	82.280	0.000
26	USD(min)	J[26]	-178.610	0.000	0.000	0.00E+00	81.960	0.000
26	WSD(max)	I[25]	-17.370	0.000	-40.230	0.00E+00	80.790	0.000
26	WSD(max)	1/4	-17.370	0.000	-27.130	0.00E+00	83.180	0.000
26	WSD(max)	2/4	-17.370	0.000	-14.030	0.00E+00	84.660	0.000
26	WSD(max)	3/4	-17.370	0.000	-0.920	0.00E+00	85.260	0.000
26	WSD(max)	J[26]	-17.370	0.000	12.180	0.00E+00	84.960	0.000
26	WSD(min)	I[25]	-111.300	0.000	-52.410	0.00E+00	54.230	0.000
26	WSD(min)	1/4	-111.300	0.000	-39.310	0.00E+00	57.020	0.000
26	WSD(min)	2/4	-111.300	0.000	-26.210	0.00E+00	59.010	0.000
26	WSD(min)	3/4	-111.300	0.000	-13.100	0.00E+00	60.200	0.000
26	WSD(min)	J[26]	-111.300	0.000	0.000	0.00E+00	60.600	0.000
27	USD(max)	I[26]	-25.910	0.000	21.910	0.00E+00	136.220	0.000
27	USD(max)	1/4	-25.910	0.000	38.160	0.00E+00	134.420	0.000
27	USD(max)	2/4	-25.910	0.000	56.820	0.00E+00	131.350	0.000
27	USD(max)	3/4	-25.910	0.000	75.490	0.00E+00	127.010	0.000
27	USD(max)	J[27]	-25.910	0.000	94.160	0.00E+00	121.390	0.000
27	USD(min)	I[26]	-178.610	0.000	0.000	0.00E+00	81.960	0.000
27	USD(min)	1/4	-178.610	0.000	17.760	0.00E+00	80.500	0.000
27	USD(min)	2/4	-178.610	0.000	35.520	0.00E+00	77.960	0.000
27	USD(min)	3/4	-178.610	0.000	53.280	0.00E+00	74.350	0.000
27	USD(min)	J[27]	-178.610	0.000	71.040	0.00E+00	69.660	0.000
27	WSD(max)	I[26]	-17.370	0.000	12.180	0.00E+00	84.960	0.000
27	WSD(max)	1/4	-17.370	0.000	23.850	0.00E+00	83.820	0.000
27	WSD(max)	2/4	-17.370	0.000	35.510	0.00E+00	81.880	0.000
27	WSD(max)	3/4	-17.370	0.000	47.180	0.00E+00	79.140	0.000
27	WSD(max)	J[27]	-17.370	0.000	58.850	0.00E+00	75.610	0.000
27	WSD(min)	I[26]	-111.300	0.000	0.000	0.00E+00	60.600	0.000
27	WSD(min)	1/4	-111.300	0.000	11.670	0.00E+00	60.200	0.000
27	WSD(min)	2/4	-111.300	0.000	23.340	0.00E+00	59.010	0.000
27	WSD(min)	3/4	-111.300	0.000	35.000	0.00E+00	57.020	0.000
27	WSD(min)	J[27]	-111.300	0.000	46.670	0.00E+00	54.230	0.000
28	USD(max)	I[27]	-25.910	0.000	94.160	0.00E+00	121.390	0.000
28	USD(max)	1/4	-25.910	0.000	112.900	0.00E+00	114.470	0.000
28	USD(max)	2/4	-25.910	0.000	131.640	0.00E+00	106.260	0.000
28	USD(max)	3/4	-25.910	0.000	150.370	0.00E+00	96.770	0.000
28	USD(max)	J[28]	-25.910	0.000	169.110	0.00E+00	86.000	0.000
28	USD(min)	I[27]	-178.610	0.000	71.040	0.00E+00	69.660	0.000
28	USD(min)	1/4	-178.610	0.000	88.870	0.00E+00	63.870	0.000
28	USD(min)	2/4	-178.610	0.000	106.690	0.00E+00	56.970	0.000
28	USD(min)	3/4	-178.610	0.000	123.990	0.00E+00	48.720	0.000
28	USD(min)	J[28]	-178.610	0.000	139.800	0.00E+00	39.380	0.000
28	WSD(max)	I[27]	-17.370	0.000	58.850	0.00E+00	75.610	0.000
28	WSD(max)	1/4	-17.370	0.000	70.560	0.00E+00	71.260	0.000
28	WSD(max)	2/4	-17.370	0.000	82.270	0.00E+00	66.110	0.000
28	WSD(max)	3/4	-17.370	0.000	93.980	0.00E+00	60.160	0.000

Elem	Load	Part	Axial (kN)	Shear-y (kN)	Shear-z (kN)	Torsion (kN · m)	Moment-y (kN · m)	Moment-z (kN · m)
28	WSD(max)	J[28]	-17.370	0.000	105.690	0.00E+00	53.400	0.000
28	WSD(min)	I[27]	-111.300	0.000	46.670	0.00E+00	54.230	0.000
28	WSD(min)	1/4	-111.300	0.000	58.380	0.00E+00	50.630	0.000
28	WSD(min)	2/4	-111.300	0.000	70.090	0.00E+00	46.150	0.000
28	WSD(min)	3/4	-111.300	0.000	81.800	0.00E+00	40.280	0.000
28	WSD(min)	J[28]	-111.300	0.000	93.520	0.00E+00	33.620	0.000
29	USD(max)	I[28]	-25.910	0.000	169.110	0.00E+00	86.000	0.000
29	USD(max)	1/4	-25.910	0.000	188.980	0.00E+00	73.990	0.000
29	USD(max)	2/4	-25.910	0.000	209.950	0.00E+00	60.710	0.000
29	USD(max)	3/4	-25.910	0.000	230.910	0.00E+00	46.150	0.000
29	USD(max)	J[29]	-25.910	0.000	251.880	0.00E+00	30.320	0.000
29	USD(min)	I[28]	-178.610	0.000	139.800	0.00E+00	39.380	0.000
29	USD(min)	1/4	-178.610	0.000	155.560	0.00E+00	29.010	0.000
29	USD(min)	2/4	-178.610	0.000	171.310	0.00E+00	17.550	0.000
29	USD(min)	3/4	-178.610	0.000	187.060	0.00E+00	5.030	0.000
29	USD(min)	J[29]	-178.610	0.000	202.810	0.00E+00	-8.570	0.000
29	WSD(max)	I[28]	-17.370	0.000	105.690	0.00E+00	53.400	0.000
29	WSD(max)	1/4	-17.370	0.000	118.120	0.00E+00	45.880	0.000
29	WSD(max)	2/4	-17.370	0.000	131.220	0.00E+00	37.560	0.000
29	WSD(max)	3/4	-17.370	0.000	144.320	0.00E+00	28.440	0.000
29	WSD(max)	J[29]	-17.370	0.000	157.420	0.00E+00	18.520	0.000
29	WSD(min)	I[28]	-111.300	0.000	93.520	0.00E+00	33.620	0.000
29	WSD(min)	1/4	-111.300	0.000	105.180	0.00E+00	26.170	0.000
29	WSD(min)	2/4	-111.300	0.000	116.850	0.00E+00	17.940	0.000
29	WSD(min)	3/4	-111.300	0.000	128.520	0.00E+00	8.900	0.000
29	WSD(min)	J[29]	-111.300	0.000	140.190	0.00E+00	-0.930	0.000
30	USD(max)	I[29]	-25.910	0.000	251.880	0.00E+00	30.320	0.000
30	USD(max)	1/4	-25.910	0.000	267.230	0.00E+00	17.920	0.000
30	USD(max)	2/4	-25.910	0.000	282.590	0.00E+00	4.830	0.000
30	USD(max)	3/4	-25.910	0.000	297.950	0.00E+00	-8.950	0.000
30	USD(max)	J[30]	-25.910	0.000	313.310	0.00E+00	-23.110	0.000
30	USD(min)	I[29]	-178.610	0.000	202.810	0.00E+00	-8.570	0.000
30	USD(min)	1/4	-178.610	0.000	214.350	0.00E+00	-19.220	0.000
30	USD(min)	2/4	-178.610	0.000	225.890	0.00E+00	-30.440	0.000
30	USD(min)	3/4	-178.610	0.000	237.430	0.00E+00	-42.250	0.000
30	USD(min)	J[30]	-178.610	0.000	248.970	0.00E+00	-54.920	0.000
30	WSD(max)	I[29]	-17.370	0.000	157.420	0.00E+00	18.520	0.000
30	WSD(max)	1/4	-17.370	0.000	167.020	0.00E+00	10.750	0.000
30	WSD(max)	2/4	-17.370	0.000	176.620	0.00E+00	2.550	0.000
30	WSD(max)	3/4	-17.370	0.000	186.220	0.00E+00	-6.070	0.000
30	WSD(max)	J[30]	-17.370	0.000	195.820	0.00E+00	-15.120	0.000
30	WSD(min)	I[29]	-111.300	0.000	140.190	0.00E+00	-0.930	0.000
30	WSD(min)	1/4	-111.300	0.000	148.740	0.00E+00	-8.640	0.000
30	WSD(min)	2/4	-111.300	0.000	157.280	0.00E+00	-16.770	0.000
30	WSD(min)	3/4	-111.300	0.000	165.830	0.00E+00	-25.330	0.000
30	WSD(min)	J[30]	-111.300	0.000	174.380	0.00E+00	-34.320	0.000

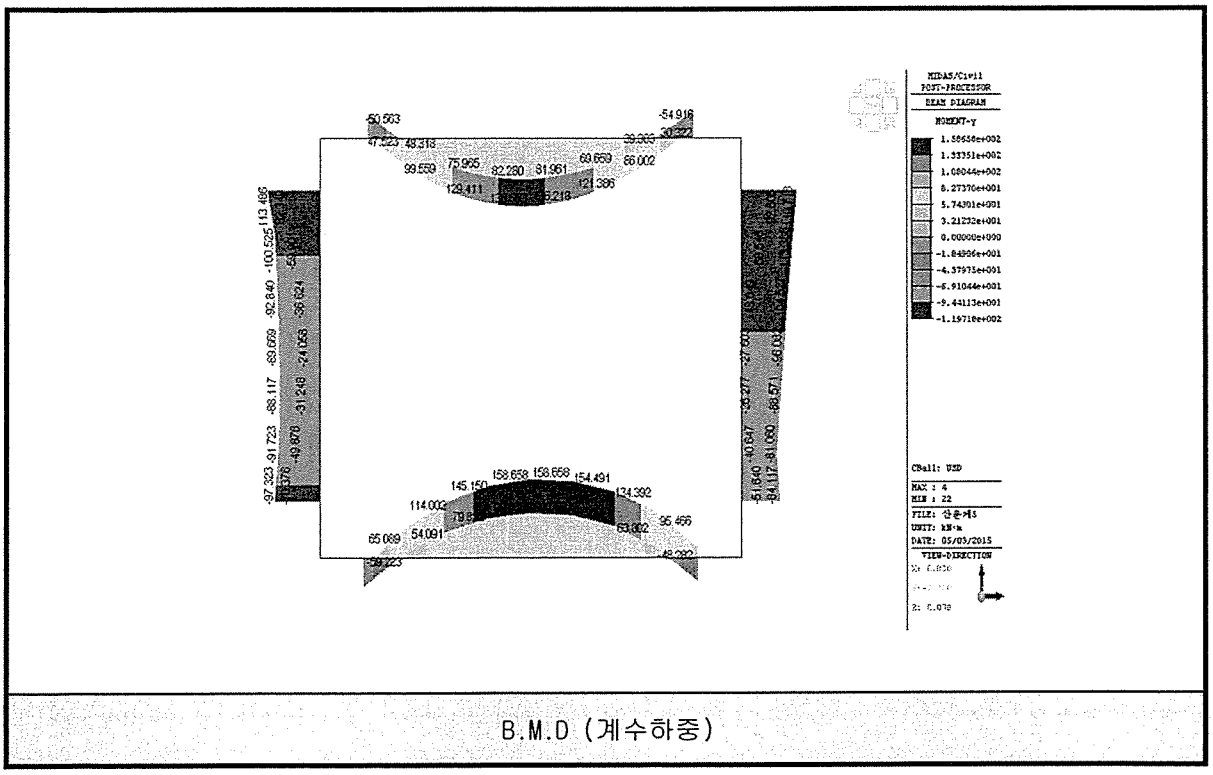
9. 단면력 요약

구분	위치	부재	극한하중			사용하중	비고
			Mu(kN · m)	Su(kN)	Pu(kN)	M(kN · m)	
상부슬래브	단부	23,30	-54.92	313.31	-	-34.32	
	중앙부	26,27	136.66	94.16	-	85.26	
벽체	상단부 (축력최대)	21.22	-100.53	139.66	-413.30	-47.23	
	상단부 (모멘트최대)	21,22	-119.72	139.66	-380.55	-74.82	
	중앙부 (축력최대)	15,16	-72.00	41.90	-426.47	-21.05	
	중앙부 (모멘트최대)	15,16	-96.08	-15.96	-394.68	-60.00	
	하단부 (축력최대)	9,10	-84.12	-131.16	-443.48	-33.42	
	하단부 (모멘트최대)	9,10	-97.32	-131.16	-424.00	-60.83	
하부슬래브	단부	1,8	-59.22	306.94	-	-35.47	
	중앙부	4,5	158.66	64.77	-	98.87	

-'전단력과 사용하중 상태에서의 모멘트는 선택 부재에서의 최대값 적용

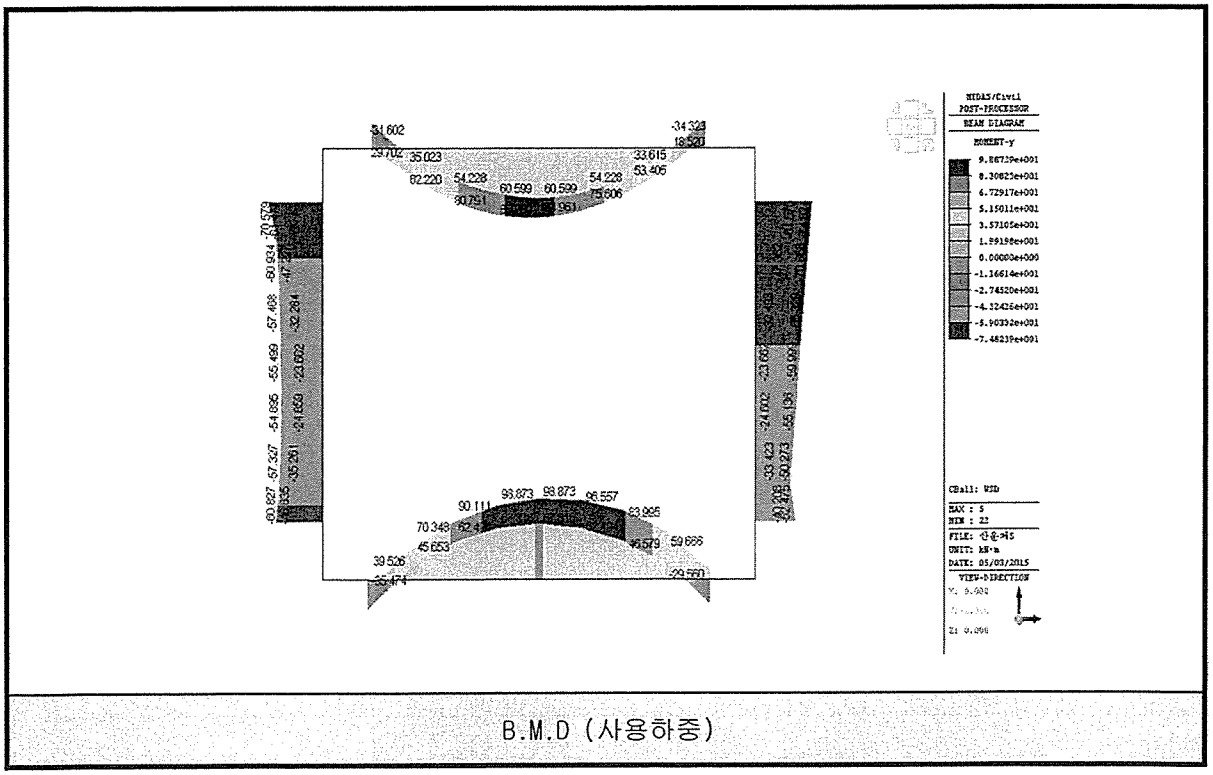
10. 단면력도

(1) 극한하중 모멘트도



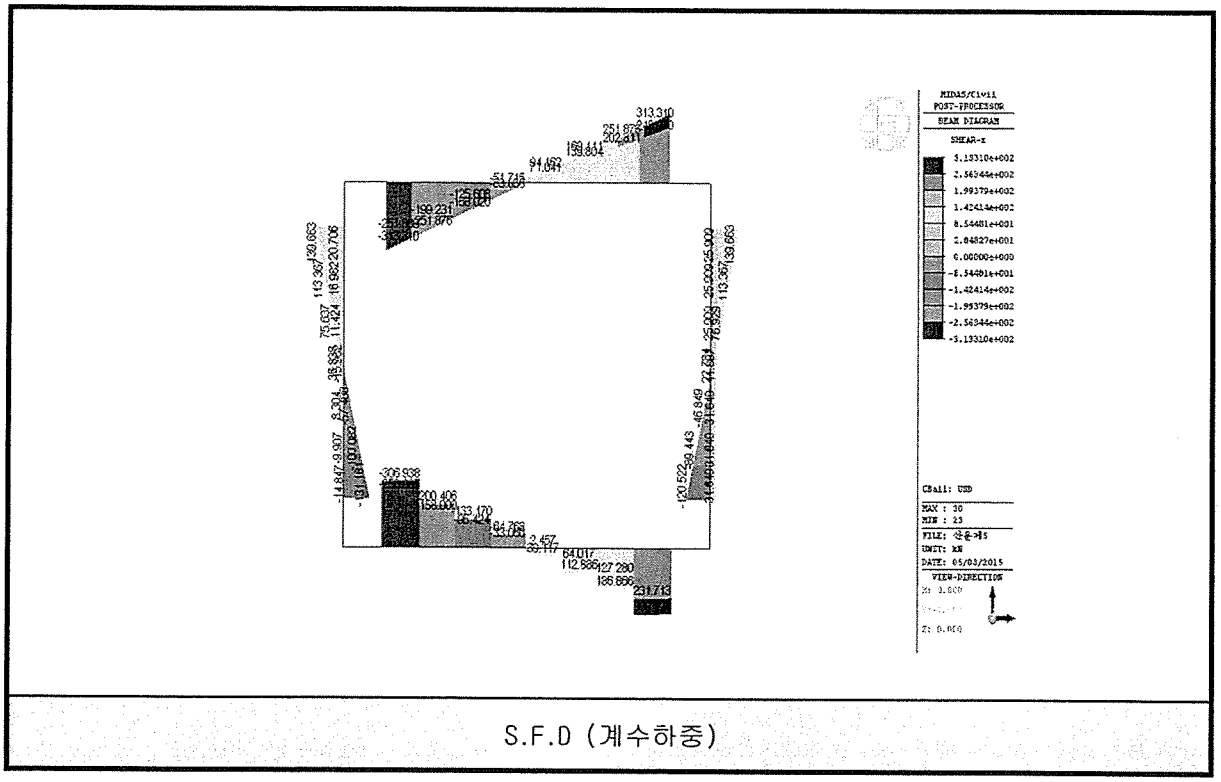
B.M.D (계수하중)

(2) 사용하중 모멘트도



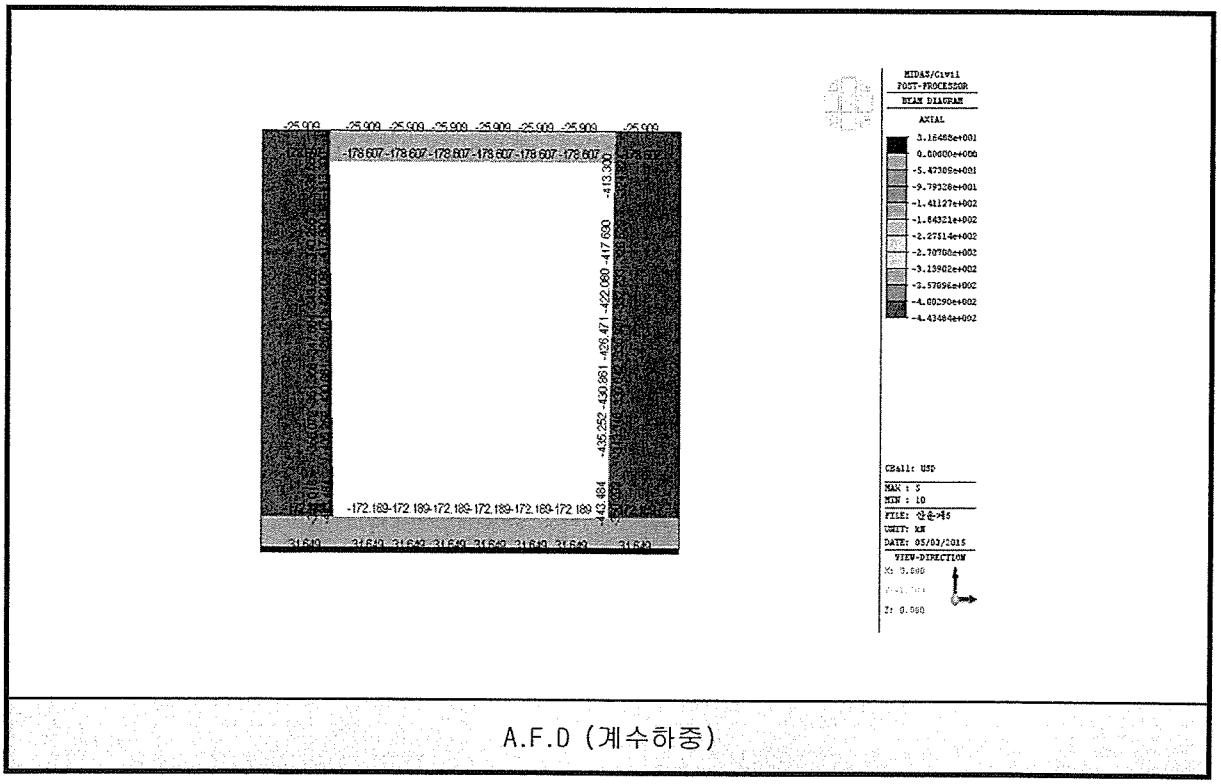
B.M.D (사용하중)

(3) 극한하중 전단력도



S.F.D (계수하중)

(4) 극한하중 축력도



A.F.D (계수하중)

11. 단면검토

① 상부 슬래브 단부

* 검토 조건

pmin = max(0.25√fck / fy, 1.4/fy) = 0.00350

fck (Mpa)	fy (Mpa)	β1	Φf	Φv	Mo (kN.m)
30.0	400.0	0.836	0.900	0.850	34.320
B (mm)	H (mm)	d (mm)	피복 (mm)	Mu (kN.m)	Su (kN)
1000.0	500.0	400.0	100.0	54.920	313.310

전단설계시 단면의 유효높이 ds = 300.0 d1' = 100 d2' = 0

* 휨모멘트 검토

공칭강도시 등가응력깊이 a = (As×fy) / (0.85×fck×B) = 24.922 mm

최외단 인장철근 변형률 εt = 0.03725 ≥ 0.004 ----- ∴ O.K.

여기서 εt = 0.003×(H - a/β1 - Dc_min) / (a/β1)

0.005 ≤ εt 이므로 인장지배단면, Φf = 0.900 를 적용한다.

ⓐ 필요철근량 및 철근비 검토

Mu / Φ = As×fy / (d - a/2) ---------- (1)

a = As×fy / (0.85×fck×b) ---------- (2)

式(2)를 式(1)에 대입하여 2차방정식으로 As를 구한다.

$$\frac{fy^2}{2\times 0.85\times fck\times b}\times As^2 - fy\times d\times As + \frac{Mu}{\Phi} = 0$$

필요 철근량 req.As = 384.284 mm^2

사용철근비 : Puse = As / (B × D) = 0.00397

최대철근비 : Pmax = 0.714 x k1 x Φx (fck / fy) x {600 / (600 + fy)} = 0.02283

최소철근비 :
- Pmin = 1.4 / fy = 0.00350
- Pmin = 0.25 √fck / fy = 0.00342
- 적용 = 0.0035

As(req) = 384.284 mm^2 As(min) = 1400.000 mm^2

4/3×As(req) = 512.379 mm^2 ※ As = 512.379 mm^2

사용철근량 = H16 × 8ea = 1588.800 ㎟ ----- ∴ O.K.

ⓑ 휨강도 검토

ØMn = Ø f · fy · As · (D - a/2) = 221659907 N · mm

= 221.660 kN · m > 54.920 kN · m ----- ∴ O.K. [사용률 = 4.036]

* 전단력 검토

Øv · Vc = Øv · 1/6 · √fck · B · d / 1000 = 232.782 kN

Vu > Φv x Vc ∴ 전단철근보강이 필요하다.

Req Av = (313.3 - 232.782)×10³ ×150.0 / (400.0×300.0×0.85)

= 118.423 ㎟

Use Av = 253.400 ㎟ (H13×2 EA, 간격 s = 150.0 mm)

Øv · As = Øv · Av · fy · D / (s × B) = 172.312 kN

s = 150.0 mm ≥ Min (600, 0.5D) = 150.0 mm ----- ∴ O.K.

Øv · Vn = Øv · Vc + Øv · Vs = 405.094 kN > Vu ----- ∴ O.K.

▣ 사용성 검토 (균열방지 인장철근 간격검토)

ⓐ 응력산정

fs = M / [As x (d - χ/3)]

= 34.32 × 1000000 / [1588.8×(400 - 83.857/3)]

= 58.060 Mpa

χ = -nAs/b + nAs/b√[1 + 2bd/(nAs)]

= -7 × 1588.8/1000 + 7 × 1588.8/1000 × √[(1 + 2×1000×400/(7×1588.8)]

= 83.857 mm

사용철근량 = 1588.800 mm^2 (철근도심 : 100 mm)

1단 H16 @ 125 (= 1588.8 ㎟)

ⓑ 철근의 최대 중심간격

Cc = 100 - 16 / 2 = 92.00 mm

여기서 Cc ; 인장철근이나 긴장재의 표면과 콘크리트 표면사이의 두께(mm)

Smin : 375 x (210 / fs) - 2.5 x Cc = 375 × (210 / 58.06) - 2.5 × 92 = 1126.348 mm

300 x (210 / fs) = 300 × (210 / 58.06) = 1085.078 mm

Sa는 작은 값인 1085.078 mm 를 적용

S = 125.00 ≤ Sa (= 1085.078 mm) ----- ∴ O.K.

② 상부슬래브 중앙부

* 검토 조건

pmin = max(0.25√fck / fy, 1.4/fy) = 0.00350

fck (Mpa)	fy (Mpa)	β1	Φf	Φv	Mo (kN.m)
30.0	400.0	0.836	0.900	0.850	85.260
B (mm)	H (mm)	d (mm)	피복 (mm)	Mu (kN.m)	Vu (kN)
1000.0	400.0	300.0	100.0	136.660	94.160

전단설계시 단면의 유효높이 ds = 300.0 d1' = 100 d2' = 0

* 휨모멘트 검토

공칭강도시 등가응력깊이 a = (As×fy) / (0.85×fck×B) = 24.922 mm

최외단 인장철근 변형률 εt = 0.02719 ≥ 0.004 ——— ∴ O.K.

여기서 εt = 0.003×(H - a/β1 - Dc_min) / (a/β1)

0.005 ≤ εt 이므로 인장지배단면, Φf = 0.900 를 적용한다.

ⓐ 필요철근량 및 철근비 검토

Mu / Φ = As×fy / (d - a/2) ———————— (1)

a = As×fy / (0.85×fck×b) ———————— (2)

式(2)를 式(1)에 대입하여 2차방정식으로 As를 구한다.

$$\frac{fy^2}{2\times 0.85\times fck\times b}\times As^2 - fy\times d\times As + \frac{Mu}{\Phi} = 0$$

필요 철근량 req.As = 1310.253 mm^2

사용철근비 : Puse = As / (B × D) = 0.00530

최대철근비 : Pmax = 0.714 x k1 x Φx (fck / fy) x {600 / (600 + fy)} = 0.02283

최소철근비 : Pmin = 1.4 / fy = 0.00350
Pmin = 0.25 √fck / fy = 0.00342
적용 = 0.0035

As(req) = 1310.253 mm^2 As(min) = 1050.000 mm^2

4/3×As(req) = 1747.004 mm^2 ※ As = 1310.253 mm^2

사용철근량 = H16 × 8ea = 1588.800 ㎟ ----- ∴ O.K.

ⓑ 휨강도 검토

ØMn = Ø f · fy · As · (D - a/2) = 164463107 N · mm

= 164.463 kN · m > 136.660 kN · m ——— ∴ O.K. [사용률 = 1.203]

* 전단력 검토

Øv · Vc = Øv · 1/6 · √fck · B · d / 1000 = 232.782 kN

∴ 전단철근이 필요없음.

▣ 사용성 검토 (균열방지 인장철근 간격검토)

ⓐ 응력산정

fs = M / [As x (d - χ/3)]

= 85.26 × 1000000 / [1588.8×(300 - 71.32/3)]

= 194.272 Mpa

χ = -nAs/b + nAs/b√[1 + 2bd/(nAs)]

= -7 × 1588.8/1000 + 7 × 1588.8/1000 × √[(1 + 2×1000×300/(7×1588.8)]

= 71.320 mm

사용철근량 = 1588.800 mm^2 (철근도심 : 100 mm)

1단 H16 @ 125 (= 1588.8 mm^2)

ⓑ 철근의 최대 중심간격

Cc = 100 - 16 / 2 = 92.00 mm

여기서 Cc ; 인장철근이나 긴장재의 표면과 콘크리트 표면사이의 두께(mm)

Smin : 375 x (210 / fs) - 2.5 x Cc = 375 × (210 / 194.272) - 2.5 × 92 = 175.359 mm

300 x (210 / fs) = 300 × (210 / 194.272) = 324.287 mm

Sa는 작은 값인 175.359 mm 를 적용

S = 125.00 ≤ Sa (= 175.359 mm) ----- ∴ O.K.

③ 하부슬래브 단부

* 검토 조건

pmin = max(0.25√fck / fy, 1.4/fy) = 0.00350

fck (Mpa)	fy (Mpa)	β1	Φf	Φv	Mo (kN.m)
30.0	400.0	0.836	0.900	0.850	35.470
B (mm)	H (mm)	d (mm)	피복 (mm)	Mu (kN.m)	Vu (kN)
1000.0	550.0	450.0	100.0	59.220	306.940

전단설계시 단면의 유효높이 ds = 350.0 d1' = 100 d2' = 0

* 휨모멘트 검토

공칭강도시 등가응력깊이 a = (As×fy) / (0.85×fck×B) = 24.922 mm

최외단 인장철근 변형률 εt = 0.04229 ≥ 0.004 ----- ∴ O.K

여기서 εt = 0.003×(H - a/β1 - Dc_min) / (a/β1)

0.005 ≤ εt 이므로 인장지배단면, Φf = 0.900 를 적용한다.

ⓐ 필요철근량 및 철근비 검토

Mu / Φ = As×fy / (d - a/2) ---------- (1)

a = As×fy / (0.85×fck×b) ---------- (2)

式(2)를 式(1)에 대입하여 2차방정식으로 As를 구한다.

$$\frac{fy^2}{2\times 0.85\times fck\times b}\times As^2 - fy\times d\times As + \frac{Mu}{\Phi} = 0$$

필요 철근량 req.As = 367.915 mm^2

사용철근비 : Puse = As / (B × D) = 0.00353

최대철근비 : Pmax = 0.714 x k1 x Φx (fck / fy) x {600 / (600 + fy)} = 0.02283

최소철근비 : Pmin = 1.4 / fy = 0.00350
Pmin = 0.25 √fck / fy = 0.00342
적용 = 0.0035

As(req) = 367.915 mm^2 As(min) = 1575.000 mm^2

4/3×As(req) = 490.553 mm^2 ※ As = 490.553 mm^2

사용철근량 = H16 × 8ea = 1588.800 ㎟ ----- ∴ O.K.

ⓑ 휨강도 검토

ØMn = Øf · fy · As · (D - a/2) = 250258307 N · mm

= 250.258 kN · m > 59.220 kN · m ----- ∴ O.K [사용률 = 4.226]

* 전단력 검토

Øv · Vc = Øv · 1/6 · √fck · B · d / 1000 = 271.579 kN

Vu > Φv x Vc ∴ 전단철근보강이 필요하다.

Req Av = (306.9 - 271.579)×10³ ×150.0 / (400.0×350.0×0.85)

= 44.573 ㎟

Use Av = 253.400 ㎟ (H13×2 EA, 간격 s = 150.0 mm)

Øv · As = Øv · Av · fy · D / (s × B) = 201.031 kN

s = 150.0 mm < Min (600, 0.5D) = 175.0 mm ----- ∴ O.K

Øv · Vn = Øv · Vc + Øv · Vs = 472.610 kN > Vu ----- ∴ O.K

▣ 사용성 검토 (균열방지 인장철근 간격검토)

ⓐ 응력산정

fs = M / [As x (d - χ/3)]

= 35.47 × 1000000 / [1588.8×(450 - 89.542/3)]

= 53.136 Mpa

χ = -nAs/b + nAs/b√[1 + 2bd/(nAs)]

= -7 × 1588.8/1000 + 7 × 1588.8/1000 × √[(1 + 2×1000×450/(7×1588.8)]

= 89.542 mm

사용철근량 = 1588.800 mm^2 (철근도심 : 100 mm)

1단 H16 @ 125 (= 1588.8 ㎟)

ⓑ 철근의 최대 중심간격

Cc = 100 - 16 / 2 = 92.00 mm

여기서 Cc ; 인장철근이나 긴장재의 표면과 콘크리트 표면사이의 두께(mm)

Smin : 375 x (210 / fs) - 2.5 x Cc = 375 × (210 / 53.136) - 2.5 × 92 = 1252.060 mm

300 x (210 / fs) = 300 × (210 / 53.136) = 1185.648 mm

Sa는 작은 값인 1185.648 mm 를 적용

S = 125.00 ≤ Sa (= 1185.648 mm) ----- ∴ O.K.

④ 하부슬래브 중앙부

* 검토 조건

pmin = max(0.25√fck / fy, 1.4/fy) = 0.00350

fck (Mpa)	fy (Mpa)	β1	Φf	Φv	Mo (kN.m)
30.0	400.0	0.836	0.900	0.850	98.870
B (mm)	H (mm)	d (mm)	피복 (mm)	Mu (kN.m)	Vu (kN)
1000.0	450.0	350.0	100.0	158.660	64.770

전단설계시 단면의 유효높이 ds = 350.0 d1' = 100 d2' = 0

* 휨모멘트 검토

공칭강도시 등가응력깊이 a = (As×fy) / (0.85×fck×B) = 24.922 mm

최외단 인장철근 변형률 εt = 0.03222 ≥ 0.004 ----- ∴ O.K

여기서 εt = 0.003×(H - a/β1 - Dc_min) / (a/β1)

0.005 ≤ εt 이므로 인장지배단면, Φf = 0.900 를 적용한다.

ⓐ 필요철근량 및 철근비 검토

$Mu / \Phi = As \times fy / (d - a/2)$ ---------- (1)

$a = As \times fy / (0.85 \times fck \times b)$ ---------- (2)

式(2)를 式(1)에 대입하여 2차방정식으로 As를 구한다.

$$\frac{fy^2}{2\times 0.85\times fck\times b} \times As^2 - fy\times d\times As + \frac{Mu}{\Phi} = 0$$

필요 철근량 req.As = 1296.897 mm^2

사용철근비 : Puse = As / (B × D) = 0.00454

최대철근비 : Pmax = 0.714 x k1 x Φx (fck / fy) x {600 / (600 + fy)} = 0.02283

최소철근비 : Pmin = 1.4 / fy = 0.00350

Pmin = 0.25 √fck / fy = 0.00342

적용 = 0.0035

As(req) = 1296.897 mm^2 As(min) = 1225.000 mm^2

4/3×As(req) = 1729.196 mm^2 ※ As = 1296.897 mm^2

사용철근량 = H16 × 8ea = 1588.800 ㎟ ----- ∴ O.K.

ⓑ 휨강도 검토

ØMn = Ø f · fy · As · (D - a/2) = 193061507 N · mm

= 193.062 kN · m > 158.660 kN · m ----- ∴ O.K [사용률 = 1.217]

* 전단력 검토

$\phi v \cdot Vc = \phi v \cdot 1/6 \cdot \sqrt{fck} \cdot B \cdot d / 1000 =$ 271.579 kN

∴ 전단철근이 필요없음.

▣ 사용성 검토 (균열방지 인장철근 간격검토)

ⓐ 응력산정

$fs = M / [As \times (d - \chi/3)]$

$= 98.87 \times 1000000 / [1588.8 \times (350 - 77.81/3)]$

= 192.028 Mpa

$\chi = -nAs/b + nAs/b\sqrt{[1 + 2bd/(nAs)]}$

$= -7 \times 1588.8/1000 + 7 \times 1588.8/1000 \times \sqrt{[(1 + 2 \times 1000 \times 350/(7 \times 1588.8)]}$

= 77.810 mm

사용철근량 = 1588.800 mm^2 (철근도심 : 100 mm)

1단 H16 @ 125 (= 1588.8 mm^2)

ⓑ 철근의 최대 중심간격

Cc = 100 - 16 / 2 = 92.00 mm

여기서 Cc ; 인장철근이나 긴장재의 표면과 콘크리트 표면사이의 두께(mm)

Smin : 375 x (210 / fs) - 2.5 x Cc = 375 × (210 / 192.028) - 2.5 × 92 = 180.096 mm

300 x (210 / fs) = 300 × (210 / 192.028) = 328.077 mm

Sa는 작은 값인 180.096 mm 를 적용

S = 125.00 ≤ Sa (= 180.096 mm) ----- ∴ O.K.

⑤ 벽체 상단부

* 검토 조건

pmin = max(0.25√fck / fy, 1.4/fy) = 0.00350

fck (Mpa)	fy (Mpa)	β1	Φf	Φv	Mo (kN.m)
30.0	400.0	0.836	0.900	0.850	74.820
B (mm)	H (mm)	d (mm)	피복 (mm)	Mu (kN.m)	Vu (kN)
1000.0	500.0	400.0	100.0	119.720	139.660

전단설계시 단면의 유효높이 ds = 300.0 d1' = 100 d2' = 0

* 휨모멘트 검토

공칭강도시 등가응력깊이 a = (As×fy) / (0.85×fck×B) = 24.922 mm

최외단 인장철근 변형률 εt = 0.03725 ≥ 0.004 ----- ∴ O.K

여기서 εt = 0.003×(H - a/β1 - Dc_min) / (a/β1)

0.005 ≤ εt 이므로 인장지배단면, Φf = 0.900 를 적용한다.

ⓐ 필요철근량 및 철근비 검토

$Mu / \Phi = As \times fy / (d - a/2)$ ---------- (1)

$a = As \times fy / (0.85 \times fck \times b)$ ---------- (2)

式(2)를 式(1)에 대입하여 2차방정식으로 As를 구한다.

$$\frac{fy^2}{2\times 0.85\times fck\times b}\times As^2 - fy\times d\times As + \frac{Mu}{\Phi} = 0$$

필요 철근량 req.As = 845.403 mm^2

사용철근비 : Puse = As / (B × D) = 0.00397

최대철근비 : Pmax = 0.714 x k1 x Φx (fck / fy) x {600 / (600 + fy)} = 0.02283

최소철근비 : Pmin = 1.4 / fy = 0.00350
Pmin = 0.25 √fck / fy = 0.00342
적용 = 0.0035

As(req) = 845.403 mm^2 As(min) = 1400.000 mm^2

4/3×As(req) = 1127.204 mm^2 ※ As = 1127.204 mm^2

사용철근량 = H16 × 8ea = 1588.800 ㎟ ----- ∴ O.K.

ⓑ 휨강도 검토

ØMn = Øf · fy · As · (D - a/2) = 221659907 N · mm

= 221.660 kN · m > 119.720 kN · m ----- ∴ O.K [사용률 = 1.851]

* 전단력 검토

Øv · Vc = Øv · 1/6 · √fck · B · d / 1000 = 232.782 kN

1/2 x Φv x Vc = 116.391 kN ≤ Vu ≤Φv x Vc ∴ 슬래브이므로 최소전단 철근 배근이 필요없음.

▣ 사용성 검토 (균열방지 인장철근 간격검토)

ⓐ 응력산정

fs = M / [As x (d - χ/3)]

= 74.82 × 1000000 / [1588.8×(400 - 83.857/3)]

= 126.576 Mpa

χ = -nAs/b + nAs/b√[1 + 2bd/(nAs)]

= -7 × 1588.8/1000 + 7 × 1588.8/1000 × √[(1 + 2×1000×400/(7×1588.8)]

= 83.857 mm

사용철근량 = 1588.800 mm^2 (철근도심 : 100 mm)

1단 H16 @ 125 (= 1588.8 ㎟)

ⓑ 철근의 최대 중심간격

Cc = 100 - 16 / 2 = 92.00 mm

여기서 Cc ; 인장철근이나 긴장재의 표면과 콘크리트 표면사이의 두께(mm)

Smin : 375 x (210 / fs) - 2.5 x Cc = 375 × (210 / 126.576) - 2.5 × 92 = 392.158 mm

300 x (210 / fs) = 300 × (210 / 126.576) = 497.726 mm

Sa는 작은 값인 392.158 mm 를 적용

S = 125.00 ≤ Sa (= 392.158 mm) ----- ∴ O.K.

⑥ 벽체 중앙부

* 검토 조건

pmin = max(0.25√fck / fy, 1.4/fy) = 0.00350

fck (Mpa)	fy (Mpa)	β1	Φf	Φv	Mo (kN.m)
30.0	400.0	0.836	0.900	0.850	60.000
B (mm)	H (mm)	d (mm)	피복 (mm)	Mu (kN.m)	Vu (kN)
1000.0	400.0	300.0	100.0	96.080	15.960

전단설계시 단면의 유효높이 ds = 300.0 d1' = 100 d2' = 0

* 휨모멘트 검토

공칭강도시 등가응력깊이 a = (As×fy) / (0.85×fck×B) = 24.922 mm

최외단 인장철근 변형률 εt = 0.02719 ≥ 0.004 ----- ∴ O.K

여기서 εt = 0.003×(H - a/β1 - Dc_min) / (a/β1)

0.005 ≤ εt 이므로 인장지배단면, Φf = 0.900 를 적용한다.

ⓐ 필요철근량 및 철근비 검토

Mu / Φ = As×fy / (d - a/2) ---------- (1)

a = As×fy / (0.85×fck×b) ---------- (2)

式(2)를 式(1)에 대입하여 2차방정식으로 As를 구한다.

$$\frac{fy^2}{2\times 0.85\times fck\times b}\times As^2 - fy\times d\times As + \frac{Mu}{\Phi} = 0$$

필요 철근량 req.As = 911.343 mm^2

사용철근비 : Puse = As / (B × D) = 0.00530

최대철근비 : Pmax = 0.714 x k1 x Φx (fck / fy) x {600 / (600 + fy)} = 0.02283

최소철근비 : Pmin = 1.4 / fy = 0.00350

Pmin = 0.25 √fck / fy = 0.00342

적용 = 0.0035

As(req) = 911.343 mm^2 As(min) = 1050.000 mm^2

4/3×As(req) = 1215.124 mm^2 ※ As = 1050.000 mm^2

사용철근량 = H16 × 8ea = 1588.800 ㎟ ----- ∴ O.K.

ⓑ 휨강도 검토

ØMn = Ø f · fy · As · (D - a/2) = 164463107 N · mm

= 164.463 kN · m > 96.080 kN · m ----- ∴ O.K [사용률 = 1.712]

* 전단력 검토

Øv · Vc = Øv · 1/6 · √fck · B · d / 1000 = 232.782 kN

∴ 전단철근이 필요없음.

▣ 사용성 검토 (균열방지 인장철근 간격검토)

ⓐ 응력산정

fs = M / [As x (d - χ/3)]

= 60 × 1000000 / [1588.8×(300 - 71.32/3)]

= 136.715 Mpa

χ = -nAs/b + nAs/b√[1 + 2bd/(nAs)]

= -7 × 1588.8/1000 + 7 × 1588.8/1000 × √[(1 + 2×1000×300/(7×1588.8)]

= 71.320 mm

사용철근량 = 1588.800 mm^2 (철근도심 : 100 mm)

1단 H16 @ 125 (= 1588.8 ㎟)

ⓑ 철근의 최대 중심간격

Cc = 100 - 16 / 2 = 92.00 mm

여기서 Cc ; 인장철근이나 긴장재의 표면과 콘크리트 표면사이의 두께(mm)

Smin : 375 x (210 / fs) - 2.5 x Cc = 375 × (210 / 136.715) - 2.5 × 92 = 346.015 mm

300 x (210 / fs) = 300 × (210 / 136.715) = 460.812 mm

Sa는 작은 값인 346.015 mm 를 적용

S = 125.00 ≤ Sa (= 346.015 mm) ----- ∴ O.K.

⑦ 벽체 하단부

* 검토 조건

pmin = max(0.25√fck / fy, 1.4/fy) = 0.00350

fck (Mpa)	fy (Mpa)	β1	Φf	Φv	Mo (kN.m)
30.0	400.0	0.836	0.900	0.850	60.830
B (mm)	H (mm)	d (mm)	피복 (mm)	Mu (kN.m)	Vu (kN)
1000.0	500.0	400.0	100.0	97.320	131.160

전단설계시 단면의 유효높이 ds = 300.0 d1' = 100 d2' = 0

* 휨모멘트 검토

공칭강도시 등가응력깊이 a = (As×fy) / (0.85×fck×B) = 24.922 mm

최외단 인장철근 변형률 εt = 0.03725 ≥ 0.004 ----- ∴ O.K

여기서 εt = 0.003×(H - a/β1 - Dc_min) / (a/β1)

0.005 ≤ εt 이므로 인장지배단면, Φf = 0.900 를 적용한다.

ⓐ 필요철근량 및 철근비 검토

$Mu / \Phi = As \times fy / (d - a/2)$ ---------- (1)

$a = As \times fy / (0.85 \times fck \times b)$ ---------- (2)

式(2)를 式(1)에 대입하여 2차방정식으로 As를 구한다.

$$\frac{fy^2}{2\times 0.85\times fck\times b}\times As^2 - fy\times d\times As + \frac{Mu}{\Phi} = 0$$

필요 철근량 req.As = 685.035 mm^2

사용철근비 : Puse = As / (B × D) = 0.00397

최대철근비 : Pmax = 0.714 x k1 x Φx (fck / fy) x {600 / (600 + fy)} = 0.02283

최소철근비 :
- Pmin = 1.4 / fy = 0.00350
- Pmin = 0.25 √fck / fy = 0.00342
- 적용 = 0.0035

As(req) = 685.035 mm^2 As(min) = 1400.000 mm^2

4/3×As(req) = 913.380 mm^2 ※ As = 913.380 mm^2

사용철근량 = H16 × 8ea = 1588.800 ㎟ ----- ∴ O.K.

ⓑ 휨강도 검토

ØMn = Øf · fy · As · (D - a/2) = 221659907 N · mm

= 221.660 kN · m > 97.320 kN · m ----- ∴ O.K [사용률 = 2.278]

* 전단력 검토

Øv · Vc = Øv · 1/6 · √fck · B · d / 1000 = 232.782 kN

1/2 x Φv x Vc = 116.391 kN ≤ Vu ≤Φv x Vc ∴ 슬래브이므로 최소전단 철근 배근이 필요없음.

▣ 사용성 검토 (균열방지 인장철근 간격검토)

ⓐ 응력산정

fs = M / [As x (d - χ/3)]

= 60.83 × 1000000 / [1588.8×(400 - 83.857/3)]

= 102.908 Mpa

χ = -nAs/b + nAs/b√[1 + 2bd/(nAs)]

= -7 × 1588.8/1000 + 7 × 1588.8/1000 × √[(1 + 2×1000×400/(7×1588.8)]

= 83.857 mm

사용철근량 = 1588.800 mm^2 (철근도심 : 100 mm)

1단 H16 @ 125 (= 1588.8 mm^2)

ⓑ 철근의 최대 중심간격

Cc = 100 - 16 / 2 = 92.00 mm

여기서 Cc ; 인장철근이나 긴장재의 표면과 콘크리트 표면사이의 두께(mm)

Smin : 375 x (210 / fs) - 2.5 x Cc = 375 × (210 / 102.908) - 2.5 × 92 = 535.245 mm

300 x (210 / fs) = 300 × (210 / 102.908) = 612.196 mm

Sa는 작은 값인 535.245 mm 를 적용

S = 125.00 ≤ Sa (= 535.245 mm) ----- ∴ O.K.

⑤ 벽체 상단부 - Pmax 일 경우

설계축력	:	Pu	=	413.30	(kN) ,	설계모멘트	:	Mu	=	100.53	(kN · m)
설계전단력	:	Vu	=	139.66	(kN) ,	사용 모멘트	:	M	=	47.23	(kN.m)
부 재 높 이	:	H	=	500.0	(mm) ,	f_y	=	400	MPa	f_{ck} =	30 MPa
폭	:	b	=	1000	(mm) ,	ϕ_f	=	0.90	,	ϕ_v =	0.85
유효높이(휨)	:	d	=	400.0	(mm) ,	d'	=	100	(mm),	ϕc =	0.70
유효높이(전단)	:	d	=	300.0	(mm) ,	k_1	=	0.836	,	e =	243.24 (mm)

○ 휨철근량 계산

- 철근비검토

As = H 16 @ 8 EA = 15.888 cm^2 , d1 = 10.0 cm

Σ = 15.888 cm^2

Asf = H 16 @ 4 EA = 7.944 cm^2 , d'1 = 10.0 cm

Pmin (0.0012) < Puse (0.0048) < Pmax (0.0800) ———— O.K!!!

- 평형하중 산정

소성중심 계산

Cc = 0.84 x 30 x 500.00 x 1000.00 = 12540000.000 N

Cs = As x fy = 635520.00 N , Cs' = Asf x fy = 317760.000 N

Xp = (12540000.00 x 250.0 + 635520.0 x 100.0 + 317760.0 x 400.0) / 13493280.000

= 246.468 mm

- 평형상태 계산

Cb = 600 / (600 + fy) x d = 240.000 mm, ab = k1 x cb = 200.640 mm

fs' = 600 x (240.000 - 100.0) / 240.0(= 350 Mpa (fs' ≤ fy)

Cc = 0.836 x 30 x 200.640 x 1000 = 5032051.200 N

Cs = As' x (fs' - 0.9 x fck) = 256591.200 N

Ts = As x fs = 635520.000 N

Pb = 5032051.200 + 256591.200 - 635520.000 = 4653122.400 N

Mb = 5032051.200x(400.0-200.640/2)+256591.200x(400.0-100.0)-4653122.400x(246.468-100.0)

= 903450909.646 N.mm

eb < e → 인장파괴 (eb = Mb / Pb = 194.160 mm)

- 공칭강도 계산 : 반복계산을 통해 c = 175.166 mm , a = k1 x c = 146.439 mm 사용

fs = 600 x (400.000 - 175.166) / 175.166 = 400 Mpa (fs ≤ fy)

fs' = 600 x (175.166 - 100.000) / 175.166 = 257.4682 Mpa (fs ≤ fy)

Cc = 0.836 x 30 x 146.439 x 1000 = 3672688.695 N

Cs = 794.400 x (257.468 - 0.836 x 30) = 184609.158 N

Ts = 1588.800 x 400.000 = 635520.000 N

Pn = 3672688.695 + 184609.158 - 635520.000 = 3221777.853 N

Mn' = 3672688.695 x (400.0 - 146.439 / 2) + 184609.158 x (400.0 - 100.0)

= 1255545899.918 N.mm

- 편심오차 : | e' - Mn'/Pn | = 0.001 < 0.001 (e' = e + Xp - dc = 389.704933 mm)

- 축방향력 및 휨에대한 검토

(max) Pn = 0.80 x { 0.85 fck x (Ag - Ast) + fy x Ast} : 10914006.720 N ≥ Pn = 3221777.853

ΦPn = 2255244.497 > ΦPb = 3257185.680 , 0.1 x fck x Ag = 1500000.000

∴ Φ = 0.700

ΦPn = 0.70 x 3221777.853 = 2255.244 kN ≥ Pu = 413.300 kN ——— O.K!!!

ΦMn = ΦPn x 243.237 = 548.560 kN.m ≥ Mu = 100.530 kN.m ——— O.K!!!

○ 전단력 검토

$\phi Vc = 0.85 \times 1/6 \times (1 + Pu / (14 \times Ag)) \times \sqrt{fck} \times bo \times d$ = 246526.206 N

여기서 , $1/2\phi Vc < Vu \leq \phi Vc$ 이므로 최소 전단 철근 필요

- 계산된 스터럽 : min.Av = 0.35x(bo x s / fy)= 1.31㎠

- 배근할 스터럽 : H 13 다리수: N = 2 스터럽 간격 : s = 15 cm O.K !!!

Av(req)= 1.31㎠ < Av = 2.534 ㎠ O.K !!!

○ 사용성 검토 (균열방지 인장철근 간격검토)

- 응력산정

$fs = M / [As \times (d - \chi/3)]$

$= 47.23 \times 1000000 / [1588.8 \times (400 - 83.857/3)]$

= 79.901 Mpa

$\chi = -nAs/b + nAs/b\sqrt{[1 + 2bd/(nAs)]}$

$= -7 \times 1588.8/1000 + 7 \times 1588.8/1000 \times \sqrt{[(1 + 2 \times 1000 \times 400/(7 \times 1588.8)]}$

= 83.857 mm

사용철근량 = 1588.800 mm^2 (철근도심 : 100 mm)

1단 H16 @ 125 (= 1588.8 ㎟)

- 철근의 최대 중심간격

Cc = 100 - 16 / 2 = 92.00 mm

여기서 Cc ; 인장철근이나 긴장재의 표면과 콘크리트 표면사이의 두께(mm)

Smin : 375 x (210 / fs) - 2.5 x Cc = 375 × (210 / 79.901) - 2.5 × 92 = 755.599 mm

300 x (210 / fs) = 300 × (210 / 79.901) = 788.479 mm

Sa는 작은 값인 755.599 mm 를 적용

S = 125.00 ≤ Sa (= 755.599 mm) ----- ∴ O.K.

⑥ 벽체 상단부 - Mmax 일 경우

설계축력	:	Pu	=	380.55	(kN) ,	설계모멘트	:	Mu	=	119.72	(kN · m)	
설계전단력	:	Vu	=	139.66	(kN) ,	사용 모멘트	:	M	=	74.82	(kN.m)	
부 재 높 이	:	H	=	500.0	(mm) ,	f_y	=	400	MPa	f_{ck}	=	30 MPa
폭	:	b	=	1000	(mm) ,	ϕ_f	=	0.90	,	ϕ_v	=	0.85
유효높이(휨)	:	d	=	400.0	(mm) ,	d'	=	100	(mm),	ϕc	=	0.70
유효높이(전단)	:	d	=	300.0	(mm) ,	k_1	=	0.836	,	e	=	314.60 (mm)

○ 휨철근량 계산

- 철근비검토

As = H 16 @ 8 EA = 15.888 cm^2 , d1 = 10.0 cm

Σ = 15.888 cm^2

Asf = H 16 @ 4 EA = 7.944 cm^2 , d'1 = 10.0 cm

Pmin (0.0012) < Puse (0.0048) < Pmax (0.0800) ———— O.K!!!

- 평형하중 산정

소성중심 계산

Cc = 0.84 x 30 x 500.00 x 1000.00 = 12540000.000 N

Cs = As x fy = 635520.00 N , Cs' = Asf x fy = 317760.000 N

Xp = (12540000.00 x 250.0 + 635520.0 x 100.0 + 317760.0 x 400.0) / 13493280.000

= 246.468 mm

- 평형상태 계산

Cb = 600 / (600 + fy) x d = 240.000 mm, ab = k1 x cb = 200.640 mm

fs' = 600 x (240.000 - 100.0) / 240.0(= 350 Mpa (fs' ≤ fy)

Cc = 0.836 x 30 x 200.640 x 1000 = 5032051.200 N

Cs = As' x (fs' - 0.9 x fck) = 256591.200 N

Ts = As x fs = 635520.000 N

Pb = 5032051.200 + 256591.200 - 635520.000 = 4653122.400 N

Mb = 5032051.200x(400.0-200.640/2)+256591.200x(400.0-100.0)-4653122.400x(246.468-100.0)

= 903450909.646 N.mm

eb < e → 인장파괴 (eb = Mb / Pb = 194.160 mm)

- 공칭강도 계산 : 반복계산을 통해 c = 120.914 mm , a = k1 x c = 101.084 mm 사용

fs = 600 x (400.000 - 120.914) / 120.914 = 400 Mpa (fs ≤ fy)

fs' = 600 x (120.914 - 100.000) / 120.914 = 103.7795 Mpa (fs ≤ fy)

Cc = 0.836 x 30 x 101.084 x 1000 = 2535189.328 N

Cs = 794.400 x (103.780 - 0.836 x 30) = 62518.919 N

Ts = 1588.800 x 400.000 = 635520.000 N

Pn = 2535189.328 + 62518.919 - 635520.000 = 1962188.247 N

Mn' = 2535189.328 x (400.0 - 101.084 / 2) + 62518.919 x (400.0 - 100.0)

= 904697736.220 N.mm

- 편심오차 : | e' - Mn'/Pn | = 0.001 < 0.001 (e' = e + Xp - dc = 461.064868 mm)

- 축방향력 및 휨에대한 검토

(max) Pn = 0.80 x { 0.85 fck x (Ag - Ast) + fy x Ast} : 10914006.720 N ≥ Pn = 1962188.247

ΦPn = 1373531.773 < ΦPb = 3257185.680 , 0.1 x fck x Ag = 1500000.000

∴ Φ = 0.720

ΦPn = 0.72 x 1962188.247 = 1412.776 kN ≥ Pu = 380.550 kN ------- O.K!!!

ΦMn = ΦPn x 314.597 = 444.455 kN.m ≥ Mu = 119.720 kN.m ------- O.K!!!

○ 전단력 검토

$\phi Vc = 0.85 \times 1/6 \times (1 + Pu / (14 \times Ag)) \times \sqrt{fck} \times bo \times d$ = 245437.119 N

여기서 , $1/2\phi Vc < Vu \leq \phi Vc$ 이므로 최소 전단 철근 필요

- 계산된 스터럽 : min.Av = 0.35x(bo x s / fy)= 1.31㎠

- 배근할 스터럽 : H 13 다리수: N = 2 스터럽 간격 : s = 15 cm O.K !!!

Av(req)= 1.31㎠ < Av = 2.534 ㎠ O.K !!!

○ 사용성 검토 (균열방지 인장철근 간격검토)

- 응력산정

$fs = M / [As \times (d - \chi/3)]$

$= 74.82 \times 1000000 / [1588.8 \times (400 - 83.857/3)]$

= 126.576 Mpa

$\chi = -nAs/b + nAs/b\sqrt{[1 + 2bd/(nAs)]}$

$= -7 \times 1588.8/1000 + 7 \times 1588.8/1000 \times \sqrt{[(1 + 2 \times 1000 \times 400/(7 \times 1588.8)]}$

= 83.857 mm

사용철근량 = 1588.800 mm^2 (철근도심 : 100 mm)

1단 H16 @ 125 (= 1588.8 ㎟)

- 철근의 최대 중심간격

Cc = 100 - 16 / 2 = 92.00 mm

여기서 Cc ; 인장철근이나 긴장재의 표면과 콘크리트 표면사이의 두께(mm)

Smin : 375 x (210 / fs) - 2.5 x Cc = 375 × (210 / 126.576) - 2.5 × 92 = 392.158 mm

300 x (210 / fs) = 300 × (210 / 126.576) = 497.726 mm

Sa는 작은 값인 392.158 mm 를 적용

S = 125.00 ≤ Sa (= 392.158 mm) ----- ∴ O.K.

⑦ 벽체 중앙부 - Pmax 일 경우

설계축력	:	Pu	=	426.47	(kN) ,	설계모멘트	:	Mu	=	72.00	(kN·m)
설계전단력	:	Vu	=	41.90	(kN) ,	사용 모멘트	:	M	=	21.05	(kN.m)
부 재 높 이	:	H	=	400.0	(mm) ,	f_y	=	400	MPa	f_{ck} =	30 MPa
폭	:	b	=	1000	(mm) ,	ϕ_f	=	0.90	,	ϕ_v =	0.85
유효높이(휨)	:	d	=	300.0	(mm) ,	d'	=	100	(mm),	ϕc =	0.70
유효높이(전단)	:	d	=	300.0	(mm) ,	k_1	=	0.836	,	e =	168.83 (mm)

○ 휨철근량 계산

- 철근비검토

As = H 16 @ 8 EA = 15.888 cm^2 , d1 = 10.0 cm

Σ = 15.888 cm^2

Asf = H 16 @ 4 EA = 7.944 cm^2 , d'1 = 10.0 cm

Pmin (0.0012) < Puse (0.0060) < Pmax (0.0800) ---------- O.K!!!

- 평형하중 산정

소성중심 계산

Cc = 0.84 x 30 x 400.00 x 1000.00 = 10032000.000 N

Cs = As x fy = 635520.00 N , Cs' = Asf x fy = 317760.000 N

Xp = (10032000.00 x 200.0 + 635520.0 x 100.0 + 317760.0 x 300.0) / 10985280.000

= 197.107 mm

- 평형상태 계산

Cb = 600 / (600 + fy) x d = 180.000 mm, ab = k1 x cb = 150.480 mm

fs' = 600 x (180.000 - 100.0) / 180.0(= 266.6667 Mpa (fs' ≤ fy)

Cc = 0.836 x 30 x 150.480 x 1000 = 3774038.400 N

Cs = As' x (fs' - 0.9 x fck) = 190391.200 N

Ts = As x fs = 635520.000 N

Pb = 3774038.400 + 190391.200 - 635520.000 = 3328909.600 N

Mb = 3774038.400x(300.0-150.480/2)+190391.200x(300.0-100.0)-3328909.600x(197.107-100.0)

= 563069348.351 N.mm

eb > e → 압축파괴 (eb = Mb / Pb = 169.145 mm)

- 공칭강도 계산 : 반복계산을 통해 c = 180.195 mm , a = k1 x c = 150.643 mm 사용

fs = 600 x (300.000 - 180.195) / 180.195 = 398.9173 Mpa (fs ≤ fy)

fs' = 600 x (180.195 - 100.000) / 180.195 = 267.0276 Mpa (fs ≤ fy)

Cc = 0.836 x 30 x 150.643 x 1000 = 3778129.038 N

Cs = 794.400 x (267.028 - 0.836 x 30) = 192203.151 N

Ts = 1588.800 x 398.917 = 633799.782 N

Pn = 3778129.038 + 192203.151 - 633799.782 = 3336532.407 N

Mn' = 3778129.038 x (300.0 - 150.643 / 2) + 192203.151 x (300.0 - 100.0)

= 887304799.627 N.mm

- 편심오차 : | e' - Mn'/Pn | = 0.001 < 0.001 (e' = e + Xp - dc = 265.935221 mm)

- 축방향력 및 휨에대한 검토

(max) Pn = 0.80 x { 0.85 fck x (Ag - Ast) + fy x Ast} : 8874006.720 N ≥ Pn = 3336532.407

ΦPn = 2335572.685 > ΦPb = 2330236.720 , 0.1 x fck x Ag = 1200000.000

∴ Φ = 0.700

ΦPn = 0.70 x 3336532.407 = 2335.573 kN ≥ Pu = 426.470 kN ——— O.K!!!

ΦMn = ΦPn x 168.828 = 394.310 kN.m ≥ Mu = 72.000 kN.m ——— O.K!!!

○ 전단력 검토

$\phi Vc = 0.85 \times 1/6 \times (1 + Pu / (14 \times Ag)) \times \sqrt{fck} \times bo \times d$ = 250509.690 N

여기서 , Vu < 1/2ϕVc 이므로 전단철근보강 불필요

○ 사용성 검토 (균열방지 인장철근 간격검토)

- 응력산정

$fs = M / [As \times (d - \chi/3)]$

$= 21.05 \times 1000000 / [1588.8 \times (300 - 71.32/3)]$

= 47.964 Mpa

$\chi = -nAs/b + nAs/b\sqrt{[1 + 2bd/(nAs)]}$

$= -7 \times 1588.8/1000 + 7 \times 1588.8/1000 \times \sqrt{[(1 + 2 \times 1000 \times 300/(7 \times 1588.8)]}$

= 71.320 mm

사용철근량 = 1588.800 mm^2 (철근도심 : 100 mm)

1단 H16 @ 125 (= 1588.8 ㎟)

- 철근의 최대 중심간격

Cc = 100 - 16 / 2 = 92.00 mm

여기서 Cc ; 인장철근이나 긴장재의 표면과 콘크리트 표면사이의 두께(mm)

Smin : 375 x (210 / fs) - 2.5 x Cc = 375 × (210 / 47.964) - 2.5 × 92 = 1411.85 mm

300 x (210 / fs) = 300 × (210 / 47.964) = 1313.48 mm

Sa는 작은 값인 1313.48 mm 를 적용

S = 125.00 ≤ Sa (= 1313.479 mm) ----- ∴ O.K.

⑧ 벽체 중앙부 - Mmax 일 경우

설계축력	:	Pu	=	394.68	(kN) ,	설계모멘트	:	Mu	=	96.08	(kN · m)	
설계전단력	:	Vu	=	15.96	(kN) ,	사용 모멘트	:	M	=	60.00	(kN.m)	
부 재 높 이	:	H	=	400.0	(mm) ,	f_y	=	400	MPa	f_{ck}	=	30 MPa
폭	:	b	=	1000	(mm) ,	ϕ_f	=	0.90	,	ϕ_v	=	0.85
유효높이(휨)	:	d	=	300.0	(mm) ,	d'	=	100	(mm),	ϕc	=	0.70
유효높이(전단)	:	d	=	300.0	(mm) ,	k_1	=	0.836	,	e	=	243.44 (mm)

○ 휨철근량 계산

- 철근비검토

As = H 16 @ 8 EA = 15.888 cm^2 , d1 = 10.0 cm

Σ = 15.888 cm^2

Asf = H 16 @ 4 EA = 7.944 cm^2 , d'1 = 10.0 cm

Pmin (0.0012) < Puse (0.0060) < Pmax (0.0800) ———— O.K!!!

- 평형하중 산정

소성중심 계산

Cc = 0.84 x 30 x 400.00 x 1000.00 = 10032000.000 N

Cs = As x fy = 635520.00 N , Cs' = Asf x fy = 317760.000 N

Xp = (10032000.00 x 200.0 + 635520.0 x 100.0 + 317760.0 x 300.0) / 10985280.000

= 197.107 mm

- 평형상태 계산

Cb = 600 / (600 + fy) x d = 180.000 mm, ab = k1 x cb = 150.480 mm

fs' = 600 x (180.000 - 100.0) / 180.0(= 266.6667 Mpa (fs' ≤ fy)

Cc = 0.836 x 30 x 150.480 x 1000 = 3774038.400 N

Cs = As' x (fs' - 0.9 x fck) = 190391.200 N

Ts = As x fs = 635520.000 N

Pb = 3774038.400 + 190391.200 - 635520.000 = 3328909.600 N

Mb = 3774038.400x(300.0-150.480/2)+190391.200x(300.0-100.0)-3328909.600x(197.107-100.0)

= 563069348.351 N.mm

eb < e → 인장파괴 (eb = Mb / Pb = 169.145 mm)

- 공칭강도 계산 : 반복계산을 통해 c = 114.055 mm , a = k1 x c = 95.350 mm 사용

fs = 600 x (300.000 - 114.055) / 114.055 = 400 Mpa (fs ≤ fy)

fs' = 600 x (114.055 - 100.000) / 114.055 = 73.93663 Mpa (fs ≤ fy)

Cc = 0.836 x 30 x 95.350 x 1000 = 2391371.208 N

Cs = 794.400 x (73.937 - 0.836 x 30) = 38811.706 N

Ts = 1588.800 x 400.000 = 635520.000 N

Pn = 2391371.208 + 38811.706 - 635520.000 = 1794662.914 N

Mn' = 2391371.208 x (300.0 - 95.350 / 2) + 38811.706 x (300.0 - 100.0)

= 611165405.095 N.mm

- 편심오차 : | e' - Mn'/Pn | = 0.001 < 0.001 (e' = e + Xp - dc = 340.545124 mm)

- 축방향력 및 휨에대한 검토

(max) Pn = 0.80 x { 0.85 fck x (Ag - Ast) + fy x Ast} : 8874006.720 N ≥ Pn = 1794662.914

ΦPn = 1256264.040 > ΦPb = 2330236.720 , 0.1 x fck x Ag = 1200000.000

∴ Φ = 0.700

ΦPn = 0.70 x 1794662.914 = 1256.264 kN ≥ Pu = 394.680 kN ——— O.K!!!

ΦMn = ΦPn x 243.438 = 305.822 kN.m ≥ Mu = 96.080 kN.m ——— O.K!!!

○ 전단력 검토

ϕVc = 0.85 × 1/6 × (1 + Pu / (14 x Ag)) x √fck × bo × d = 249188.236 N

여기서 , Vu < 1/2ϕVc 이므로 전단철근보강 불필요

○ 사용성 검토 (균열방지 인장철근 간격검토)

- 응력산정

fs = M / [As x (d - χ/3)]

= 60 × 1000000 / [1588.8×(300 - 71.32/3)]

= 136.715 Mpa

χ = -nAs/b + nAs/b√[1 + 2bd/(nAs)]

= -7 × 1588.8/1000 + 7 × 1588.8/1000 × √[(1 + 2×1000×300/(7×1588.8)]

= 71.320 mm

사용철근량 = 1588.800 mm^2 (철근도심 : 100 mm)

1단 H16 @ 125 (= 1588.8 ㎟)

- 철근의 최대 중심간격

Cc = 100 - 16 / 2 = 92.00 mm

여기서 Cc ; 인장철근이나 긴장재의 표면과 콘크리트 표면사이의 두께(mm)

Smin : 375 x (210 / fs) - 2.5 x Cc = 375 × (210 / 136.715) - 2.5 × 92 = 346.02 mm

300 x (210 / fs) = 300 × (210 / 136.715) = 460.81 mm

Sa는 작은 값인 346.02 mm 를 적용

S = 125.00 ≤ Sa (= 346.015 mm) ------ ∴ O.K.

⑨ 벽체 하단부 - Pmax 일 경우

설계축력	:	Pu	=	443.48	(kN) ,	설계모멘트	:	Mu	=	84.12	(kN·m)	
설계전단력	:	Vu	=	131.16	(kN) ,	사용 모멘트	:	M	=	33.42	(kN.m)	
부 재 높 이	:	H	=	500.0	(mm) ,	f_y	=	400	MPa	f_{ck}	=	30 MPa
폭	:	b	=	1000	(mm) ,	ϕ_f	=	0.90	,	ϕ_v	=	0.85
유효높이(휨)	:	d	=	400.0	(mm) ,	d'	=	100	(mm),	ϕc	=	0.70
유효높이(전단)	:	d	=	300.0	(mm) ,	k_1	=	0.836	,	e	=	189.68 (mm)

○ 휨철근량 계산

- 철근비검토

As = H 16 @ 8 EA = 15.888 cm^2 , d1 = 10.0 cm

Σ = 15.888 cm^2

Asf = H 16 @ 4 EA = 7.944 cm^2 , d'1 = 10.0 cm

Pmin (0.0012) < Puse (0.0048) < Pmax (0.0800) ———— O.K!!!

- 평형하중 산정

소성중심 계산

Cc = 0.84 x 30 x 500.00 x 1000.00 = 12540000.000 N

Cs = As x fy = 635520.00 N , Cs' = Asf x fy = 317760.000 N

Xp = (12540000.00 x 250.0 + 635520.0 x 100.0 + 317760.0 x 400.0) / 13493280.000

= 246.468 mm

- 평형상태 계산

Cb = 600 / (600 + fy) x d = 240.000 mm, ab = k1 x cb = 200.640 mm

fs' = 600 x (240.000 - 100.0) / 240.0(= 350 Mpa (fs' ≤ fy)

Cc = 0.836 x 30 x 200.640 x 1000 = 5032051.200 N

Cs = As' x (fs' - 0.9 x fck) = 256591.200 N

Ts = As x fs = 635520.000 N

Pb = 5032051.200 + 256591.200 - 635520.000 = 4653122.400 N

Mb = 5032051.200x(400.0-200.640/2)+256591.200x(400.0-100.0)-4653122.400x(246.468-100.0)

= 903450909.646 N.mm

eb > e → 압축파괴 (eb = Mb / Pb = 194.160 mm)

- 공칭강도 계산 : 반복계산을 통해 c = 244.057 mm , a = k1 x c = 204.032 mm 사용

fs = 600 x (400.000 - 244.057) / 244.057 = 383.3752 Mpa (fs ≤ fy)

fs' = 600 x (244.057 - 100.000) / 244.057 = 354.1562 Mpa (fs ≤ fy)

Cc = 0.836 x 30 x 204.032 x 1000 = 5117122.219 N

Cs = 794.400 x (354.156 - 0.836 x 30) = 261418.129 N

Ts = 1588.800 x 383.375 = 609106.553 N

Pn = 5117122.219 + 261418.129 - 609106.553 = 4769433.794 N

Mn' = 5117122.219 x (400.0 - 204.032 / 2) + 261418.129 x (400.0 - 100.0)

= 1603246020.727 N.mm

- 편심오차 : | e' - Mn'/Pn | = 0.001 < 0.001 (e' = e + Xp - dc = 336.149184 mm)

- 축방향력 및 휨에대한 검토

(max) Pn = 0.80 x { 0.85 fck x (Ag - Ast) + fy x Ast} : 10914006.720 N ≥ Pn = 4769433.794

ΦPn = 3338603.656 > ΦPb = 3257185.680 , 0.1 x fck x Ag = 1500000.000

∴ Φ = 0.700

ΦPn = 0.70 x 4769433.794 = 3338.604 kN ≥ Pu = 443.480 kN ------ O.K!!!

ΦMn = ΦPn x 189.682 = 633.272 kN.m ≥ Mu = 84.120 kN.m ------ O.K!!!

○ 전단력 검토

$\phi Vc = 0.85 \times 1/6 \times (1 + Pu / (14 \times Ag)) \times \sqrt{fck} \times bo \times d$ = 247529.830 N

여기서 , $1/2\phi Vc < Vu \leq \phi Vc$ 이므로 최소 전단 철근 필요

- 계산된 스터럽 : min.Av = 0.35x(bo x s / fy)= 1.31㎠

- 배근할 스터럽 : H 13 다리수: N = 2 스터럽 간격 : s = 15 cm O.K !!!

Av(req)= 1.31㎠ < Av = 2.534 ㎠ O.K !!!

○ 사용성 검토 (균열방지 인장철근 간격검토)

- 응력산정

$fs = M / [As \times (d - \chi/3)]$

$= 33.42 \times 1000000 / [1588.8 \times (400 - 83.857/3)]$

= 56.538 Mpa

$\chi = -nAs/b + nAs/b\sqrt{[1 + 2bd/(nAs)]}$

$= -7 \times 1588.8/1000 + 7 \times 1588.8/1000 \times \sqrt{[(1 + 2 \times 1000 \times 400/(7 \times 1588.8)]}$

= 83.857 mm

사용철근량 = 1588.800 mm^2 (철근도심 : 100 mm)

1단 H16 @ 125 (= 1588.8 ㎟)

- 철근의 최대 중심간격

Cc = 100 - 16 / 2 = 92.00 mm

여기서 Cc ; 인장철근이나 긴장재의 표면과 콘크리트 표면사이의 두께(mm)

Smin : 375 x (210 / fs) - 2.5 x Cc = 375 × (210 / 56.538) - 2.5 × 92 = 1162.87 mm

300 x (210 / fs) = 300 × (210 / 56.538) = 1114.30 mm

Sa는 작은 값인 1114.30 mm 를 적용

S = 125.00 ≤ Sa (= 1114.299 mm) ------ ∴ O.K.

⑩ 벽체 하단부 - Mmax 일 경우

설계축력	:	Pu	=	424.00	(kN) ,	설계모멘트	:	Mu	=	97.32	(kN · m)
설계전단력	:	Vu	=	131.16	(kN) ,	사용 모멘트	:	M	=	60.83	(kN.m)
부 재 높 이	:	H	=	500.0	(mm) ,	f_y	=	400	MPa	f_{ck} =	30 MPa
폭	:	b	=	1000	(mm) ,	ϕ_f	=	0.90	,	ϕ_v =	0.85
유효높이(휨)	:	d	=	400.0	(mm) ,	d'	=	100	(mm),	ϕc =	0.70
유효높이(전단)	:	d	=	300.0	(mm) ,	k_1	=	0.836	,	e =	229.53 (mm)

○ 휨철근량 계산

- 철근비검토

As = H 16 @ 8 EA = 15.888 cm^2 , d1 = 10.0 cm

$\sum$ = 15.888 cm^2

Asf = H 16 @ 4 EA = 7.944 cm^2 , d'1 = 10.0 cm

Pmin (0.0012) < Puse (0.0048) < Pmax (0.0800) ---------- O.K!!!

- 평형하중 산정

소성중심 계산

Cc = 0.84 x 30 x 500.00 x 1000.00 = 12540000.000 N

Cs = As x fy = 635520.00 N , Cs' = Asf x fy = 317760.000 N

Xp = (12540000.00 x 250.0 + 635520.0 x 100.0 + 317760.0 x 400.0) / 13493280.000

= 246.468 mm

- 평형상태 계산

Cb = 600 / (600 + fy) x d = 240.000 mm, ab = k1 x cb = 200.640 mm

fs' = 600 x (240.000 - 100.0) / 240.0(= 350 Mpa (fs' ≤ fy)

Cc = 0.836 x 30 x 200.640 x 1000 = 5032051.200 N

Cs = As' x (fs' - 0.9 x fck) = 256591.200 N

Ts = As x fs = 635520.000 N

Pb = 5032051.200 + 256591.200 - 635520.000 = 4653122.400 N

Mb = 5032051.200x(400.0-200.640/2)+256591.200x(400.0-100.0)-4653122.400x(246.468-100.0)

= 903450909.646 N.mm

eb < e → 인장파괴 (eb = Mb / Pb = 194.160 mm)

- 공칭강도 계산 : 반복계산을 통해 c = 190.867 mm , a = k1 x c = 159.565 mm 사용

fs = 600 x (400.000 - 190.867) / 190.867 = 400 Mpa (fs ≤ fy)

fs' = 600 x (190.867 - 100.000) / 190.867 = 285.6452 Mpa (fs ≤ fy)

Cc = 0.836 x 30 x 159.565 x 1000 = 4001888.630 N

Cs = 794.400 x (285.645 - 0.836 x 30) = 206993.015 N

Ts = 1588.800 x 400.000 = 635520.000 N

Pn = 4001888.630 + 206993.015 - 635520.000 = 3573361.645 N

Mn' = 4001888.630 x (400.0 - 159.565 / 2) + 206993.015 x (400.0 - 100.0)

= 1343572802.047 N.mm

- 편심오차 : | e' - Mn'/Pn | = 0.001 < 0.001 (e' = e + Xp - dc = 375.995877 mm)

- 축방향력 및 휨에대한 검토

(max) Pn = 0.80 x { 0.85 fck x (Ag - Ast) + fy x Ast} : 10914006.720 N ≥ Pn = 3573361.645

ΦPn = 2501353.151 > ΦPb = 3257185.680 , 0.1 x fck x Ag = 1500000.000

∴ Φ = 0.700

ΦPn = 0.70 x 3573361.645 = 2501.353 kN ≥ Pu = 424.000 kN ------- O.K!!!

ΦMn = ΦPn x 229.528 = 574.131 kN.m ≥ Mu = 97.320 kN.m ------- O.K!!!

○ 전단력 검토

$\phi Vc = 0.85 \times 1/6 \times (1 + Pu / (14 \times Ag)) \times \sqrt{fck} \times bo \times d$ = 246882.030 N

여기서 , $1/2\phi Vc < Vu \leq \phi Vc$ 이므로 최소 전단 철근 필요

- 계산된 스터럽 : min.Av = 0.35x(bo x s / fy)= 1.31㎠

- 배근할 스터럽 : H 13 다리수: N = 2 스터럽 간격 : s = 15 cm O.K !!!

Av(req)= 1.31㎠ < Av = 2.534 cm^2 O.K !!!

○ 사용성 검토 (균열방지 인장철근 간격검토)

- 응력산정

$fs = M / [As \times (d - \chi/3)]$

$= 60.83 \times 1000000 / [1588.8 \times (400 - 83.857/3)]$

= 102.908 Mpa

$\chi = -nAs/b + nAs/b\sqrt{[1 + 2bd/(nAs)]}$

$= -7 \times 1588.8/1000 + 7 \times 1588.8/1000 \times \sqrt{[(1 + 2 \times 1000 \times 400/(7 \times 1588.8)]}$

= 83.857 mm

사용철근량 = 1588.800 mm^2 (철근도심 : 100 mm)

1단 H16 @ 125 (= 1588.8 ㎟)

- 철근의 최대 중심간격

Cc = 100 - 16 / 2 = 92.00 mm

여기서 Cc ; 인장철근이나 긴장재의 표면과 콘크리트 표면사이의 두께(mm)

Smin : 375 x (210 / fs) - 2.5 x Cc = 375 × (210 / 102.908) - 2.5 × 92 = 535.245 mm

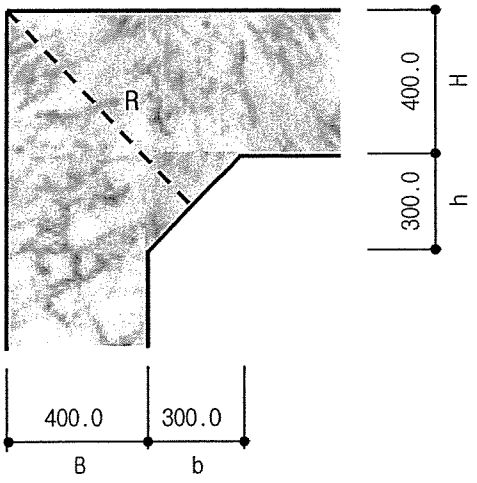
300 x (210 / fs) = 300 × (210 / 102.908) = 612.196 mm

Sa는 작은 값인 535.245 mm 를 적용

S = 125.00 ≤ Sa (= 535.245 mm) ------ ∴ O.K.

12. 우각부 검토

1) 상부 슬래브



CON'C 설계기준강도(fck)	:	30.0	MPa
CON'C 허용휨인장응력(fta) = 0.13√fck Mpa			
	:	0.712	MPa
철근 항복강도(fy)	:	400.0	MPa
철근 허용응력	:	180.0	MPa
사용 모멘트 Mo	:	74.82	kN · m

$R = \sqrt{2} \times b / (b+h) \times [B + h + (H \times h/b)]$

$= 777.82$ mm

① 보강철근 필요여부 판정

$$f_{tmax} = \frac{5 \times Mo}{R^2 \times W} = \frac{5 \times 74820000}{777.82^2 \times 1000.0} = 0.618 \text{ MPa}$$

f_{tmax} = 0.618 MPa < f_{ta} = 0.712 MPa 이므로 보강철근 필요없음.

② 소요 철근량

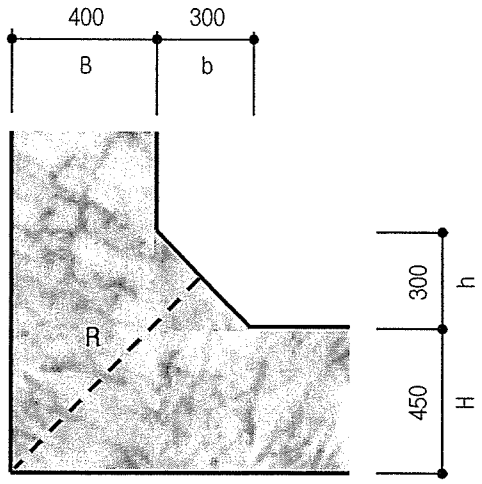
외측인장에 대한 보강 필요철근량(Asf)

$$Asf = \frac{2 \times Mo}{R \times fsa} = \frac{2 \times 0}{777.82 \times 180.0} = 0.00 \text{ ㎟}$$

▶ 보강 As = Asf − 주철근사용 As = 0.00 − 794.4 = -794.40 ㎟

----- 우각부 보강철근 필요없음

2) 하부 슬래브



CON'C 설계기준강도(fck)	:	30.0	MPa
CON'C 허용휨인장응력(fta) = 0.13√fck Mpa			
	:	0.712	MPa
철근 항복강도(fy)	:	400.0	MPa
철근 허용응력	:	180.0	MPa
사용 모멘트 Mo	:	60.83	kN · m

R = √ (B2 + H2) = 602.08 mm

① 보강철근 필요여부 판정

$$f_{tmax} = \frac{5 \times Mo}{R^2 \times W} = \frac{5 \times 60830000}{602.08^2 \times 1000.0} = 0.839 \text{ MPa}$$

f_{tmax} = 0.839 MPa > f_{ta} = 0.712 MPa 이므로 보강철근 필요.

② 소요 철근량

외측인장에 대한 보강 필요철근량(Asf)

$$Asf = \frac{2 \times Mo}{R \times fsa} = \frac{2 \times 60830000}{602.08 \times 180.0} = 1122.59 \text{ ㎟}$$

▶ 보강 As = Asf - 주철근사용 As = 1122.59 - 794.4 = 328.19 ㎟

----- 우각부 보강철근 필요

외측인장에 대한 보강 사용철근량(As)

As = H16 @ 250 - 1 단 = 794.40 ㎟

Asf = 328.19 ㎟ < As = 794.40 ㎟ ----- ∴ O.K.

13. 배력철근 검토

1) 구조상세 - 철도설계기준(노반편) p.5-19

다. 종방향으로 영향을 받는 경우로써 상부슬래브, 하부슬래브와 벽체에 있어서 종방향 최소철근량은 복토의 깊이가 3.0 m 이하인 경우에는 콘크리트 단면적의 0.4%, 복토가 3.0m 이상인 경우에는 복토 깊이가 30m인 경우의 사용량인 1.0%를 기준으로 선형변화량을 사용하되, 종방향 철근량은 주철근량 미만이어야 한다.

라. 단단한 지반 위에 놓인 경우와 말뚝기초로 지지되는 경우로써 종방향 부등침하가 우려되지 않은 경우에는 다.항의 기준을 적용하지 않는다. 따라서 어느 정도 견고한 지반위에 놓이는 일반적인 구교로써 적적한 신축이음매가 설치되어 상세한 종방향해석이 필요하지 않다고 판단되는 경우 종방향 철근량은 슬래브의 경우 콘크리트단면적의 0.25%, 벽체의 경우 0.3%를 적용한다.

마. 배력철근은 단위폭주변의 인장 주철근량의 1/5 이상으로 하여 종단방향에 계산외의 응력이 발생하는 것을 고려하여야 한다.

2) 배력철근의 최소 철근비

슬래브의 배력 철근비 = 0.25 %　　벽체의 배력 철근비 = 0.30 %

① 상부슬래브

배력철근 최소 철근비 (Asreq) = 1,000.0 × 400.0 × 0.25					=	1000.00	㎟
사용철근 인장측 ;	H	13	@	150	=	844.67	㎟
압축측 ;	H	13	@	300	=	422.33	㎟
					∑ As =	1267.00	㎟

따라서, As = 1267.00 ㎟ > Asreq = 1000.00 ㎟ ------ ∴ O.K.

사용 주철근량의 1/5 = 317.760 ㎟

따라서, As = 844.67 ㎟ > Asreq = 317.76 ㎟ ----- ∴ O.K.

② 하부슬래브

배력철근 최소 철근비 (Asreq) = 1,000.0 × 450.0 × 0.25					=	1125.00	㎟
사용철근 인장측 ;	H	13	@	150	=	844.67	㎟
압축측 ;	H	13	@	300	=	422.33	㎟
					∑ As =	1267.00	㎟

따라서, As = 1267.00 ㎟ > Asreq = 1125.00 ㎟ ------ ∴ O.K.

사용 주철근량의 1/5 = 317.760 ㎟

따라서, As = 844.67 ㎟ > Asreq = 317.76 ㎟ ------ ∴ O.K.

③ 벽체

배력철근 최소 철근비 (Asreq) = 1,000.0 × 400.0 × 0.30 = 1200.00 ㎟

사용철근 인장측 ; H 13 @ 150 = 844.67 ㎟

압축측 ; H 13 @ 300 = 422.33 ㎟

∑ As = 1267.00 ㎟

따라서, As = 1267.00 ㎟ > Asreq = 1200.00 ㎟ ----- ∴ O.K.

사용 주철근량의 1/5 = 317.760 ㎟

따라서, As = 844.67 ㎟ > Asreq = 317.76 ㎟ ----- ∴ O.K.

14. 사용성검토

1) 상부슬래브 최소 두께

1.2(L+3)/30 = 1.2 × (2.640 + 3) / 30 = 225.6 mm

상부슬래브 두께 = 400.0 mm

Tuse = 400.0 mm > Tmin = 225.6 mm ----- ∴ O.K.

2) 철근 피로검토

피로응력한계 : 사용하중하에서 활하중과 충격에 의해 야기되는 직선철근의 최대 인장응력과 최소 응력 상이의 범위는 다음 값을 초과할수 없다.

$f_f = 165 - 0.33fmin$

여기서, f_f : 응력범위(Mpa)

fmin : 최소응력 수준으로 인장은 정(+), 압축은 부(-)의 값(Mpa)

① 상부슬래브 단부

2.64 m 지간에서의 모멘트 변화에 의한 피로검토

Mmax = 3.053 kN · m Mmin = -0.562 kN · m

- 사용철근량 = H16 × 8ea = 1588.800 ㎟

n = 7

p = As / bd = 1588.80 / (1000 × 400) = 0.00397

$K = -np + \sqrt{\{(np)^2 + 2np\}}$

$= -7 \times 0.00397 + \sqrt{\{ (7 \times 0.00397)^2 + 2 \times 7 \times 0.00397 \}}$

= 0.210

J = 1 - K / 3 = 1 - 0.210 / 3 = 0.930

$$fs\ max = \frac{M}{As \times j \times d} = \frac{3.053 \times 10^6}{1588.80 \times 0.930 \times 400} = 5.160 \text{ Mpa}$$

$$fs\ min = \frac{-0.562 \times 10^6}{1588.80 \times 0.930 \times 400} = -1 \text{ Mpa}$$

Δf = fs max - fs min = 6.111 Mpa

$f_f = 165 - 0.33fmin$

= 165 - 0.33 × -0.95 = 165.314 Mpa > 6.111 Mpa O.K.

② 상부슬래브 중앙부

2.64 m 지간에서의 모멘트 변화에 의한 피로검토

Mmax = 9.123 kN · m Mmin = 8.451 kN · m

- 사용철근량 = H16 × 8ea = 1588.800 ㎟

n = 7

p = As / bd = 1588.80 / (1000 × 300) = 0.00530

$K = -np + \sqrt{\{(np)^2 + 2np\}}$

$= -7 \times 0.0053 + \sqrt{\{ (7 \times 0.0053)^2 + 2 \times 7 \times 0.0053 \}}$

= 0.238

J = 1 - K / 3 = 1 - 0.238 / 3 = 0.921

$$fs\ max = \frac{M}{As \times j \times d} = \frac{9.123 \times 10^6}{1588.80 \times 0.921 \times 300} = 20.790\ Mpa$$

$$fs\ min = \frac{8.451 \times 10^6}{1588.80 \times 0.921 \times 300} = 19\ Mpa$$

Δf = fs max - fs min = 1.534 Mpa

$f_f = 165 - 0.33 fmin$

= 165 - 0.33 × 19.26 = 158.645 Mpa > 1.534 Mpa O.K.

15. 기초지지력 검토

1) 구체자중

-	2.800	x	0.450	x	24.500					=	30.870	kN/m
-	2.800	x	0.400	x	24.500					=	27.440	kN/m
-	2.000	x	0.400	x	24.500					=	19.600	kN/m
-	2.000	x	0.400	x	24.500					=	19.600	kN/m
-	0.300	x	0.300	x	1/2	x	4	x	24.500	=	4.410	kN/m
								∴	Total	=	101.920	kN/m

101.920 / 2.800 = 36.400 kN/m²

2) 상부연직하중

= 161.16 kN/m²

3) 활하중

= 21.019 kN/m²

4) 최대 지반 반력

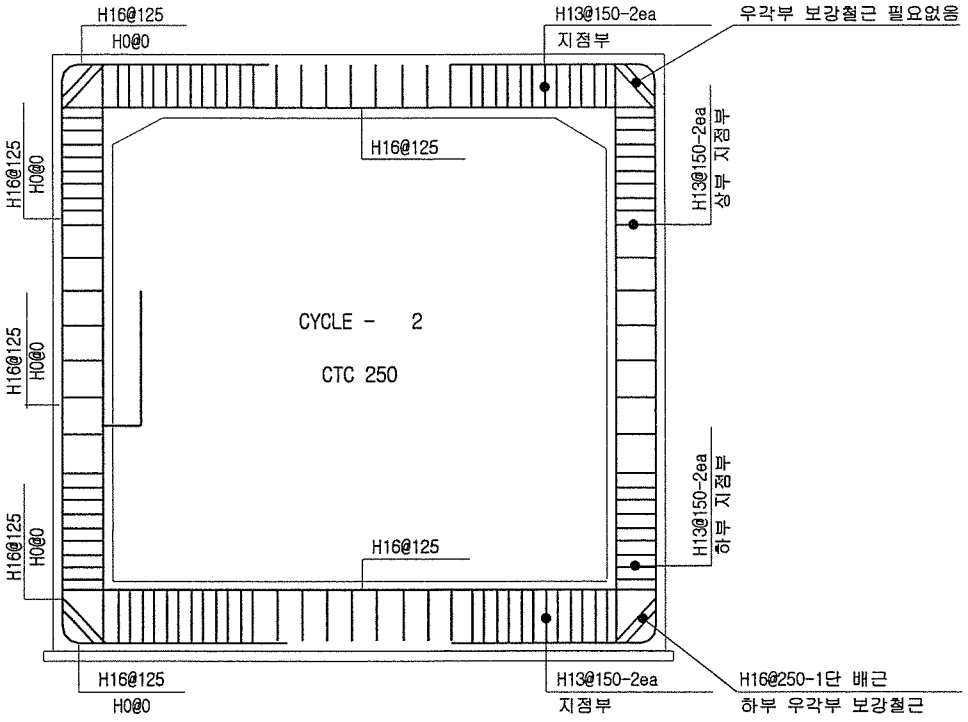
Qmax = 36.400 + 161.160 + 21.019

= 218.579 kN/m²

5) 지지력 검토

Qmax = 218.579 kN/m² < 300.00 kN/m² --- ∴ O.K.

16. 주철근 조립도



▶ 배력철근

- 상부 지점부 : H13, 인장측:150, 압축측:300
- 하부 지점부 : H13, 인장측:150, 압축측:300
- 벽체부 : H13, 인장측:150, 압축측:300

C(함) 탑리제1

- 2.0 x 2.00 x 1
- 토피 = 7.6m 이하

1. 설 계 조 건
2. 단 면 가 정
3. 해석모델 및 단면제원
4. 하중산정
5. 하중재하도
6. 하중계수 및 하중조합
7. INPUT DATA
8. OUTPUT
9. 단면력요약
10. 단 면 력 도
11. 단 면 검 토
12. 우각부 검토
13. 배력철근 검토
14. 사용성 검토
15. 기초지지력 검토
16. 주철근조립도
17. 날개벽 설계

1. 설계 조건

1) 구조물명 : c (함)

2) 구조형식 : 철근 콘크리트 구조

3) 설계하중 : KRL2012 (복 선)

4) 재료중량

- 철근 콘크리트(γ_c)	=	24.5	kN/m^3
- 무근 콘크리트(γ_{con})	=	23.0	kN/m^3
- 뒷채움 토사(γ_t)	=	20.0	kN/m^3
- 뒷채움 토사(γ_{sub})	=	11.0	kN/m^3
- 지하수(γ_w)	=	10.0	kN/m^3

5) 사용재료의 성질

- 콘크리트 설계기준 강도(fck)	=	30.0	MPa
- 콘크리트 탄성계수(Ec)	=	27537	MPa
- 철근의 항복강도(fy)	=	400.0	MPa
- 철근의 탄성계수(Es)	=	200000	MPa

6) 토 사

- 흙의 내부마찰각 (ϕ)	=	35.0	°
- 정지 토압계수 (Ko)	=	0.426	

7) 기 초 형 식 : 직접기초

8) 사 각(Skew) : 71.00 ° 연 장 (L) : 42.00 m

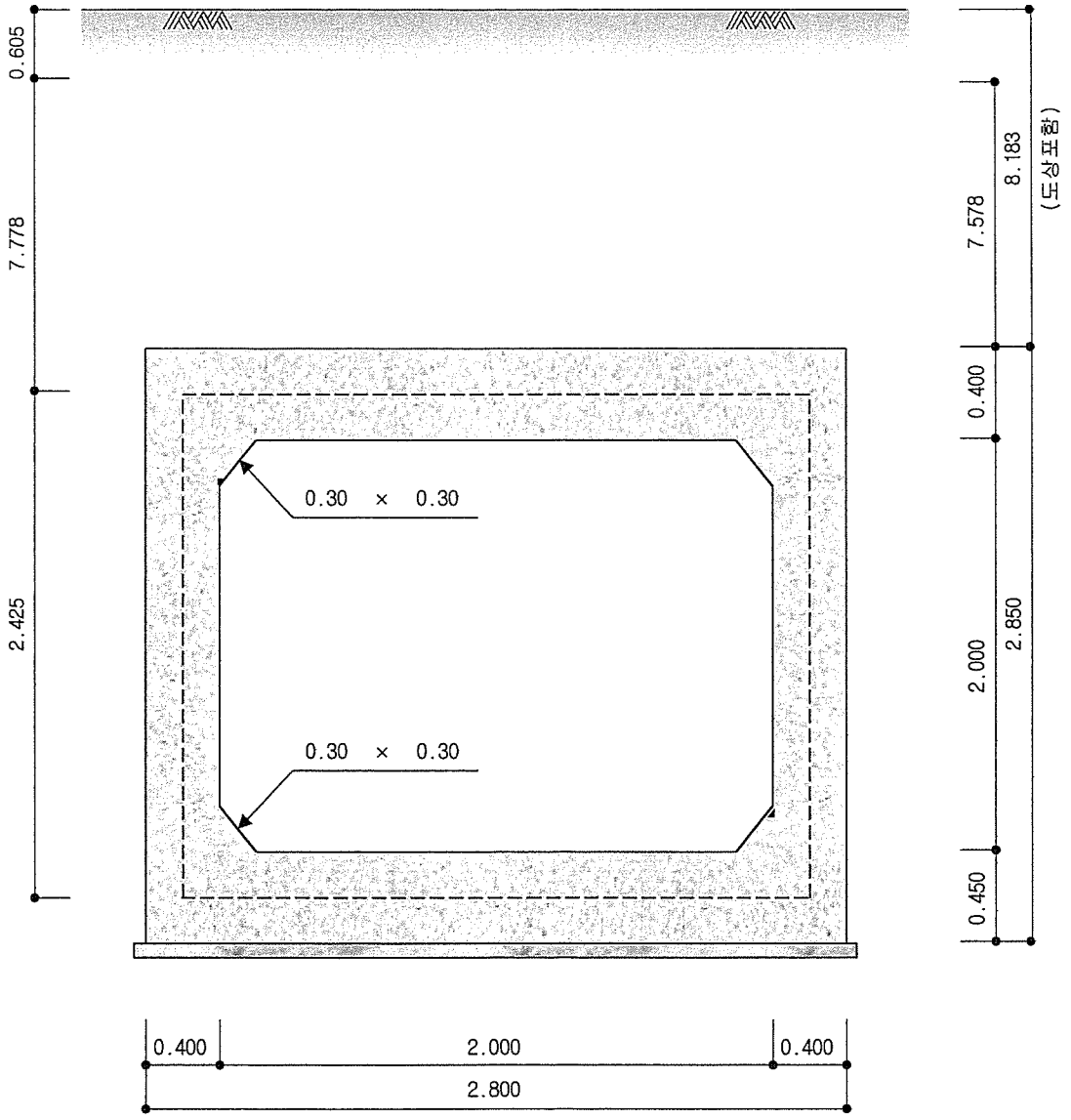
9) 설계방법

- 강도 설계법 : 부재 단면검토(슬래브, 벽체, 보, 기둥 등)
- 허용응력 설계법 : 사용성 검토(처짐, 균열, 우각부 검토)

10) 참고문헌

- 철도설계기준(노반편), 국토해양부, 2013
- 콘크리트 구조설계기준해설, 한국콘크리트 학회, 2012

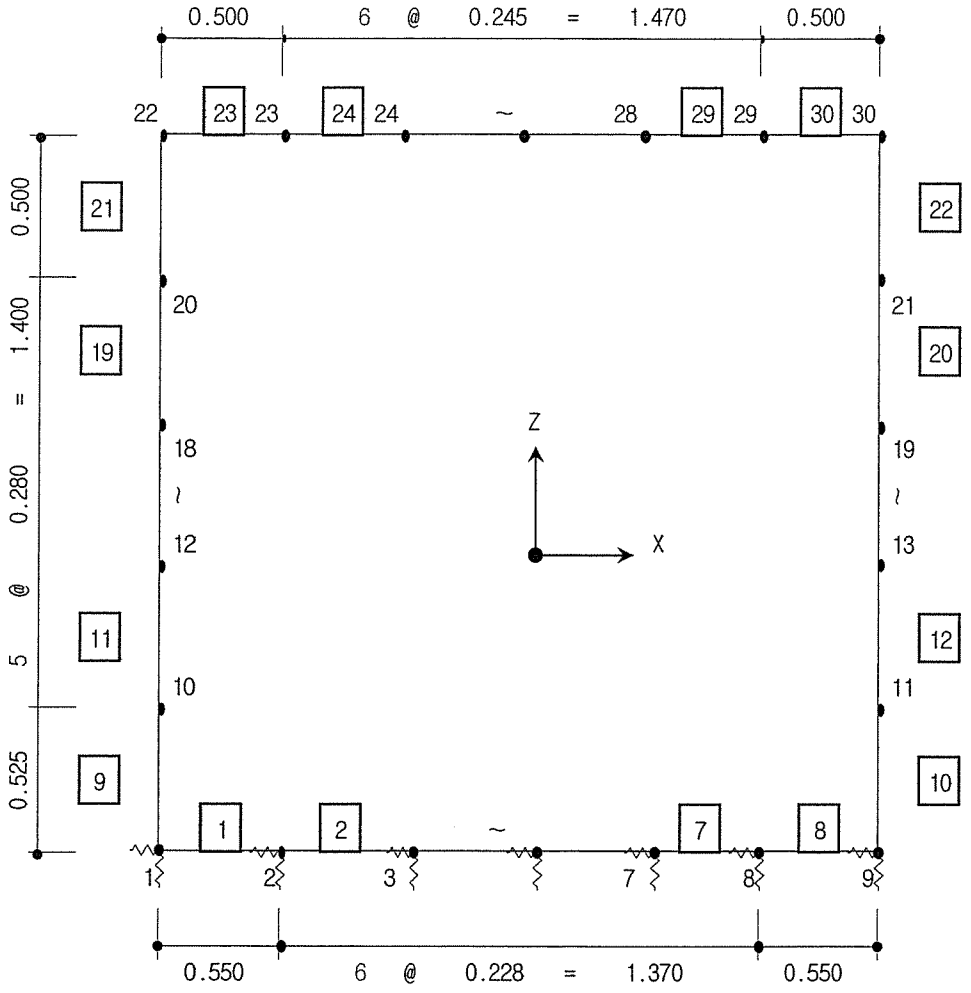
2. 단면 가정



※ 유효경간

Skew =	71.0	°					
Ln =	2.400	m					
Ls =	2.538	m					
Ls/B =	2.538	/	18.000	=	0.141	<	1.500
L =	2.470	m					

3. 해석모델 및 단면제원



1) 절점 좌표

Joint	좌 표			Joint	좌 표		
	X	Y	Z		X	Y	Z
1	0.000	0.000	0.000	13	2.470	0.000	0.805
2	0.550	0.000	0.000	14	0.000	0.000	1.085
3	0.778	0.000	0.000	15	2.470	0.000	1.085
4	1.007	0.000	0.000	16	0.000	0.000	1.365
5	1.235	0.000	0.000	17	2.470	0.000	1.365
6	1.463	0.000	0.000	18	0.000	0.000	1.645
7	1.692	0.000	0.000	19	2.470	0.000	1.645
8	1.920	0.000	0.000	20	0.000	0.000	1.925
9	2.470	0.000	0.000	21	2.470	0.000	1.925
10	0.000	0.000	0.525	22	0.000	0.000	2.425
11	2.470	0.000	0.525	23	0.500	0.000	2.425
12	0.000	0.000	0.805	24	0.745	0.000	2.425

Joint	좌 표			Joint	좌 표		
	X	Y	Z		X	Y	Z
25	0.990	0.000	2.425	28	1.725	0.000	2.425
26	1.235	0.000	2.425	29	1.970	0.000	2.425
27	1.480	0.000	2.425	30	2.470	0.000	2.425

2) 경계 조건

joint	spring계수 (kN/m²)		joint	spring계수 (kN/m²)	
	z방향(수직)	x방향(수평)		z방향(수직)	x방향(수평)
1 . 9	23715		3 ~ 7	11400	
2 . 8	19430				

3) 단면제원

Element	두께	폭	비 고
23 ~ 30	0.400	1.000	상부슬래브
1 ~ 8	0.450	1.000	하부슬래브
9 ~ 22	0.400	1.000	벽 체

4) 강역설정

(1) 강역설정기준(콘크리트구조설계기준 2012)

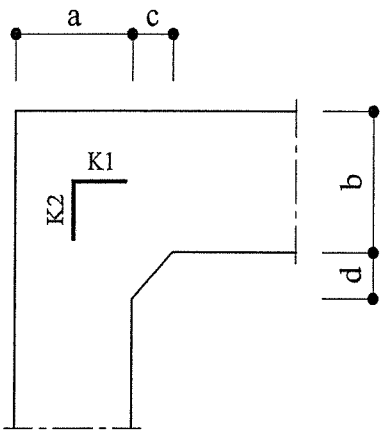
CASE 1 : 부재단부가 다른 부재와 접합할 때는 부재단에서 부재두께의 1/4 안쪽점에서 절점까지

CASE 2 : 부재가 그 축선에 대해 25° 이상 60° 미만인 경사진 헌치를 갖는 경우에는 부재두께가 1.5배가 되는 점에서 부터 절점까지

CASE 3 : 헌치의 경사가 60° 이상의 경우는 헌치의 시점에서 부재두께의 1/4 안쪽 점에서부터 절점까지

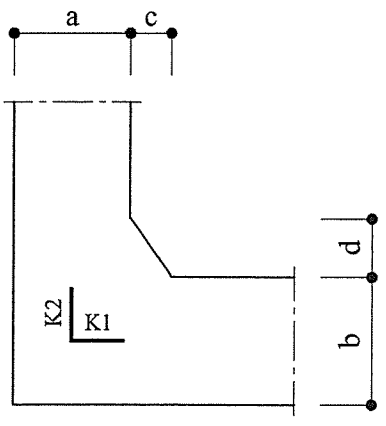
(2) 강역설정

- 절점 22 , 30



a =	400	mm	c =	300	mm
b =	400	mm	d =	300	mm
K1 =	300	mm	K2 =	300	mm

- 절점 1 , 9

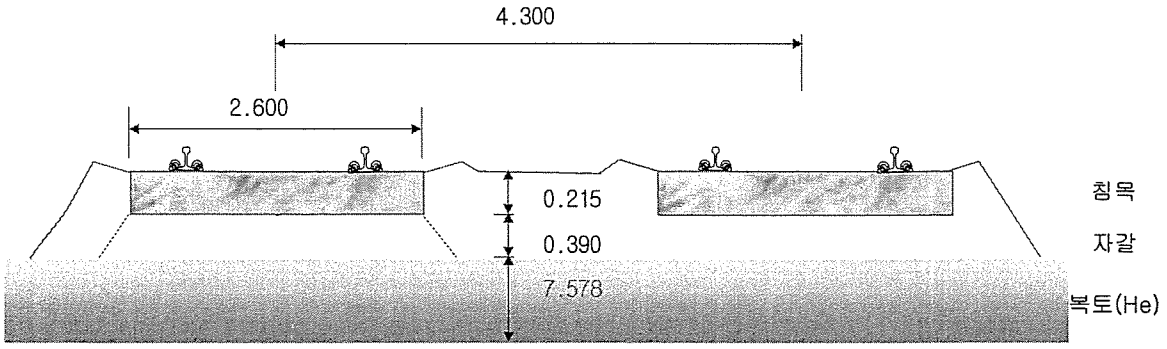


a =	400	mm	c =	300	mm
b =	450	mm	d =	300	mm
K1 =	275	mm	K2 =	325	mm

4. 하중산정

4.1 상시

1) 상부 고정하중(지하수 無)



① 하중 분포폭 산정 (b')

① He < 0.5m 경우 : b + d

b_1 = 2.600 + 0.390 = 2.990 m

② He ≥ 0.5m 경우 : c + b + (d + He)

b_2 = 4.300 + 2.600 + (0.390 + 7.578) = 14.590 m

여기서, He : 시공기면에서의 토피고(m)

a : 동륜간 축간거리(m) c : 복선선로 중심간격(m)

b : 침목길이(m) d : 침목하면의 도상두께(m)

H : 상부슬래브 두께

He ≥ 0.5 m

∴ b' = 14.590 m

② 구조물 자중 : 프로그램 상에서 Self Weight 기능을 이용하여 자동 고려

③ 궤도 중량

- 레일 : 레일당 1.5kN/m를 적용

q_1 = 4 × 1.500 / 14.590 = 0.411 kN/㎡

- 침목 : 고속철도용 5.0kN/m

q_2 = 5.000 × 2 / 14.590 = 0.685 kN/㎡

= 1.096 kN/㎡

④ 도상 (q_2)

TCL = 0.215 × 19.000 × 1.3 = 5.311 kN/㎡

HSB = 0.390 × 19.000 × 1.3 = 9.633 kN/㎡

= 14.944 kN/㎡

⑤ 복토하중 (q_3) = 20.000 × 7.578 = 151.560 kN/㎡

∴ $q_1 + q_2 + q_3$ = 1.096 + 14.944 + 151.560 = 167.600 kN/㎡

2) 활하중

① 활하중 산정 : KRL 2012

$$W_{HL} = \frac{2P}{a \times b'} = \frac{2\times(220+80x3)}{3.000 \times 14.590} = 21.019 \text{ kN/㎡}$$

∴ W = 21.019 kN/㎡

② 충격계수

1) 단선 (i_0) (철도설계기준 노반편(2013) p.5-7)

지 간 L (m)	0	5	10	20	30	40	50	70	100
충격계수 (i)	0.60	0.48	0.43	0.37	0.34	0.32	0.30	0.27	0.24

* 상기표에 없는 지간의 충격 계수는 보간법으로 구한다.

지 간 L (m) = 2.470 m

따라서 i_0 = 0.541 (보간법에 의하여 산정된 충격계수)

2) 구조물 상면의 복토높이에 따른 충격 계수

H ≥ 1.0일 경우 $i = io \cdot \{(2.5 - H)/1.5\}$

여기서, H ≤ 1.0 m 에서는 $i = i_o$

H ≥ 2.5 m 에서는 i = 0

따라서, 본 구조물의 H = 8.183 m i = 0.000

W_L = 21.019 ×(1 + 0.000) = 21.019 kN/㎡

③ 활하중에 의한 측압 (충격비고려)(철도설계기준 노반편(2013) p.5-6)

W_{LH} = 21.019 × 0.4 = 8.408 kN/㎡

3) 토 압

- 지하수가 없는 경우 작용 토압

q_1 = 0.426 ×(16.040 + 20.000 × 7.778) = 73.102 kN/㎡

q_2 = 73.102 + 0.426 ×(20.000 × 0.500) = 77.362 kN/㎡

q_3 = 77.362 + 0.426 ×(20.000 × 0.280) = 79.748 kN/㎡

q_4 = 79.748 + 0.426 ×(20.000 × 0.280) = 82.134 kN/㎡

q_5 = 82.134 + 0.426 ×(20.000 × 0.280) = 84.520 kN/㎡

q_6 = 84.520 + 0.426 ×(20.000 × 0.280) = 86.906 kN/㎡

q_7 = 86.906 + 0.426 ×(20.000 × 0.280) = 89.292 kN/㎡

q_8 = 89.292 + 0.426 ×(20.000 × 0.525) = 93.765 kN/㎡

- 시공중 편토압 산정 (지하수가 없는 경우 작용 토압)

q_1 = 0.426 × (0.000 + 20.000 × 0.200) = 1.704 kN/㎡

q_2 = 1.704 + 0.426 × (20.000 × 0.500) = 5.964 kN/㎡

q_3 = 5.964 + 0.426 × (20.000 × 0.280) = 8.350 kN/㎡

q_4 = 8.350 + 0.426 × (20.000 × 0.280) = 10.736 kN/㎡

q_5 = 10.736 + 0.426 × (20.000 × 0.280) = 13.122 kN/㎡

q_6 = 13.122 + 0.426 × (20.000 × 0.280) = 15.508 kN/㎡

q_7 = 15.508 + 0.426 × (20.000 × 0.280) = 17.894 kN/㎡

q_8 = 17.894 + 0.426 × (20.000 × 0.525) = 22.367 kN/㎡

4) 온도하중

토피가 1.0m 이상일 경우에는 온도변화를 고려치 않으며, 토피가 1.0m 이하일 경우에는 다음식을 따른다.

$t = a \times t_0$ = 0.000 × 15.0 = 0.000 ℃

t : 박스 구조물의 상부 슬래브에 작용하는 온도변화

a : 토피심도(m)에 따른 저감률 $a=1-h_0$ (h_0:토피심도)

t_0 : 지표면에서의 기본온도 변화

상부슬래브의 두께가 700mm 이상인 경우 $t_0 = \pm 10$℃

상부슬래브의 두께가 700mm 미만인 경우 $t_0 = \pm 15$℃

토피고 H > 1.0m 이므로 온도변화는 고려하지 않는다.

5) 건조수축

$$\Delta Tx = \frac{\varepsilon}{\alpha} = \frac{-0.00015}{0.00001} = -15\,^{\circ}C$$

6) 장대레일 하중

장대레일 종하중은 필요시에 고려하여야 하며, 1궤도당 10 kN/m로 하고 작용위치는 상부슬래브 축선으로 한다. (단, 토피가 1.0m 이상인 경우는 이를 무시한다.)

토피가 8.183 m 이므로 장대레일 하중을 무시한다.

H_r = 0.000 × 4 / 14.590 = 0.000 kN/㎡

7) 상시 지반반력 계수

지지 지반 N치 = 26

Eo = 2800 × N = 2800 × 26 = 72800

Kvo = 1 / 0.3 x α x Eo = 1 / 0.3 × 1 x 72800 = 242667

Bv = √ Av = √ (2.470 × 2.470) = 2.470

Kv = Kvo (Bv/0.3)^-3/4 = 49926 kN/㎡

49926 × (0.400 / 2 + 0.550 / 2) = 23715 kN/m² - 저판 단부 스프링

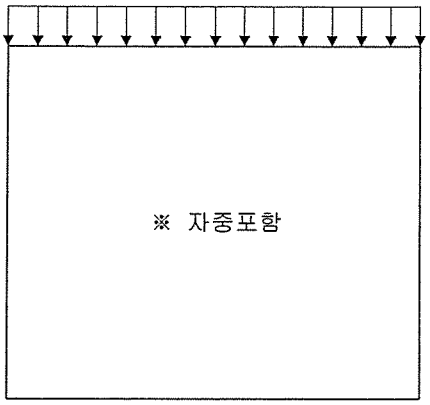
49926 × (0.550 / 2 + 0.228 / 2) = 19430 kN/m² - 저판 전단검토위치

49926 × (0.228 / 2 + 0.228 / 2) = 11400 kN/m² - 저판 중앙부 스프링

5. 하중재하도

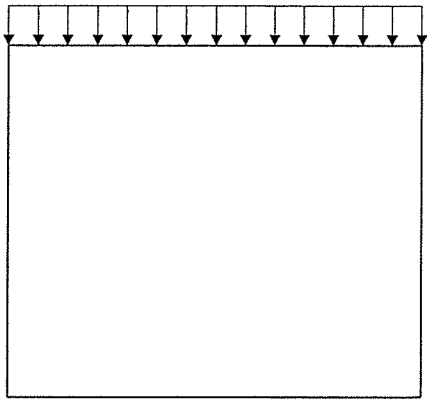
① 고정하중

W_D = 167.600 kN/㎡



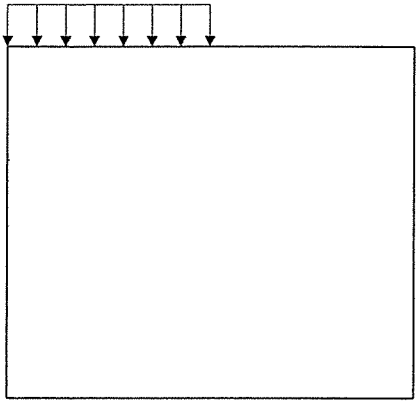
② 활하중(만재하)

W_L = 21.019 kN/㎡



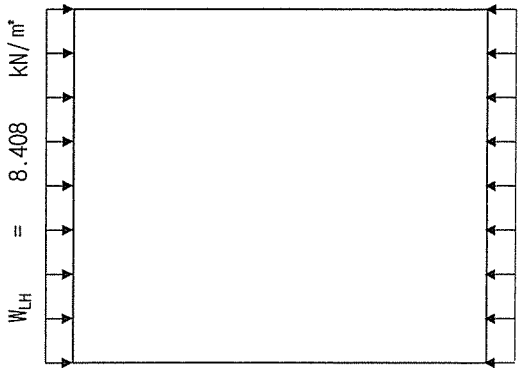
③ 활하중(편재하)

W_L = 21.019 kN/㎡



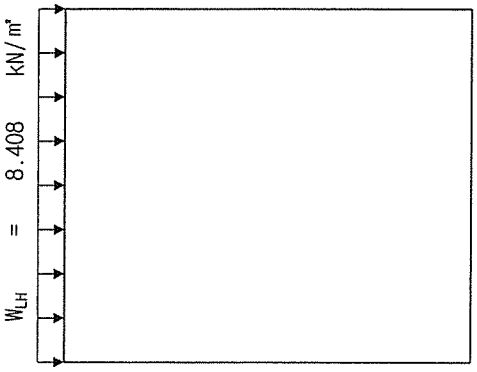
④ 활하중에 의한 측압(만재하)

W_{LH} = 8.408 kN/㎡

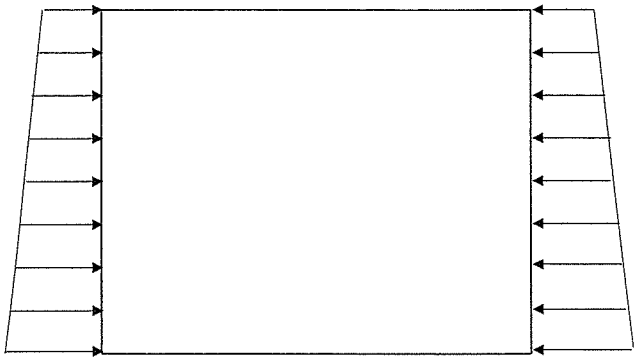


⑤ 활하중에 의한 측압(편재하)

W_{LH} = 8.408 kN/㎡



⑥ 수평토압(지하수 없는 경우)

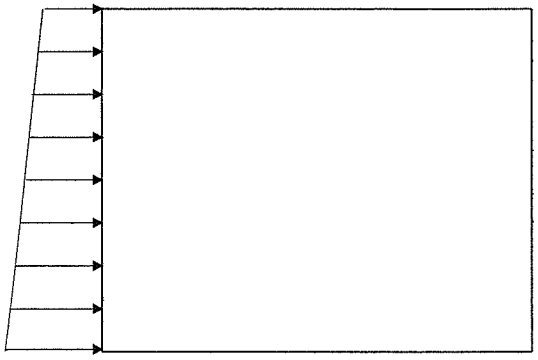


q_1 = 73.102 kN/㎡

q_7 = 93.765 kN/㎡

⑦ 편측토압(지하수 없는 경우)

q_1 = 1.704 kN/㎡



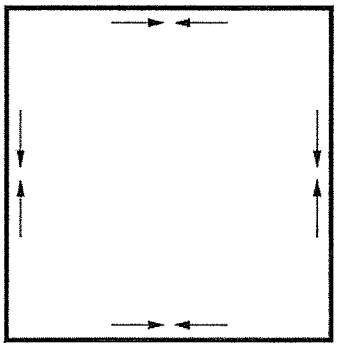
q_7 = 22.367 kN/㎡

⑧ 온도하중

△T = 0 °

⑨ 건조수축

△T = -15 °



⑩ 장대레일 종하중

Hr = 0.000 kN/m²

6. 하중계수 및 하중조합

1) 극한하중 검토시

구분	고정하중	활하중		활하중 측압		수평토압 (지하수無)		온도하중		건조수축	장대레일	비고
				양측재하	편측재하	양측재하	편측재하					
		전경간	1/2	수평	수평	수평	수평	온도상승	온도하강			
	LC1	LC2	LC3	LC4	LC5	LC6	LC7	LC8	LC9	LC10	LC11	
1	1.35	1.85		1.85		1.6						
2	1.35	1.85		1.85		0.6						
3	1.35		1.85		1.85	1.6						
4	1.35		1.85		1.85	0.6						
5	1.6	1.60		1.60		1.6						
6	1.6	1.60		1.60		0.6						
7	1.6		1.6		1.6	1.6						
8	1.6		1.6		1.6	0.6						
9	1.35	1.40		1.40		1.6		1.35		1.35		
10	1.35	1.40		1.40		0.6		1.35		1.35		
11	1.35	1.40		1.40		1.6			1.35	1.35	1.40	
12	1.35	1.40		1.40		0.6			1.35	1.35	1.40	
13	1.35		1.40		1.40	1.6		1.35		1.35		
14	1.35		1.40		1.40	0.6		1.35		1.35		
15	1.35		1.40		1.40	1.6			1.35	1.35	1.4	
16	1.35		1.40		1.40	0.6			1.35	1.35	1.4	
17	1.35		1.85		1.85		1.60					
18	1.35		1.85		1.85		0.60					
19	1.60		1.60		1.60		1.60					
20	1.60		1.60		1.60		0.60					

2) 사용하중 검토시

구분	고정하중	활하중		활하중 측압		수평토압 (지하수無)		온도하중		건조수축	장대레일	비고
				양측재하	편측재하	양측재하	편측재하					
		전경간	1/2	수평	수평	수평	수평	온도상승	온도하강			
	LC1	LC2	LC3	LC4	LC5	LC6	LC7	LC8	LC9	LC10	LC11	
21	1.0	1.0		1.0		1.0						
22	1.0	1.0		1.0		0.5						
23	1.0		1.0		1.0	1.0						
24	1.0		1.0		1.0	0.5						
25	1.0	1.0		1.0		1.0		1.0			1.0	
26	1.0	1.0		1.0		0.5		1.0			1.0	
27	1.0	1.0		1.0		1.0			1.0	1.0	1.0	
28	1.0	1.0		1.0		0.5			1.0	1.0	1.0	
29	1.0		1.0		1.0	1.0		1.0			1.0	
30	1.0		1.0		1.0	0.5		1.0			1.0	
31	1.0		1.0		1.0	1.0			1.0	1.0	1.0	
32	1.0		1.0		1.0	0.5			1.0	1.0	1.0	
33	1.0					1.0						
34	1.0		1.0		1.0		1.0					
35	1.0		1.0		1.0		0.5					

7. INPUT DATA

```
*VERSION
   8.3.1

*UNIT    ; Unit System
; FORCE, LENGTH, HEAT, TEMPER
   KN   , M, J, C

*STRUCTYPE    ; Structure Type
; iSTYP, iMASS, iSMAS, bMASSOFFSET, bSELFWEIGHT, GRAV, TEMPER, bALIGNBEAM, bALIGNSLAB, bROTRIGID
     1, 1, 1, NO, YES, 9.806, 0, NO, NO, NO

*REBAR-MATL-CODE    ; Rebar Material Code
; CONC_CODE, CONC_MDB, SRC_CODE, SRC_MDB
 KS01-Civil(RC), SD300, KS01-Civil(RC), SD300

*NODE    ; Nodes
; iNO, X, Y, Z
     1, 0, 0, 0
     2, 0.55, 0, 0
     3, 0.772, 0, 0
     4, 0.993, 0, 0
     5, 1.215, 0, 0
     6, 1.437, 0, 0
     7, 1.658, 0, 0
     8, 1.88, 0, 0
     9, 2.43, 0, 0
    10, 0, 0, 0.525
    11, 2.43, 0, 0.525
    12, 0, 0, 0.805
    13, 2.43, 0, 0.805
    14, 0, 0, 1.085
    15, 2.43, 0, 1.085
    16, 0, 0, 1.365
    17, 2.43, 0, 1.365
    18, 0, 0, 1.645
    19, 2.43, 0, 1.645
    20, 0, 0, 1.925
    21, 2.43, 0, 1.925
    22, 0, 0, 2.425
    23, 0.5, 0, 2.425
    24, 0.738, 0, 2.425
    25, 0.977, 0, 2.425
    26, 1.215, 0, 2.425
    27, 1.453, 0, 2.425
    28, 1.692, 0, 2.425
    29, 1.93, 0, 2.425
    30, 2.43, 0, 2.425

*ELEMENT    ; Elements
; iEL, TYPE, iMAT, iPRO, iN1, iN2, ANGLE, iSUB, EXVAL, iOPT(EXVAL2) ; Frame  Element
; iEL, TYPE, iMAT, iPRO, iN1, iN2, ANGLE, iSUB, EXVAL, EXVAL2, bLMT ; Comp/Tens Truss
; iEL, TYPE, iMAT, iPRO, iN1, iN2, iN3, iN4, iSUB, iWID             ; Planar Element
; iEL, TYPE, iMAT, iPRO, iN1, iN2, iN3, iN4, iN5, iN6, iN7, iN8     ; Solid  Element
; iEL, TYPE, iMAT, iPRO, iN1, iN2, REF, RPX, RPY, RPZ, iSUB, EXVAL  ; Frame(Ref. Point)
     1, BEAM  ,    2,    2,    1,    2,  180
     2, BEAM  ,    2,    2,    2,    3,  180
     3, BEAM  ,    2,    2,    3,    4,  180
     4, BEAM  ,    2,    2,    4,    5,  180
     5, BEAM  ,    2,    2,    5,    6,  180
     6, BEAM  ,    2,    2,    6,    7,  180
     7, BEAM  ,    2,    2,    7,    8,  180
     8, BEAM  ,    2,    2,    8,    9,  180
     9, BEAM  ,    2,    3,    1,   10,  180
    10, BEAM  ,    2,    3,    9,   11,    0
    11, BEAM  ,    2,    3,   10,   12,  180
    12, BEAM  ,    2,    3,   11,   13,    0
    13, BEAM  ,    2,    3,   12,   14,  180
    14, BEAM  ,    2,    3,   13,   15,    0
    15, BEAM  ,    2,    3,   14,   16,  180
    16, BEAM  ,    2,    3,   15,   17,    0
    17, BEAM  ,    2,    3,   16,   18,  180
    18, BEAM  ,    2,    3,   17,   19,    0
    19, BEAM  ,    2,    3,   18,   20,  180
    20, BEAM  ,    2,    3,   19,   21,    0
    21, BEAM  ,    2,    3,   20,   22,  180
    22, BEAM  ,    2,    3,   21,   30,    0
    23, BEAM  ,    2,    1,   22,   23,    0
    24, BEAM  ,    2,    1,   23,   24,    0
    25, BEAM  ,    2,    1,   24,   25,    0
    26, BEAM  ,    2,    1,   25,   26,    0
    27, BEAM  ,    2,    1,   26,   27,    0
    28, BEAM  ,    2,    1,   27,   28,    0
    29, BEAM  ,    2,    1,   28,   29,    0
```

```
    30, BEAM  ,    2,     1,    29,    30,     0

*MATERIAL    ; Material
; iMAT, TYPE, MNAME, SPHEAT, HEATCO, PLAST, TUNIT, bMASS, DAMPRATIO, [DATA1]          ; STEEL, CONC, USER
; iMAT, TYPE, MNAME, SPHEAT, HEATCO, PLAST, TUNIT, bMASS, DAMPRATIO, [DATA2], [DATA2] ; SRC
; [DATA1] : 1, DB, NAME, CODE
; [DATA1] : 2, ELAST, POISN, THERMAL, DEN, MASS
; [DATA1] : 3, Ex, Ey, Ez, Tx, Ty, Tz, Sxy, Sxz, Syz, Pxy, Pxz, Pyz, DEN, MASS   ; Orthotropic
; [DATA2] : 1, DB, NAME, CODE or 2, ELAST, POISN, THERMAL, DEN, MASS
    1, USER , STEEL             , 0, 0, , C, NO, 0, 2, 2.0000e+008,   0.3, 1.1700e-005, 76.8196,     0
    2, USER , CONC              , 0, 0, , C, NO, 0, 2, 2.7537e+007,  0.18, 1.0000e-005,  24.5,     0

*MATL-COLOR
; iMAT, W_R, W_G, W_B, HF_R, HF_G, HF_B, HE_R, HE_G, HE_B, bBLEND, FACT
    1, 255,   0,   0,    0, 255,   0,    0,   0, 255,  NO, 0.5
    2, 255,   0,   0,    0, 255,   0,    0,   0, 255,  NO, 0.5


*SECTION    ; Section
; iSEC, TYPE, SNAME, [OFFSET], bSD, SHAPE, [DATA1], [DATA2]                    ; 1st line - DB/USER
; iSEC, TYPE, SNAME, [OFFSET], bSD, SHAPE, BLT, D1, ..., D8, iCEL              ; 1st line - VALUE
;       AREA, ASy, ASz, Ixx, Iyy, Izz                                         ; 2nd line
;       CyP, CyM, CzP, CzM, QyB, QzB, PERI_OUT, PERI_IN, Cy, Cz               ; 3rd line
;       Y1, Y2, Y3, Y4, Z1, Z2, Z3, Z4, Zyy, Zzz                              ; 4th line
; iSEC, TYPE, SNAME, [OFFSET], bSD, SHAPE, ELAST, DEN, POIS, POIC, SF          ; 1st line - SRC
;       D1, D2, [SRC]                                                         ; 2nd line
; iSEC, TYPE, SNAME, [OFFSET], bSD, SHAPE, 1, DB, NAME1, NAME2, D1, D2        ; 1st line - COMBINED
; iSEC, TYPE, SNAME, [OFFSET], bSD, SHAPE, 2, D11, D12, D13, D14, D15, D21, D22, D23, D24
; iSEC, TYPE, SNAME, [OFFSET2], bSD, SHAPE, iyVAR, izVAR, STYPE                ; 1st line - TAPERED
;       DB, NAME1, NAME2                                                      ; 2nd line(STYPE=DB)
;       [DIM1], [DIM2]                                                        ; 2nd line(STYPE=USER)
;       D11, D12, D13, D14, D15, D16, D17, D18                                ; 2nd line(STYPE=VALUE)
;       AREA1, ASy1, ASz1, Ixx1, Iyy1, Izz1                                   ; 3rd line(STYPE=VALUE)
;       CyP1, CyM1, CzP1, CzM1, QyB1, QzB1, PERI_OUT1, PERI_IN1, Cy1, Cz1     ; 4th line(STYPE=VALUE)
;       Y11, Y12, Y13, Y14, Z11, Z12, Z13, Z14, Zyy1, Zyy2                    ; 5th line(STYPE=VALUE)
;       D21, D22, D23, D24, D25, D26, D27, D28                                ; 6th line(STYPE=VALUE)
;       AREA2, ASy2, ASz2, Ixx2, Iyy2, Izz2                                   ; 7th line(STYPE=VALUE)
;       CyP2, CyM2, CzP2, CzM2, QyB2, QzB2, PERI_OUT2, PERI_IN2, Cy2, Cz2     ; 8th line(STYPE=VALUE)
;       Y21, Y22, Y23, Y24, Z21, Z22, Z23, Z24, Zyy2, Zzz2                    ; 9th line(STYPE=VALUE)
;       OPT1, OPT2, [JOINT]                                                   ; 2nd line(STYPE=PSC)
;       ELAST, DEN, POIS, POIC                                                ; 2nd line(STYPE=PSC-CMPW)
;       bSHEARCHK, [SCHK-I], [SCHK-J], [WT-I], [WT-J], WI, WJ, bSYM, bSIDEHOLE ; 3rd line(STYPE=PSC)
;       bSHEARCHK, bSYM, bHUNCH, [CMPWEB-I], [CMPWEB-J]                       ; 3rd line(STYPE=PSC-CMPW)
;       bUSERDEFMESHSIZE, MESHSIZE, bUSERINPSTIFF, [STIFF-I], [STIFF-J]       ; 4th line(STYPE=PSC)
;       [SIZE-A]-i                                                            ; 5th line(STYPE=PSC)
;       [SIZE-B]-i                                                            ; 6th line(STYPE=PSC)
;       [SIZE-C]-i                                                            ; 7th line(STYPE=PSC)
;       [SIZE-D]-i                                                            ; 8th line(STYPE=PSC)
;       [SIZE-A]-i                                                            ; 9th line(STYPE=PSC)
;       [SIZE-B]-i                                                            ; 10th line(STYPE=PSC)
;       [SIZE-C]-i                                                            ; 11th line(STYPE=PSC)
;       [SIZE-D]-i                                                            ; 12th line(STYPE=PSC)
;       GN, CTC, Bc, Tc, Hh, EsEc, DsDc, Ps, Pc, bMULTI, EsEc-L, EsEc-S       ; 2nd line(STYPE=CMP-B/I)
;       SW_i, Hw_i, tw_i, B_i, Bf1_i, tf1_i, B2_i, Bf2_i, tf2_i               ; 3rd line(STYPE=CMP-B/I)
;       SW_i, Hw_i, tw_i, B_i, Bf1_i, tf1_i, B2_i, Bf2_i, tf2_i               ; 4th line(STYPE=CMP-B/I)
;       N1, N2, Hr, Hr2, tr1, tr2                                             ; 5th line(STYPE=CMP-B)
;       GN, CTC, Bc, Tc, Hh, EgdEsb, DgdDsb, Pgd, Psb, bSYM, SW_i, SW_i       ; 2nd line(STYPE=CMP-CI/CT)
;       OPT1, OPT2, [JOINT]                                                   ; 3rd line(STYPE=CMP-CI/CT)
;       [SIZE-A]-i                                                            ; 4th line(STYPE=CMP-CI/CT)
;       [SIZE-B]-i                                                            ; 5th line(STYPE=CMP-CI/CT)
;       [SIZE-C]-i                                                            ; 6th line(STYPE=CMP-CI/CT)
;       [SIZE-D]-i                                                            ; 7th line(STYPE=CMP-CI/CT)
;       [SIZE-A]-i                                                            ; 8th line(STYPE=CMP-CI/CT)
;       [SIZE-B]-i                                                            ; 9th line(STYPE=CMP-CI/CT)
;       [SIZE-C]-i                                                            ; 10th line(STYPE=CMP-CI/CT)
;       [SIZE-D]-i                                                            ; 11th line(STYPE=CMP-CI/CT)
; iSEC, TYPE, SNAME, [OFFSET], bSD, STYPE1, STYPE2                            ; 1st line - CONSTRUCT
;       SHAPE, ...(same with other type data from shape)                      ; Before (STYPE1)
;       SHAPE, ...(same with other type data from shape)                      ; After  (STYPE2)
; iSEC, TYPE, SNAME, [OFFSET], bSD, SHAPE                                     ; 1st line - COMPOSITE-SB
;       Hw, tw, B, Bf1, tf1, B2, Bf2, tf2                                     ; 2nd line
;       N1, N2, Hr, Hr2, tr1, tr2                                             ; 3rd line
;       SW, GN, CTC, Bc, Tc, Hh, EsEc, DsDc, Ps, Pc, bMulti, Elong, Esh       ; 4th line
; iSEC, TYPE, SNAME, [OFFSET], bSD, SHAPE                                     ; 1st line - COMPOSITE-SI
;       Hw, tw, B, tf1, B2, tf2                                               ; 2nd line
;       SW, GN, CTC, Bc, Tc, Hh, EsEc, DsDc, Ps, Pc, bMulti, Elong, Esh       ; 3rd line
; iSEC, TYPE, SNAME, [OFFSET], bSD, SHAPE                                     ; 1st line - COMPOSITE-CI/CT
;       OPT1, OPT2, [JOINT]                                                   ; 2nd line
;       [SIZE-A]                                                              ; 3rd line
;       [SIZE-B]                                                              ; 4th line
;       [SIZE-C]                                                              ; 5th line
;       [SIZE-D]                                                              ; 6th line
;       SW, GN, CTC, Bc, Tc, Hh, EgdEsb, DgdDsb, Pgd, Psb                     ; 7th line
; iSEC, TYPE, SNAME, [OFFSET], bSD, SHAPE                                     ; 1st line - PSC
;       OPT1, OPT2, [JOINT]                                                   ; 2nd line
;       bSHEARCHK, [SCHK], [WT], WIDTH, bSYM, bSIDEHOLE                       ; 3rd line
;       bUSERDEFMESHSIZE, MESHSIZE, bUSERINPSTIFF, [STIFF]                    ; 4th line
```

```
;       [SIZE-A]                                                        ; 5th line
;       [SIZE-B]                                                        ; 6th line
;       [SIZE-C]                                                        ; 7th line
;       [SIZE-D]                                                        ; 8th line
; [DATA1] : 1, DB, NAME or 2, D1, D2, D3, D4, D5, D6, D7, D8, D9, D10
; [DATA2] : CCSHAPE or iCEL or iN1, iN2
; [SRC]   : 1, DB, NAME1, NAME2 or 2, D1, D2, D3, D4, D5, D6, D7, D8, D9, D10, iN1, iN2
; [DIM1], [DIM2] : D1, D2, D3, D4, D5, D6, D7, D8
; [OFFSET] : OFFSET, iCENT, iREF, iHORZ, HUSER, iVERT, VUSER
; [OFFSET2]: OFFSET, iCENT, iREF, iHORZ, HUSERI, HUSERJ, iVERT, VUSERI, VUSERJ
; [JOINT]  :  8(1CELL, 2CELL), 13(3CELL),  9(PSCM),  8(PSCH), 9(PSCT),  2(PSCB), 0(nCELL),  2(nCEL2)
; [SIZE-A] :  6(1CELL, 2CELL), 10(3CELL), 10(PSCM),  6(PSCH), 8(PSCT), 10(PSCB), 5(nCELL), 11(nCEL2)
; [SIZE-B] :  6(1CELL, 2CELL), 12(3CELL),  6(PSCM),  6(PSCH), 8(PSCT),  6(PSCB), 8(nCELL), 18(nCEL2)
; [SIZE-C] : 10(1CELL, 2CELL), 13(3CELL),  9(PSCM), 10(PSCH), 7(PSCT),  8(PSCB), 0(nCELL), 11(nCEL2)
; [SIZE-D] :  8(1CELL, 2CELL), 13(3CELL),  6(PSCM),  7(PSCH), 8(PSCT),  5(PSCB), 0(nCELL), 18(nCEL2)
; [STIFF]  : AREA, ASy, ASz, Ixx, Iyy, Izz
; [SCHK]   : bAUTO_Z1, Z1, bAUTO_Z3, Z3
; [WT]     : bAUTO_TOR, TOR, bAUTO_SHR1, SHR1, bAUTO_SHR2, SHR2, bAUTO_SHR3, SHR3
; [CMPWEB] : EFD, LRF, A, B, H, T
   1, DBUSER    , TOPSLAB          , CC, 0, 0, 0, 0, 0, 0, YES, SB , 2, 0.4, 1, 0, 0, 0, 0, 0, 0, 0, 0
   2, DBUSER    , BOTSLAB          , CC, 0, 0, 0, 0, 0, 0, YES, SB , 2, 0.45, 1, 0, 0, 0, 0, 0, 0, 0, 0
   3, DBUSER    , WALL             , CC, 0, 0, 0, 0, 0, 0, YES, SB , 2, 0.4, 1, 0, 0, 0, 0, 0, 0, 0, 0

*SECT-COLOR
; iSEC, W_R, W_G, W_B, HF_R, HF_G, HF_B, HE_R, HE_G, HE_B, bBLEND, FACT
   1, 255,   0,   0,    0, 255,   0,    0,   0, 255,  NO, 0.5
   2, 255,   0,   0,    0, 255,   0,    0,   0, 255,  NO, 0.5
   3, 255,   0,   0,    0, 255,   0,    0,   0, 255,  NO, 0.5

*DGN-SECT
; iSEC, TYPE, SNAME, [OFFSET], bSD, SHAPE, [DATA1], [DATA2]                ; 1st line - DB/USER
; iSEC, TYPE, SNAME, [OFFSET], bSD, SHAPE, BLT, D1, ..., D8, iCEL         ; 1st line - VALUE
;       AREA, ASy, ASz, Ixx, Iyy, Izz                                     ; 2nd line
;       CyP, CyM, CzP, CzM, QyB, QzB, PERI_OUT, PERI_IN, Cy, Cz           ; 3rd line
;       Y1, Y2, Y3, Y4, Z1, Z2, Z3, Z4, Zyy, Zzz                          ; 4th line
; iSEC, TYPE, SNAME, [OFFSET], bSD, SHAPE, ELAST, DEN, POIS, POIC, SF     ; 1st line - SRC
;       D1, D2, [SRC]                                                     ; 2nd line
; iSEC, TYPE, SNAME, [OFFSET], bSD, SHAPE, 1, DB, NAME1, NAME2, D1, D2    ; 1st line - COMBINED
; iSEC, TYPE, SNAME, [OFFSET], bSD, SHAPE, 2, D11, D12, D13, D14, D15, D21, D22, D23, D24
; iSEC, TYPE, SNAME, [OFFSET2], bSD, SHAPE, iyVAR, izVAR, STYPE           ; 1st line - TAPERED
;       DB, NAME1, NAME2                                                  ; 2nd line(STYPE=DB)
;       [DIM1], [DIM2]                                                    ; 2nd line(STYPE=USER)
;       D11, D12, D13, D14, D15, D16, D17, D18                            ; 2nd line(STYPE=VALUE)
;       AREA1, ASy1, ASz1, Ixx1, Iyy1, Izz1                               ; 3rd line(STYPE=VALUE)
;       CyP1, CyM1, CzP1, CzM1, QyB1, QzB1, PERI_OUT1, PERI_IN1, Cy1, Cz1 ; 4th line(STYPE=VALUE)
;       Y11, Y12, Y13, Y14, Z11, Z12, Z13, Z14, Zyy1, Zyy2                ; 5th line(STYPE=VALUE)
;       D21, D22, D23, D24, D25, D26, D27, D28                            ; 6th line(STYPE=VALUE)
;       AREA2, ASy2, ASz2, Ixx2, Iyy2, Izz2                               ; 7th line(STYPE=VALUE)
;       CyP2, CyM2, CzP2, CzM2, QyB2, QzB2, PERI_OUT2, PERI_IN2, Cy2, Cz2 ; 8th line(STYPE=VALUE)
;       Y21, Y22, Y23, Y24, Z21, Z22, Z23, Z24, Zyy2, Zzz2                ; 9th line(STYPE=VALUE)
;       OPT1, OPT2, [JOINT]                                               ; 2nd line(STYPE=PSC)
;       ELAST, DEN, POIS, POIC                                            ; 2nd line(STYPE=PSC-CMPW)
;       bSHEARCHK, [SCHK-I], [SCHK-J], [WT-I], [WT-J], WI, WJ, bSYM, bSIDEHOLE ; 3rd line(STYPE=PSC)
;       bSHEARCHK, bSYM, bHUNCH, [CMPWEB-I], [CMPWEB-J]                   ; 3rd line(STYPE=PSC-CMPW)
;       bUSERDEFMESHSIZE, MESHSIZE, bUSERINPSTIFF, [STIFF-I], [STIFF-J]   ; 4th line(STYPE=PSC)
;       [SIZE-A]-i                                                        ; 5th line(STYPE=PSC)
;       [SIZE-B]-i                                                        ; 6th line(STYPE=PSC)
;       [SIZE-C]-i                                                        ; 7th line(STYPE=PSC)
;       [SIZE-D]-i                                                        ; 8th line(STYPE=PSC)
;       [SIZE-A]-i                                                        ; 9th line(STYPE=PSC)
;       [SIZE-B]-i                                                        ; 10th line(STYPE=PSC)
;       [SIZE-C]-i                                                        ; 11th line(STYPE=PSC)
;       [SIZE-D]-i                                                        ; 12th line(STYPE=PSC)
;       GN, CTC, Bc, Tc, Hh, EsEc, DsDc, Ps, Pc, bMULTI, EsEc-L, EsEc-S   ; 2nd line(STYPE=CMP-B/I)
;       SW_i, Hw_i, tw_i, B_i, Bf1_i, tf1_i, B2_i, Bf2_i, tf2_i           ; 3rd line(STYPE=CMP-B/I)
;       SW_i, Hw_i, tw_i, B_i, Bf1_i, tf1_i, B2_i, Bf2_i, tf2_i           ; 4th line(STYPE=CMP-B/I)
;       N1, N2, Hr, Hr2, tr1, tr2                                         ; 5th line(STYPE=CMP-B)
;       GN, CTC, Bc, Tc, Hh, EgdEsb, DgdDsb, Pgd, Psb, bSYM, SW_i, SW_i   ; 2nd line(STYPE=CMP-CI/CT)
;       OPT1, OPT2, [JOINT]                                               ; 3rd line(STYPE=CMP-CI/CT)
;       [SIZE-A]-i                                                        ; 4th line(STYPE=CMP-CI/CT)
;       [SIZE-B]-i                                                        ; 5th line(STYPE=CMP-CI/CT)
;       [SIZE-C]-i                                                        ; 6th line(STYPE=CMP-CI/CT)
;       [SIZE-D]-i                                                        ; 7th line(STYPE=CMP-CI/CT)
;       [SIZE-A]-i                                                        ; 8th line(STYPE=CMP-CI/CT)
;       [SIZE-B]-i                                                        ; 9th line(STYPE=CMP-CI/CT)
;       [SIZE-C]-i                                                        ; 10th line(STYPE=CMP-CI/CT)
;       [SIZE-D]-i                                                        ; 11th line(STYPE=CMP-CI/CT)
; iSEC, TYPE, SNAME, [OFFSET], bSD, STYPE1, STYPE2                        ; 1st line - CONSTRUCT
;       SHAPE, ...(same with other type data from shape)                  ; Before (STYPE1)
;       SHAPE, ...(same with other type data from shape)                  ; After  (STYPE2)
; iSEC, TYPE, SNAME, [OFFSET], bSD, SHAPE                                 ; 1st line - COMPOSITE-SB
;       Hw, tw, B, Bf1, tf1, B2, Bf2, tf2                                 ; 2nd line
;       N1, N2, Hr, Hr2, tr1, tr2                                         ; 3rd line
;       SW, GN, CTC, Bc, Tc, Hh, EsEc, DsDc, Ps, Pc, bMulti, Elong, Esh   ; 4th line
; iSEC, TYPE, SNAME, [OFFSET], bSD, SHAPE                                 ; 1st line - COMPOSITE-SI
;       Hw, tw, B, tf1, B2, tf2                                           ; 2nd line
;       SW, GN, CTC, Bc, Tc, Hh, EsEc, DsDc, Ps, Pc, bMulti, Elong, Esh   ; 3rd line
```

```
; iSEC, TYPE, SNAME, [OFFSET], bSD, SHAPE                                    ; 1st line - COMPOSITE-CI/CT
;       OPT1, OPT2, [JOINT]                                                  ; 2nd line
;       [SIZE-A]                                                             ; 3rd line
;       [SIZE-B]                                                             ; 4th line
;       [SIZE-C]                                                             ; 5th line
;       [SIZE-D]                                                             ; 6th line
;       SW, GN, CTC, Bc, Tc, Hh, EgdEsb, DgdDsb, Pgd, Psb                    ; 7th line
; iSEC, TYPE, SNAME, [OFFSET], bSD, SHAPE                                    ; 1st line - PSC
;       OPT1, OPT2, [JOINT]                                                  ; 2nd line
;       bSHEARCHK, [SCHK], [WT], WIDTH, bSYM, bSIDEHOLE                      ; 3rd line
;       bUSERDEFMESHSIZE, MESHSIZE, bUSERINPSTIFF, [STIFF]                   ; 4th line
;       [SIZE-A]                                                             ; 5th line
;       [SIZE-B]                                                             ; 6th line
;       [SIZE-C]                                                             ; 7th line
;       [SIZE-D]                                                             ; 8th line
; [DATA1] : 1, DB, NAME or 2, D1, D2, D3, D4, D5, D6, D7, D8, D9, D10
; [DATA2] : CCSHAPE or iCEL or iN1, iN2
; [SRC]   : 1, DB, NAME1, NAME2 or 2, D1, D2, D3, D4, D5, D6, D7, D8, D9, D10, iN1, iN2
; [DIM1], [DIM2] : D1, D2, D3, D4, D5, D6, D7, D8
; [OFFSET] : OFFSET, iCENT, iREF, iHORZ, HUSER, iVERT, VUSER
; [OFFSET2]: OFFSET, iCENT, iREF, iHORZ, HUSERI, HUSERJ, iVERT, VUSERI, VUSERJ
; [JOINT]  :  8(1CELL, 2CELL), 13(3CELL),  9(PSCM),  8(PSCH), 9(PSCT),  2(PSCB), 0(nCELL),  2(nCEL2)
; [SIZE-A] :  6(1CELL, 2CELL), 10(3CELL), 10(PSCM),  6(PSCH), 8(PSCT), 10(PSCB), 5(nCELL), 11(nCEL2)
; [SIZE-B] :  6(1CELL, 2CELL), 12(3CELL),  6(PSCM),  6(PSCH), 8(PSCT),  6(PSCB), 8(nCELL), 18(nCEL2)
; [SIZE-C] : 10(1CELL, 2CELL), 13(3CELL),  9(PSCM), 10(PSCH), 7(PSCT),  8(PSCB), 0(nCELL), 11(nCEL2)
; [SIZE-D] :  8(1CELL, 2CELL), 13(3CELL),  6(PSCM),  7(PSCH), 8(PSCT),  5(PSCB), 0(nCELL), 18(nCEL2)
; [STIFF]  : AREA, ASy, ASz, Ixx, Iyy, Izz
; [SCHK]   : bAUTO_Z1, Z1, bAUTO_Z3, Z3
; [WT]     : bAUTO_TOR, TOR, bAUTO_SHR1, SHR1, bAUTO_SHR2, SHR2, bAUTO_SHR3, SHR3
; [CMPWEB] : EFD, LRF, A, B, H, T
   1, DBUSER    , TOPSLAB          , CC, 0, 0, 0, 0, 0, 0, YES, SB , 2, 0.4, 1, 0, 0, 0, 0, 0, 0, 0, 0
   2, DBUSER    , BOTSLAB          , CC, 0, 0, 0, 0, 0, 0, YES, SB , 2, 0.45, 1, 0, 0, 0, 0, 0, 0, 0, 0
   3, DBUSER    , WALL             , CC, 0, 0, 0, 0, 0, 0, YES, SB , 2, 0.4, 1, 0, 0, 0, 0, 0, 0, 0, 0


*STLDCASE    ; Static Load Cases
; LCNAME, LCTYPE, DESC
   LC1  , USER,
   LC2  , USER,
   LC3  , USER,
   LC4  , USER,
   LC5  , USER,
   LC6  , USER,
   LC7  , USER,
   LC8  , USER,
   LC9  , USER,
   LC10 , USER,
   LC11 , USER,
   NCOMB1, USER,
   NCOMB2, USER,
   NCOMB3, USER,
   NCOMB4, USER,
   NCOMB5, USER,
   NCOMB6, USER,
   NCOMB7, USER,
   NCOMB8, USER,
   NCOMB9, USER,
   NCOMB10, USER,
   NCOMB11, USER,
   NCOMB12, USER,
   NCOMB13, USER,
   NCOMB14, USER,
   NCOMB15, USER,
   NCOMB16, USER,
   NCOMB17, USER,
   NCOMB18, USER,
   NCOMB19, USER,
   NCOMB20, USER,
   NCOMB21, USER,
   NCOMB22, USER,
   NCOMB23, USER,
   NCOMB24, USER,
   NCOMB25, USER,
   NCOMB26, USER,
   NCOMB27, USER,
   NCOMB28, USER,
   NCOMB29, USER,
   NCOMB30, USER,
   NCOMB31, USER,
   NCOMB32, USER,
   NCOMB33, USER,
   NCOMB34, USER,
   NCOMB35, USER,


*SPRING    ; Point Spring Supports
; NODE_LIST, Type, SDx, SDy, SDz, SRx, SRy, SRz, GROUP, FROMTYPE, EFFAREA, Kx, Ky, Kz
```

```
; NODE_LIST, Type, Direction, Vx, Vy, Vz, Stiffness, GROUP, FROMTYPE, EFFAREA
; NODE_LIST, Type, Multi-Linear Type, Direction, Vx, Vy, Vz, ax, ay, bx, by, cx, cy, dx, dy, ex, ey, fx, fy, GROUP, FROMTYPE, EFFAREA
   1, LINEAR, 1e+010, 0, 0, 0, 0, 0, NO, 0, 0, 0, 0, 0, 0, 0, , 0, 0, 0, 0, 0
   2 8, COMP  ,  5, 0, 0, 0, 12000, , 0, 0, 0, 0, 0
   3to7, COMP  ,  5, 0, 0, 0, 6894, , 0, 0, 0, 0, 0
   9, COMP  ,  5, 0, 0, 0, 14774, , 0, 0, 0, 0, 0

*OFFSET    ; Beam End Offsets
; ELEM_LIST, TYPE, RGDXi, RGDYi, RGDZi, RGDXj, RGDYj, RGDZj, GROUP  ; TYPE=GLOBAL
; ELEM_LIST, TYPE, RGDi, RGDj, GROUP                                ; TYPE=ELEMENT
     1, ELEMENT, 0.275, 0,
     8, ELEMENT, 0, 0.275,
     9, ELEMENT, 0.325, 0,
    10, ELEMENT, 0.325, 0,
    21, ELEMENT, 0, 0.3,
    22, ELEMENT, 0, 0.3,
    23, ELEMENT, 0.3, 0,
    30, ELEMENT, 0, 0.3,

*USE-STLD, LC1

; *SELFWEIGHT, X, Y, Z, GROUP
*SELFWEIGHT, 0, 0, -1,

*BEAMLOAD    ; Element Beam Loads
; ELEM_LIST, CMD, TYPE, DIR, bPROJ, [ECCEN], [VALUE], GROUP
; ELEM_LIST, CMD, TYPE, TYPE, DIR, VX, VY, VZ, bPROJ, [ECCEN], [VALUE], GROUP
; [VALUE]       : D1, P1, D2, P2, D3, P3, D4, P4
; [ECCEN]       : bECCEN, ECCDIR, I-END, J-END, bJ-END
; [ADDITIONAL]  : bADDITIONAL, ADDITIONAL_I-END, ADDITIONAL_J-END, bADDITIONAL_J-END
    23, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -88.785, 1, -88.785, 0, 0, 0, 0, , NO, 0, 0, NO
    24, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -88.785, 1, -88.785, 0, 0, 0, 0, , NO, 0, 0, NO
    25, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -88.785, 1, -88.785, 0, 0, 0, 0, , NO, 0, 0, NO
    26, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -88.785, 1, -88.785, 0, 0, 0, 0, , NO, 0, 0, NO
    27, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -88.785, 1, -88.785, 0, 0, 0, 0, , NO, 0, 0, NO
    28, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -88.785, 1, -88.785, 0, 0, 0, 0, , NO, 0, 0, NO
    29, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -88.785, 1, -88.785, 0, 0, 0, 0, , NO, 0, 0, NO
    30, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -88.785, 1, -88.785, 0, 0, 0, 0, , NO, 0, 0, NO

; End of data for load case [LC1] ------------------------

*USE-STLD, LC2

*BEAMLOAD    ; Element Beam Loads
; ELEM_LIST, CMD, TYPE, DIR, bPROJ, [ECCEN], [VALUE], GROUP
; ELEM_LIST, CMD, TYPE, TYPE, DIR, VX, VY, VZ, bPROJ, [ECCEN], [VALUE], GROUP
; [VALUE]       : D1, P1, D2, P2, D3, P3, D4, P4
; [ECCEN]       : bECCEN, ECCDIR, I-END, J-END, bJ-END
; [ADDITIONAL]  : bADDITIONAL, ADDITIONAL_I-END, ADDITIONAL_J-END, bADDITIONAL_J-END
    23, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -21.019, 1, -21.019, 0, 0, 0, 0, , NO, 0, 0, NO
    24, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -21.019, 1, -21.019, 0, 0, 0, 0, , NO, 0, 0, NO
    25, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -21.019, 1, -21.019, 0, 0, 0, 0, , NO, 0, 0, NO
    26, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -21.019, 1, -21.019, 0, 0, 0, 0, , NO, 0, 0, NO
    27, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -21.019, 1, -21.019, 0, 0, 0, 0, , NO, 0, 0, NO
    28, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -21.019, 1, -21.019, 0, 0, 0, 0, , NO, 0, 0, NO
    29, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -21.019, 1, -21.019, 0, 0, 0, 0, , NO, 0, 0, NO
    30, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -21.019, 1, -21.019, 0, 0, 0, 0, , NO, 0, 0, NO

; End of data for load case [LC2] ------------------------

*USE-STLD, LC3

*BEAMLOAD    ; Element Beam Loads
; ELEM_LIST, CMD, TYPE, DIR, bPROJ, [ECCEN], [VALUE], GROUP
; ELEM_LIST, CMD, TYPE, TYPE, DIR, VX, VY, VZ, bPROJ, [ECCEN], [VALUE], GROUP
; [VALUE]       : D1, P1, D2, P2, D3, P3, D4, P4
; [ECCEN]       : bECCEN, ECCDIR, I-END, J-END, bJ-END
; [ADDITIONAL]  : bADDITIONAL, ADDITIONAL_I-END, ADDITIONAL_J-END, bADDITIONAL_J-END
    23, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -21.019, 1, -21.019, 0, 0, 0, 0, , NO, 0, 0, NO
    24, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -21.019, 1, -21.019, 0, 0, 0, 0, , NO, 0, 0, NO
    25, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -21.019, 1, -21.019, 0, 0, 0, 0, , NO, 0, 0, NO
    26, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -21.019, 1, -21.019, 0, 0, 0, 0, , NO, 0, 0, NO

; End of data for load case [LC3] ------------------------

*USE-STLD, LC4

*BEAMLOAD    ; Element Beam Loads
; ELEM_LIST, CMD, TYPE, DIR, bPROJ, [ECCEN], [VALUE], GROUP
; ELEM_LIST, CMD, TYPE, TYPE, DIR, VX, VY, VZ, bPROJ, [ECCEN], [VALUE], GROUP
; [VALUE]       : D1, P1, D2, P2, D3, P3, D4, P4
; [ECCEN]       : bECCEN, ECCDIR, I-END, J-END, bJ-END
; [ADDITIONAL]  : bADDITIONAL, ADDITIONAL_I-END, ADDITIONAL_J-END, bADDITIONAL_J-END
     9, BEAM   , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 8.408, 1, 8.408, 0, 0, 0, 0, , NO, 0, 0, NO
    10, BEAM   , UNILOAD, GX, NO , NO, aDir[1], , , , 0, -8.408, 1, -8.408, 0, 0, 0, 0, , NO, 0, 0, NO
    11, BEAM   , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 8.408, 1, 8.408, 0, 0, 0, 0, , NO, 0, 0, NO
    12, BEAM   , UNILOAD, GX, NO , NO, aDir[1], , , , 0, -8.408, 1, -8.408, 0, 0, 0, 0, , NO, 0, 0, NO
```

```
    13, BEAM   , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 8.408, 1, 8.408, 0, 0, 0, 0, , NO, 0, 0, NO
    14, BEAM   , UNILOAD, GX, NO , NO, aDir[1], , , , 0, -8.408, 1, -8.408, 0, 0, 0, 0, , NO, 0, 0, NO
    15, BEAM   , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 8.408, 1, 8.408, 0, 0, 0, 0, , NO, 0, 0, NO
    16, BEAM   , UNILOAD, GX, NO , NO, aDir[1], , , , 0, -8.408, 1, -8.408, 0, 0, 0, 0, , NO, 0, 0, NO
    17, BEAM   , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 8.408, 1, 8.408, 0, 0, 0, 0, , NO, 0, 0, NO
    18, BEAM   , UNILOAD, GX, NO , NO, aDir[1], , , , 0, -8.408, 1, -8.408, 0, 0, 0, 0, , NO, 0, 0, NO
    19, BEAM   , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 8.408, 1, 8.408, 0, 0, 0, 0, , NO, 0, 0, NO
    20, BEAM   , UNILOAD, GX, NO , NO, aDir[1], , , , 0, -8.408, 1, -8.408, 0, 0, 0, 0, , NO, 0, 0, NO
    21, BEAM   , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 8.408, 1, 8.408, 0, 0, 0, 0, , NO, 0, 0, NO
    22, BEAM   , UNILOAD, GX, NO , NO, aDir[1], , , , 0, -8.408, 1, -8.408, 0, 0, 0, 0, , NO, 0, 0, NO

; End of data for load case [LC4] ----------

*USE-STLD, LC5

*BEAMLOAD    ; Element Beam Loads
; ELEM_LIST, CMD, TYPE, DIR, bPROJ, [ECCEN], [VALUE], GROUP
; ELEM_LIST, CMD, TYPE, TYPE, DIR, VX, VY, VZ, bPROJ, [ECCEN], [VALUE], GROUP
; [VALUE]       : D1, P1, D2, P2, D3, P3, D4, P4
; [ECCEN]       : bECCEN, ECCDIR, I-END, J-END, bJ-END
; [ADDITIONAL]  : bADDITIONAL, ADDITIONAL_I-END, ADDITIONAL_J-END, bADDITIONAL_J-END
     9, BEAM   , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 8.408, 1, 8.408, 0, 0, 0, 0, , NO, 0, 0, NO
    11, BEAM   , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 8.408, 1, 8.408, 0, 0, 0, 0, , NO, 0, 0, NO
    13, BEAM   , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 8.408, 1, 8.408, 0, 0, 0, 0, , NO, 0, 0, NO
    15, BEAM   , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 8.408, 1, 8.408, 0, 0, 0, 0, , NO, 0, 0, NO
    17, BEAM   , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 8.408, 1, 8.408, 0, 0, 0, 0, , NO, 0, 0, NO
    19, BEAM   , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 8.408, 1, 8.408, 0, 0, 0, 0, , NO, 0, 0, NO
    21, BEAM   , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 8.408, 1, 8.408, 0, 0, 0, 0, , NO, 0, 0, NO

; End of data for load case [LC5] ----------

*USE-STLD, LC6

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST, CMD, TYPE, DIR, bPROJ, [ECCEN], [VALUE], GROUP
; ELEM LIST, CMD, TYPE, TYPE, DIR, VX, VY, VZ, bPROJ, [ECCEN], [VALUE], GROUP
; [VALUE]       : D1, P1, D2, P2, D3, P3, D4, P4
; [ECCEN]       : bECCEN, ECCDIR, I-END, J-END, bJ-END
; [ADDITIONAL]  : bADDITIONAL, ADDITIONAL I-END, ADDITIONAL J-END, bADDITIONAL J-END
     9, BEAM   , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 60.189, 1, 55.716, 0, 0, 0, 0, , NO, 0, 0, NO
    10, BEAM   , UNILOAD, GX, NO , NO, aDir[1], , , , 0, -60.189, 1, -55.716, 0, 0, 0, 0, , NO, 0, 0, NO
    11, BEAM   , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 55.716, 1, 53.33, 0, 0, 0, 0, , NO, 0, 0, NO
    12, BEAM   , UNILOAD, GX, NO , NO, aDir[1], , , , 0, -55.716, 1, -53.33, 0, 0, 0, 0, , NO, 0, 0, NO
    13, BEAM   , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 53.33, 1, 50.944, 0, 0, 0, 0, , NO, 0, 0, NO
    14, BEAM   , UNILOAD, GX, NO , NO, aDir[1], , , , 0, -53.33, 1, -50.944, 0, 0, 0, 0, , NO, 0, 0, NO
    15, BEAM   , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 50.944, 1, 48.558, 0, 0, 0, 0, , NO, 0, 0, NO
    16, BEAM   , UNILOAD, GX, NO , NO, aDir[1], , , , 0, -50.944, 1, -48.558, 0, 0, 0, 0, , NO, 0, 0, NO
    17, BEAM   , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 48.558, 1, 46.172, 0, 0, 0, 0, , NO, 0, 0, NO
    18, BEAM   , UNILOAD, GX, NO , NO, aDir[1], , , , 0, -48.558, 1, -46.172, 0, 0, 0, 0, , NO, 0, 0, NO
    19, BEAM   , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 46.172, 1, 43.786, 0, 0, 0, 0, , NO, 0, 0, NO
    20, BEAM   , UNILOAD, GX, NO , NO, aDir[1], , , , 0, -46.172, 1, -43.786, 0, 0, 0, 0, , NO, 0, 0, NO
    21, BEAM   , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 43.786, 1, 39.526, 0, 0, 0, 0, , NO, 0, 0, NO
    22, BEAM   , UNILOAD, GX, NO , NO, aDir[1], , , , 0, -43.786, 1, -39.526, 0, 0, 0, 0, , NO, 0, 0, NO

; End of data for load case [LC6] ----------

*USE-STLD, LC7

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST, CMD, TYPE, DIR, bPROJ, [ECCEN], [VALUE], GROUP
; ELEM LIST, CMD, TYPE, TYPE, DIR, VX, VY, VZ, bPROJ, [ECCEN], [VALUE], GROUP
; [VALUE]       : D1, P1, D2, P2, D3, P3, D4, P4
; [ECCEN]       : bECCEN, ECCDIR, I-END, J-END, bJ-END
; [ADDITIONAL]  : bADDITIONAL, ADDITIONAL I-END, ADDITIONAL J-END, bADDITIONAL J-END
     9, BEAM   , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 22.367, 1, 17.894, 0, 0, 0, 0, , NO, 0, 0, NO
    11, BEAM   , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 17.894, 1, 15.508, 0, 0, 0, 0, , NO, 0, 0, NO
    13, BEAM   , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 15.508, 1, 13.122, 0, 0, 0, 0, , NO, 0, 0, NO
    15, BEAM   , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 13.122, 1, 10.736, 0, 0, 0, 0, , NO, 0, 0, NO
    17, BEAM   , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 10.736, 1, 8.35, 0, 0, 0, 0, , NO, 0, 0, NO
    19, BEAM   , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 8.35, 1, 5.964, 0, 0, 0, 0, , NO, 0, 0, NO
    21, BEAM   , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 5.964, 1, 1.704, 0, 0, 0, 0, , NO, 0, 0, NO

; End of data for load case [LC7] ----------

*USE-STLD, LC10

*ELTEMPER    ; Element Temperatures
; ELEM LIST, TEMPER, GROUP
     1, -15.
     2, -15.
     3, -15.
     4, -15.
     5, -15.
     6, -15.
     7, -15.
     8, -15.
     9, -15.
```

```
    10. -15.
    11. -15.
    12. -15.
    13. -15.
    14. -15.
    15. -15.
    16. -15.
    17. -15.
    18. -15.
    19. -15.
    20. -15.
    21. -15.
    22. -15.
    23. -15.
    24. -15.
    25. -15.
    26. -15.
    27. -15.
    28. -15.
    29. -15.
    30. -15.

; End of data for load case [LC10] ------------------------

*USE-STLD. NCOMB1

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.35.

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. [ECCEN]. [VALUE]. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. [ECCEN]. [VALUE]. GROUP
; [VALUE]       : D1. P1. D2. P2. D3. P3. D4. P4
; [ECCEN]       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; [ADDITIONAL]  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 96.3024. 1. 89.1456. 0. 0. 0. 0. . NO. 0. 0. NO
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -15.5548. 1. -15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -96.3024. 1. -89.1456. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 89.1456. 1. 85.328. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -15.5548. 1. -15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -89.1456. 1. -85.328. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 85.328. 1. 81.5104. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -85.328. 1. -81.5104. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -15.5548. 1. -15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 81.5104. 1. 77.6928. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -15.5548. 1. -15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -81.5104. 1. -77.6928. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 77.6928. 1. 73.8752. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -77.6928. 1. -73.8752. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -15.5548. 1. -15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 73.8752. 1. 70.0576. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -73.8752. 1. -70.0576. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -15.5548. 1. -15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 70.0576. 1. 63.2416. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -15.5548. 1. -15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -70.0576. 1. -63.2416. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.8851. 1. -38.8851. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.8851. 1. -38.8851. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.8851. 1. -38.8851. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.8851. 1. -38.8851. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.8851. 1. -38.8851. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.8851. 1. -38.8851. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.8851. 1. -38.8851. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.8851. 1. -38.8851. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO

; End of data for load case [NCOMB1] ------------------------

*USE-STLD. NCOMB2

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.35.
```

```
*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. [ECCEN]. [VALUE]. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. [ECCEN]. [VALUE]. GROUP
; [VALUE]       : D1. P1. D2. P2. D3. P3. D4. P4
; [ECCEN]       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; [ADDITIONAL]  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 36.1134. 1. 33.4296. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -36.1134. 1. -33.4296. 0. 0. 0. 0. . NO. 0. 0. N(
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -15.5548. 1. -15.5548. 0. 0. 0. 0. . NO. 0. 0. N(
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 33.4296. 1. 31.998. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -33.4296. 1. -31.998. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -15.5548. 1. -15.5548. 0. 0. 0. 0. . NO. 0. 0. N(
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 31.998. 1. 30.5664. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -15.5548. 1. -15.5548. 0. 0. 0. 0. . NO. 0. 0. N(
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -31.998. 1. -30.5664. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 30.5664. 1. 29.1348. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -15.5548. 1. -15.5548. 0. 0. 0. 0. . NO. 0. 0. N(
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -30.5664. 1. -29.1348. 0. 0. 0. 0. . NO. 0. 0. N(
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 29.1348. 1. 27.7032. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -15.5548. 1. -15.5548. 0. 0. 0. 0. . NO. 0. 0. N(
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -29.1348. 1. -27.7032. 0. 0. 0. 0. . NO. 0. 0. N(
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 27.7032. 1. 26.2716. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -15.5548. 1. -15.5548. 0. 0. 0. 0. . NO. 0. 0. N(
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -27.7032. 1. -26.2716. 0. 0. 0. 0. . NO. 0. 0. N(
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 26.2716. 1. 23.7156. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -15.5548. 1. -15.5548. 0. 0. 0. 0. . NO. 0. 0. N(
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -26.2716. 1. -23.7156. 0. 0. 0. 0. . NO. 0. 0. N(
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.8851. 1. -38.8851. 0. 0. 0. 0. . NO. 0. 0. N(
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.8851. 1. -38.8851. 0. 0. 0. 0. . NO. 0. 0. N(
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.8851. 1. -38.8851. 0. 0. 0. 0. . NO. 0. 0. N(
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.8851. 1. -38.8851. 0. 0. 0. 0. . NO. 0. 0. N(
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.8851. 1. -38.8851. 0. 0. 0. 0. . NO. 0. 0. N(
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.8851. 1. -38.8851. 0. 0. 0. 0. . NO. 0. 0. N(
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.8851. 1. -38.8851. 0. 0. 0. 0. . NO. 0. 0. N(
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.8851. 1. -38.8851. 0. 0. 0. 0. . NO. 0. 0. N(

; End of data for load case [NCOMB2] ------------------------

*USE-STLD. NCOMB3

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.35.

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. [ECCEN]. [VALUE]. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. [ECCEN]. [VALUE]. GROUP
; [VALUE]       : D1. P1. D2. P2. D3. P3. D4. P4
; [ECCEN]       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; [ADDITIONAL]  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 96.3024. 1. 89.1456. 0. 0. 0. 0. . NO. 0. 0. NO
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -96.3024. 1. -89.1456. 0. 0. 0. 0. . NO. 0. 0. N(
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 89.1456. 1. 85.328. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -89.1456. 1. -85.328. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 85.328. 1. 81.5104. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -85.328. 1. -81.5104. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 81.5104. 1. 77.6928. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -81.5104. 1. -77.6928. 0. 0. 0. 0. . NO. 0. 0. N(
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 77.6928. 1. 73.8752. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -77.6928. 1. -73.8752. 0. 0. 0. 0. . NO. 0. 0. N(
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 73.8752. 1. 70.0576. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -73.8752. 1. -70.0576. 0. 0. 0. 0. . NO. 0. 0. N(
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 70.0576. 1. 63.2416. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -70.0576. 1. -63.2416. 0. 0. 0. 0. . NO. 0. 0. N(
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.8851. 1. -38.8851. 0. 0. 0. 0. . NO. 0. 0. N(
```

```
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.8851. 1. -38.8851. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.8851. 1. -38.8851. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.8851. 1. -38.8851. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO

; End of data for load case [NCOMB3] ------------------------

*USE-STLD. NCOMB4

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.35.

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. [ECCEN]. [VALUE]. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. [ECCEN]. [VALUE]. GROUP
; [VALUE]       : D1. P1. D2. P2. D3. P3. D4. P4
; [ECCEN]       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; [ADDITIONAL]  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 36.1134. 1. 33.4296. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -36.1134. 1. -33.4296. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 33.4296. 1. 31.998. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -33.4296. 1. -31.998. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 31.998. 1. 30.5664. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -31.998. 1. -30.5664. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 30.5664. 1. 29.1348. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -30.5664. 1. -29.1348. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 29.1348. 1. 27.7032. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -29.1348. 1. -27.7032. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 27.7032. 1. 26.2716. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -27.7032. 1. -26.2716. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 26.2716. 1. 23.7156. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -26.2716. 1. -23.7156. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.8851. 1. -38.8851. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.8851. 1. -38.8851. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.8851. 1. -38.8851. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.8851. 1. -38.8851. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO

; End of data for load case [NCOMB4] ------------------------

*USE-STLD. NCOMB5

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.6.

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. [ECCEN]. [VALUE]. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. [ECCEN]. [VALUE]. GROUP
; [VALUE]       : D1. P1. D2. P2. D3. P3. D4. P4
; [ECCEN]       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; [ADDITIONAL]  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 96.3024. 1. 89.1456. 0. 0. 0. 0. . NO. 0. 0. NO
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -13.4528. 1. -13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -96.3024. 1. -89.1456. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 89.1456. 1. 85.328. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -89.1456. 1. -85.328. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -13.4528. 1. -13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 85.328. 1. 81.5104. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -13.4528. 1. -13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -85.328. 1. -81.5104. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 81.5104. 1. 77.6928. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -81.5104. 1. -77.6928. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -13.4528. 1. -13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
```

```
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 77.6928. 1. 73.8752. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -77.6928. 1. -73.8752. 0. 0. 0. 0. . NO. 0. 0. N(
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -13.4528. 1. -13.4528. 0. 0. 0. 0. . NO. 0. 0. N(
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 73.8752. 1. 70.0576. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -73.8752. 1. -70.0576. 0. 0. 0. 0. . NO. 0. 0. N(
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -13.4528. 1. -13.4528. 0. 0. 0. 0. . NO. 0. 0. N(
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 70.0576. 1. 63.2416. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -13.4528. 1. -13.4528. 0. 0. 0. 0. . NO. 0. 0. N(
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -70.0576. 1. -63.2416. 0. 0. 0. 0. . NO. 0. 0. N(
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -142.056. 1. -142.056. 0. 0. 0. 0. . NO. 0. 0. N(
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.6304. 1. -33.6304. 0. 0. 0. 0. . NO. 0. 0. N(
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.6304. 1. -33.6304. 0. 0. 0. 0. . NO. 0. 0. N(
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -142.056. 1. -142.056. 0. 0. 0. 0. . NO. 0. 0. N(
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.6304. 1. -33.6304. 0. 0. 0. 0. . NO. 0. 0. N(
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -142.056. 1. -142.056. 0. 0. 0. 0. . NO. 0. 0. N(
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -142.056. 1. -142.056. 0. 0. 0. 0. . NO. 0. 0. N(
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.6304. 1. -33.6304. 0. 0. 0. 0. . NO. 0. 0. N(
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -142.056. 1. -142.056. 0. 0. 0. 0. . NO. 0. 0. N(
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.6304. 1. -33.6304. 0. 0. 0. 0. . NO. 0. 0. N(
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -142.056. 1. -142.056. 0. 0. 0. 0. . NO. 0. 0. N(
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.6304. 1. -33.6304. 0. 0. 0. 0. . NO. 0. 0. N(
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -142.056. 1. -142.056. 0. 0. 0. 0. . NO. 0. 0. N(
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.6304. 1. -33.6304. 0. 0. 0. 0. . NO. 0. 0. N(
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.6304. 1. -33.6304. 0. 0. 0. 0. . NO. 0. 0. N(
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -142.056. 1. -142.056. 0. 0. 0. 0. . NO. 0. 0. N(

; End of data for load case [NCOMB5] ------------------------

*USE-STLD. NCOMB6

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.6.

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. [ECCEN]. [VALUE]. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. [ECCEN]. [VALUE]. GROUP
; [VALUE]       : D1. P1. D2. P2. D3. P3. D4. P4
; [ECCEN]       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; [ADDITIONAL]  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 36.1134. 1. 33.4296. 0. 0. 0. 0. . NO. 0. 0. NO
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -36.1134. 1. -33.4296. 0. 0. 0. 0. . NO. 0. 0. N(
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -13.4528. 1. -13.4528. 0. 0. 0. 0. . NO. 0. 0. N(
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 33.4296. 1. 31.998. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -13.4528. 1. -13.4528. 0. 0. 0. 0. . NO. 0. 0. N(
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -33.4296. 1. -31.998. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 31.998. 1. 30.5664. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -31.998. 1. -30.5664. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -13.4528. 1. -13.4528. 0. 0. 0. 0. . NO. 0. 0. N(
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 30.5664. 1. 29.1348. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -13.4528. 1. -13.4528. 0. 0. 0. 0. . NO. 0. 0. N(
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -30.5664. 1. -29.1348. 0. 0. 0. 0. . NO. 0. 0. N(
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 29.1348. 1. 27.7032. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -29.1348. 1. -27.7032. 0. 0. 0. 0. . NO. 0. 0. N(
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -13.4528. 1. -13.4528. 0. 0. 0. 0. . NO. 0. 0. N(
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 27.7032. 1. 26.2716. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -27.7032. 1. -26.2716. 0. 0. 0. 0. . NO. 0. 0. N(
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -13.4528. 1. -13.4528. 0. 0. 0. 0. . NO. 0. 0. N(
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 26.2716. 1. 23.7156. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -26.2716. 1. -23.7156. 0. 0. 0. 0. . NO. 0. 0. N(
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -13.4528. 1. -13.4528. 0. 0. 0. 0. . NO. 0. 0. N(
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -142.056. 1. -142.056. 0. 0. 0. 0. . NO. 0. 0. N(
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.6304. 1. -33.6304. 0. 0. 0. 0. . NO. 0. 0. N(
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -142.056. 1. -142.056. 0. 0. 0. 0. . NO. 0. 0. N(
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.6304. 1. -33.6304. 0. 0. 0. 0. . NO. 0. 0. N(
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.6304. 1. -33.6304. 0. 0. 0. 0. . NO. 0. 0. N(
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -142.056. 1. -142.056. 0. 0. 0. 0. . NO. 0. 0. N(
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.6304. 1. -33.6304. 0. 0. 0. 0. . NO. 0. 0. N(
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -142.056. 1. -142.056. 0. 0. 0. 0. . NO. 0. 0. N(
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -142.056. 1. -142.056. 0. 0. 0. 0. . NO. 0. 0. N(
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.6304. 1. -33.6304. 0. 0. 0. 0. . NO. 0. 0. N(
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -142.056. 1. -142.056. 0. 0. 0. 0. . NO. 0. 0. N(
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.6304. 1. -33.6304. 0. 0. 0. 0. . NO. 0. 0. N(
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -142.056. 1. -142.056. 0. 0. 0. 0. . NO. 0. 0. N(
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.6304. 1. -33.6304. 0. 0. 0. 0. . NO. 0. 0. N(
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -142.056. 1. -142.056. 0. 0. 0. 0. . NO. 0. 0. N(
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.6304. 1. -33.6304. 0. 0. 0. 0. . NO. 0. 0. N(
```

```
; End of data for load case [NCOMB6] ------------------------

*USE-STLD. NCOMB7

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.6.

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. [ECCEN]. [VALUE]. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. [ECCEN]. [VALUE]. GROUP
; [VALUE]       : D1. P1. D2. P2. D3. P3. D4. P4
; [ECCEN]       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; [ADDITIONAL]  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 96.3024. 1. 89.1456. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -96.3024. 1. -89.1456. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 89.1456. 1. 85.328. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -89.1456. 1. -85.328. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 85.328. 1. 81.5104. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -85.328. 1. -81.5104. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 81.5104. 1. 77.6928. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -81.5104. 1. -77.6928. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 77.6928. 1. 73.8752. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -77.6928. 1. -73.8752. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 73.8752. 1. 70.0576. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -73.8752. 1. -70.0576. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 70.0576. 1. 63.2416. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -70.0576. 1. -63.2416. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -142.056. 1. -142.056. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.6304. 1. -33.6304. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -142.056. 1. -142.056. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.6304. 1. -33.6304. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -142.056. 1. -142.056. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.6304. 1. -33.6304. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.6304. 1. -33.6304. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -142.056. 1. -142.056. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -142.056. 1. -142.056. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -142.056. 1. -142.056. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -142.056. 1. -142.056. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -142.056. 1. -142.056. 0. 0. 0. 0. . NO. 0. 0. NO

; End of data for load case [NCOMB7] ------------------------

*USE-STLD. NCOMB8

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.6.

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. [ECCEN]. [VALUE]. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. [ECCEN]. [VALUE]. GROUP
; [VALUE]       : D1. P1. D2. P2. D3. P3. D4. P4
; [ECCEN]       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; [ADDITIONAL]  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 36.1134. 1. 33.4296. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -36.1134. 1. -33.4296. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 33.4296. 1. 31.998. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -33.4296. 1. -31.998. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 31.998. 1. 30.5664. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -31.998. 1. -30.5664. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 30.5664. 1. 29.1348. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -30.5664. 1. -29.1348. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 29.1348. 1. 27.7032. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -29.1348. 1. -27.7032. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 27.7032. 1. 26.2716. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -27.7032. 1. -26.2716. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 26.2716. 1. 23.7156. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -26.2716. 1. -23.7156. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -142.056. 1. -142.056. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.6304. 1. -33.6304. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -142.056. 1. -142.056. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.6304. 1. -33.6304. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -142.056. 1. -142.056. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.6304. 1. -33.6304. 0. 0. 0. 0. . NO. 0. 0. NO
```

```
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.6304. 1. -33.6304. 0. 0. 0. 0. . NO. 0. 0. N(
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -142.056. 1. -142.056. 0. 0. 0. 0. . NO. 0. 0. N(
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -142.056. 1. -142.056. 0. 0. 0. 0. . NO. 0. 0. N(
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -142.056. 1. -142.056. 0. 0. 0. 0. . NO. 0. 0. N(
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -142.056. 1. -142.056. 0. 0. 0. 0. . NO. 0. 0. N(
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -142.056. 1. -142.056. 0. 0. 0. 0. . NO. 0. 0. N(

; End of data for load case [NCOMB8] ------------------------

*USE-STLD. NCOMB9

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.35.

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. [ECCEN]. [VALUE]. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. [ECCEN]. [VALUE]. GROUP
; [VALUE]       : D1. P1. D2. P2. D3. P3. D4. P4
; [ECCEN]       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; [ADDITIONAL]  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 96.3024. 1. 89.1456. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -96.3024. 1. -89.1456. 0. 0. 0. 0. . NO. 0. 0. N(
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -11.7712. 1. -11.7712. 0. 0. 0. 0. . NO. 0. 0. N(
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 89.1456. 1. 85.328. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -89.1456. 1. -85.328. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -11.7712. 1. -11.7712. 0. 0. 0. 0. . NO. 0. 0. N(
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 85.328. 1. 81.5104. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -85.328. 1. -81.5104. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -11.7712. 1. -11.7712. 0. 0. 0. 0. . NO. 0. 0. N(
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 81.5104. 1. 77.6928. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -11.7712. 1. -11.7712. 0. 0. 0. 0. . NO. 0. 0. N(
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -81.5104. 1. -77.6928. 0. 0. 0. 0. . NO. 0. 0. N(
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 77.6928. 1. 73.8752. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -11.7712. 1. -11.7712. 0. 0. 0. 0. . NO. 0. 0. N(
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -77.6928. 1. -73.8752. 0. 0. 0. 0. . NO. 0. 0. N(
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 73.8752. 1. 70.0576. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -11.7712. 1. -11.7712. 0. 0. 0. 0. . NO. 0. 0. N(
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -73.8752. 1. -70.0576. 0. 0. 0. 0. . NO. 0. 0. N(
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 70.0576. 1. 63.2416. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -70.0576. 1. -63.2416. 0. 0. 0. 0. . NO. 0. 0. N(
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -11.7712. 1. -11.7712. 0. 0. 0. 0. . NO. 0. 0. N(
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.4266. 1. -29.4266. 0. 0. 0. 0. . NO. 0. 0. N(
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.4266. 1. -29.4266. 0. 0. 0. 0. . NO. 0. 0. N(
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.4266. 1. -29.4266. 0. 0. 0. 0. . NO. 0. 0. N(
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.4266. 1. -29.4266. 0. 0. 0. 0. . NO. 0. 0. N(
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.4266. 1. -29.4266. 0. 0. 0. 0. . NO. 0. 0. N(
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.4266. 1. -29.4266. 0. 0. 0. 0. . NO. 0. 0. N(
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.4266. 1. -29.4266. 0. 0. 0. 0. . NO. 0. 0. N(
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.4266. 1. -29.4266. 0. 0. 0. 0. . NO. 0. 0. N(

; End of data for load case [NCOMB9] ------------------------

*USE-STLD. NCOMB10

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.35.

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. [ECCEN]. [VALUE]. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. [ECCEN]. [VALUE]. GROUP
; [VALUE]       : D1. P1. D2. P2. D3. P3. D4. P4
; [ECCEN]       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; [ADDITIONAL]  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 36.1134. 1. 33.4296. 0. 0. 0. 0. . NO. 0. 0. NO
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -36.1134. 1. -33.4296. 0. 0. 0. 0. . NO. 0. 0. N(
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -11.7712. 1. -11.7712. 0. 0. 0. 0. . NO. 0. 0. N(
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 33.4296. 1. 31.998. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -11.7712. 1. -11.7712. 0. 0. 0. 0. . NO. 0. 0. N(
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -33.4296. 1. -31.998. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
```

```
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 31.998. 1. 30.5664. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -11.7712. 1. -11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -31.998. 1. -30.5664. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 30.5664. 1. 29.1348. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -11.7712. 1. -11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -30.5664. 1. -29.1348. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 29.1348. 1. 27.7032. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -11.7712. 1. -11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -29.1348. 1. -27.7032. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 27.7032. 1. 26.2716. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -27.7032. 1. -26.2716. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -11.7712. 1. -11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 26.2716. 1. 23.7156. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -11.7712. 1. -11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -26.2716. 1. -23.7156. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.4266. 1. -29.4266. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.4266. 1. -29.4266. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.4266. 1. -29.4266. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.4266. 1. -29.4266. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.4266. 1. -29.4266. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.4266. 1. -29.4266. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.4266. 1. -29.4266. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.4266. 1. -29.4266. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO

; End of data for load case [NCOMB10] ------------------------

*USE-STLD. NCOMB11

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.35.

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. [ECCEN]. [VALUE]. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. [ECCEN]. [VALUE]. GROUP
; [VALUE]       : D1. P1. D2. P2. D3. P3. D4. P4
; [ECCEN]       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; [ADDITIONAL]  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 96.3024. 1. 89.1456. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -96.3024. 1. -89.1456. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -11.7712. 1. -11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 89.1456. 1. 85.328. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -89.1456. 1. -85.328. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -11.7712. 1. -11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 85.328. 1. 81.5104. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -85.328. 1. -81.5104. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -11.7712. 1. -11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 81.5104. 1. 77.6928. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -11.7712. 1. -11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -81.5104. 1. -77.6928. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 77.6928. 1. 73.8752. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -11.7712. 1. -11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -77.6928. 1. -73.8752. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 73.8752. 1. 70.0576. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -11.7712. 1. -11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -73.8752. 1. -70.0576. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 70.0576. 1. 63.2416. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -70.0576. 1. -63.2416. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -11.7712. 1. -11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.4266. 1. -29.4266. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.4266. 1. -29.4266. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.4266. 1. -29.4266. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.4266. 1. -29.4266. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.4266. 1. -29.4266. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
```

```
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.4266. 1. -29.4266. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.4266. 1. -29.4266. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.4266. 1. -29.4266. 0. 0. 0. 0. . NO. 0. 0. NO

*ELTEMPER    ; Element Temperatures
; ELEM LIST. TEMPER. GROUP
     1. -20.25.
     2. -20.25.
     3. -20.25.
     4. -20.25.
     5. -20.25.
     6. -20.25.
     7. -20.25.
     8. -20.25.
     9. -20.25.
    10. -20.25.
    11. -20.25.
    12. -20.25.
    13. -20.25.
    14. -20.25.
    15. -20.25.
    16. -20.25.
    17. -20.25.
    18. -20.25.
    19. -20.25.
    20. -20.25.
    21. -20.25.
    22. -20.25.
    23. -20.25.
    24. -20.25.
    25. -20.25.
    26. -20.25.
    27. -20.25.
    28. -20.25.
    29. -20.25.
    30. -20.25.

; End of data for load case [NCOMB11] ------------------------

*USE-STLD. NCOMB12

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.35.

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. [ECCEN]. [VALUE]. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. [ECCEN]. [VALUE]. GROUP
; [VALUE]       : D1. P1. D2. P2. D3. P3. D4. P4
; [ECCEN]       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; [ADDITIONAL]  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 36.1134. 1. 33.4296. 0. 0. 0. 0. . NO. 0. 0. NO
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -36.1134. 1. -33.4296. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -11.7712. 1. -11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 33.4296. 1. 31.998. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -11.7712. 1. -11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -33.4296. 1. -31.998. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 31.998. 1. 30.5664. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -11.7712. 1. -11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -31.998. 1. -30.5664. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 30.5664. 1. 29.1348. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -11.7712. 1. -11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -30.5664. 1. -29.1348. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 29.1348. 1. 27.7032. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -11.7712. 1. -11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -29.1348. 1. -27.7032. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 27.7032. 1. 26.2716. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -27.7032. 1. -26.2716. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -11.7712. 1. -11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 26.2716. 1. 23.7156. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -11.7712. 1. -11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -26.2716. 1. -23.7156. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.4266. 1. -29.4266. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.4266. 1. -29.4266. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.4266. 1. -29.4266. 0. 0. 0. 0. . NO. 0. 0. NO
```

```
    26. BEAM   . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.4266. 1. -29.4266. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM   . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM   . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.4266. 1. -29.4266. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM   . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM   . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.4266. 1. -29.4266. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM   . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM   . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.4266. 1. -29.4266. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM   . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM   . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.4266. 1. -29.4266. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM   . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO

*ELTEMPER    ; Element Temperatures
; ELEM LIST. TEMPER. GROUP
     1. -20.25.
     2. -20.25.
     3. -20.25.
     4. -20.25.
     5. -20.25.
     6. -20.25.
     7. -20.25.
     8. -20.25.
     9. -20.25.
    10. -20.25.
    11. -20.25.
    12. -20.25.
    13. -20.25.
    14. -20.25.
    15. -20.25.
    16. -20.25.
    17. -20.25.
    18. -20.25.
    19. -20.25.
    20. -20.25.
    21. -20.25.
    22. -20.25.
    23. -20.25.
    24. -20.25.
    25. -20.25.
    26. -20.25.
    27. -20.25.
    28. -20.25.
    29. -20.25.
    30. -20.25.

; End of data for load case [NCOMB12] ------------------------

*USE-STLD. NCOMB13

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.35.

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. [ECCEN]. [VALUE]. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. [ECCEN]. [VALUE]. GROUP
; [VALUE]       : D1. P1. D2. P2. D3. P3. D4. P4
; [ECCEN]       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; [ADDITIONAL]  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM   . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 96.3024. 1. 89.1456. 0. 0. 0. 0. . NO. 0. 0. NO
     9. BEAM   . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM   . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -96.3024. 1. -89.1456. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM   . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 89.1456. 1. 85.328. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM   . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM   . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -89.1456. 1. -85.328. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM   . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 85.328. 1. 81.5104. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM   . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM   . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -85.328. 1. -81.5104. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM   . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 81.5104. 1. 77.6928. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM   . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM   . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -81.5104. 1. -77.6928. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM   . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 77.6928. 1. 73.8752. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM   . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM   . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -77.6928. 1. -73.8752. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM   . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM   . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 73.8752. 1. 70.0576. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM   . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -73.8752. 1. -70.0576. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM   . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM   . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 70.0576. 1. 63.2416. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM   . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -70.0576. 1. -63.2416. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM   . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM   . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.4266. 1. -29.4266. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM   . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.4266. 1. -29.4266. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM   . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM   . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.4266. 1. -29.4266. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM   . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM   . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.4266. 1. -29.4266. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM   . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM   . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
```

```
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO

; End of data for load case [NCOMB13] ------------------------

*USE-STLD. NCOMB14

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.35.

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. [ECCEN]. [VALUE]. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. [ECCEN]. [VALUE]. GROUP
; [VALUE]       : D1. P1. D2. P2. D3. P3. D4. P4
; [ECCEN]       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; [ADDITIONAL]  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 36.1134. 1. 33.4296. 0. 0. 0. 0. . NO. 0. 0. NO
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -36.1134. 1. -33.4296. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 33.4296. 1. 31.998. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -33.4296. 1. -31.998. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 31.998. 1. 30.5664. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -31.998. 1. -30.5664. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 30.5664. 1. 29.1348. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -30.5664. 1. -29.1348. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 29.1348. 1. 27.7032. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -29.1348. 1. -27.7032. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 27.7032. 1. 26.2716. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -27.7032. 1. -26.2716. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 26.2716. 1. 23.7156. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -26.2716. 1. -23.7156. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.4266. 1. -29.4266. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.4266. 1. -29.4266. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.4266. 1. -29.4266. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.4266. 1. -29.4266. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO

; End of data for load case [NCOMB14] ------------------------

*USE-STLD. NCOMB15

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.35.

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. [ECCEN]. [VALUE]. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. [ECCEN]. [VALUE]. GROUP
; [VALUE]       : D1. P1. D2. P2. D3. P3. D4. P4
; [ECCEN]       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; [ADDITIONAL]  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 96.3024. 1. 89.1456. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -96.3024. 1. -89.1456. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 89.1456. 1. 85.328. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -89.1456. 1. -85.328. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 85.328. 1. 81.5104. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -85.328. 1. -81.5104. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 81.5104. 1. 77.6928. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -81.5104. 1. -77.6928. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 77.6928. 1. 73.8752. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -77.6928. 1. -73.8752. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 73.8752. 1. 70.0576. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -73.8752. 1. -70.0576. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 70.0576. 1. 63.2416. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -70.0576. 1. -63.2416. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.4266. 1. -29.4266. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
```

```
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.4266. 1. -29.4266. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.4266. 1. -29.4266. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.4266. 1. -29.4266. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO

*ELTEMPER    ; Element Temperatures
; ELEM LIST. TEMPER. GROUP
     1. -20.25.
     2. -20.25.
     3. -20.25.
     4. -20.25.
     5. -20.25.
     6. -20.25.
     7. -20.25.
     8. -20.25.
     9. -20.25.
    10. -20.25.
    11. -20.25.
    12. -20.25.
    13. -20.25.
    14. -20.25.
    15. -20.25.
    16. -20.25.
    17. -20.25.
    18. -20.25.
    19. -20.25.
    20. -20.25.
    21. -20.25.
    22. -20.25.
    23. -20.25.
    24. -20.25.
    25. -20.25.
    26. -20.25.
    27. -20.25.
    28. -20.25.
    29. -20.25.
    30. -20.25.

; End of data for load case [NCOMB15] ------------------------

*USE-STLD. NCOMB16

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.35.

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. [ECCEN]. [VALUE]. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. [ECCEN]. [VALUE]. GROUP
; [VALUE]       : D1. P1. D2. P2. D3. P3. D4. P4
; [ECCEN]       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; [ADDITIONAL]  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 36.1134. 1. 33.4296. 0. 0. 0. 0. . NO. 0. 0. NO
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -36.1134. 1. -33.4296. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 33.4296. 1. 31.998. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -33.4296. 1. -31.998. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 31.998. 1. 30.5664. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -31.998. 1. -30.5664. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 30.5664. 1. 29.1348. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -30.5664. 1. -29.1348. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 29.1348. 1. 27.7032. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -29.1348. 1. -27.7032. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 27.7032. 1. 26.2716. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -27.7032. 1. -26.2716. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 26.2716. 1. 23.7156. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -26.2716. 1. -23.7156. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.4266. 1. -29.4266. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.4266. 1. -29.4266. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.4266. 1. -29.4266. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.4266. 1. -29.4266. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
```

```
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO

*ELTEMPER    ; Element Temperatures
; ELEM LIST. TEMPER. GROUP
     1. -20.25.
     2. -20.25.
     3. -20.25.
     4. -20.25.
     5. -20.25.
     6. -20.25.
     7. -20.25.
     8. -20.25.
     9. -20.25.
    10. -20.25.
    11. -20.25.
    12. -20.25.
    13. -20.25.
    14. -20.25.
    15. -20.25.
    16. -20.25.
    17. -20.25.
    18. -20.25.
    19. -20.25.
    20. -20.25.
    21. -20.25.
    22. -20.25.
    23. -20.25.
    24. -20.25.
    25. -20.25.
    26. -20.25.
    27. -20.25.
    28. -20.25.
    29. -20.25.
    30. -20.25.

; End of data for load case [NCOMB16] ------------------------

*USE-STLD. NCOMB17

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.35.

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. [ECCEN]. [VALUE]. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. [ECCEN]. [VALUE]. GROUP
; [VALUE]       : D1. P1. D2. P2. D3. P3. D4. P4
; [ECCEN]       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; [ADDITIONAL]  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 35.7872. 1. 28.6304. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 28.6304. 1. 24.8128. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 24.8128. 1. 20.9952. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 20.9952. 1. 17.1776. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 17.1776. 1. 13.36. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.36. 1. 9.5424. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 9.5424. 1. 2.7264. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.8851. 1. -38.8851. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.8851. 1. -38.8851. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.8851. 1. -38.8851. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.8851. 1. -38.8851. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO

; End of data for load case [NCOMB17] ------------------------

*USE-STLD. NCOMB18

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.35.

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. [ECCEN]. [VALUE]. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. [ECCEN]. [VALUE]. GROUP
```

```
; [VALUE]       : D1. P1. D2. P2. D3. P3. D4. P4
; [ECCEN]       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; [ADDITIONAL]  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4202. 1. 10.7364. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 10.7364. 1. 9.3048. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 9.3048. 1. 7.8732. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 7.8732. 1. 6.4416. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 6.4416. 1. 5.01. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 5.01. 1. 3.5784. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 3.5784. 1. 1.0224. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.8851. 1. -38.8851. 0. 0. 0. 0. . NO. 0. 0. N(
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.8851. 1. -38.8851. 0. 0. 0. 0. . NO. 0. 0. N(
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.8851. 1. -38.8851. 0. 0. 0. 0. . NO. 0. 0. N(
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.8851. 1. -38.8851. 0. 0. 0. 0. . NO. 0. 0. N(
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -119.86. 1. -119.86. 0. 0. 0. 0. . NO. 0. 0. NO

; End of data for load case [NCOMB18] ------------------------

*USE-STLD. NCOMB19

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.6.

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. [ECCEN]. [VALUE]. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. [ECCEN]. [VALUE]. GROUP
; [VALUE]       : D1. P1. D2. P2. D3. P3. D4. P4
; [ECCEN]       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; [ADDITIONAL]  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 35.7872. 1. 28.6304. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 28.6304. 1. 24.8128. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 24.8128. 1. 20.9952. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 20.9952. 1. 17.1776. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 17.1776. 1. 13.36. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.36. 1. 9.5424. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 9.5424. 1. 2.7264. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.6304. 1. -33.6304. 0. 0. 0. 0. . NO. 0. 0. N(
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -142.056. 1. -142.056. 0. 0. 0. 0. . NO. 0. 0. N(
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.6304. 1. -33.6304. 0. 0. 0. 0. . NO. 0. 0. N(
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -142.056. 1. -142.056. 0. 0. 0. 0. . NO. 0. 0. N(
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.6304. 1. -33.6304. 0. 0. 0. 0. . NO. 0. 0. N(
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -142.056. 1. -142.056. 0. 0. 0. 0. . NO. 0. 0. N(
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -142.056. 1. -142.056. 0. 0. 0. 0. . NO. 0. 0. N(
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.6304. 1. -33.6304. 0. 0. 0. 0. . NO. 0. 0. N(
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -142.056. 1. -142.056. 0. 0. 0. 0. . NO. 0. 0. N(
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -142.056. 1. -142.056. 0. 0. 0. 0. . NO. 0. 0. N(
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -142.056. 1. -142.056. 0. 0. 0. 0. . NO. 0. 0. N(
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -142.056. 1. -142.056. 0. 0. 0. 0. . NO. 0. 0. N(

; End of data for load case [NCOMB19] ------------------------

*USE-STLD. NCOMB20

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.6.

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. [ECCEN]. [VALUE]. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. [ECCEN]. [VALUE]. GROUP
; [VALUE]       : D1. P1. D2. P2. D3. P3. D4. P4
; [ECCEN]       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; [ADDITIONAL]  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4202. 1. 10.7364. 0. 0. 0. 0. . NO. 0. 0. NO
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 10.7364. 1. 9.3048. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
```

```
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 9.3048. 1. 7.8732. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 7.8732. 1. 6.4416. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 6.4416. 1. 5.01. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 5.01. 1. 3.5784. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 3.5784. 1. 1.0224. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -142.056. 1. -142.056. 0. 0. 0. 0. . NO. 0. 0. N(
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.6304. 1. -33.6304. 0. 0. 0. 0. . NO. 0. 0. N(
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -142.056. 1. -142.056. 0. 0. 0. 0. . NO. 0. 0. N(
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.6304. 1. -33.6304. 0. 0. 0. 0. . NO. 0. 0. N(
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.6304. 1. -33.6304. 0. 0. 0. 0. . NO. 0. 0. N(
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -142.056. 1. -142.056. 0. 0. 0. 0. . NO. 0. 0. N(
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -142.056. 1. -142.056. 0. 0. 0. 0. . NO. 0. 0. N(
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.6304. 1. -33.6304. 0. 0. 0. 0. . NO. 0. 0. N(
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -142.056. 1. -142.056. 0. 0. 0. 0. . NO. 0. 0. N(
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -142.056. 1. -142.056. 0. 0. 0. 0. . NO. 0. 0. N(
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -142.056. 1. -142.056. 0. 0. 0. 0. . NO. 0. 0. N(
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -142.056. 1. -142.056. 0. 0. 0. 0. . NO. 0. 0. N(

; End of data for load case [NCOMB20] ------------------------

*USE-STLD. NCOMB21

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. [ECCEN]. [VALUE]. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. [ECCEN]. [VALUE]. GROUP
; [VALUE]       : D1. P1. D2. P2. D3. P3. D4. P4
; [ECCEN]       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; [ADDITIONAL]  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 60.189. 1. 55.716. 0. 0. 0. 0. . NO. 0. 0. NO
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -60.189. 1. -55.716. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 55.716. 1. 53.33. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -55.716. 1. -53.33. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 53.33. 1. 50.944. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -53.33. 1. -50.944. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 50.944. 1. 48.558. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -50.944. 1. -48.558. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 48.558. 1. 46.172. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -48.558. 1. -46.172. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 46.172. 1. 43.786. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -46.172. 1. -43.786. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 43.786. 1. 39.526. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -43.786. 1. -39.526. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -21.019. 1. -21.019. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -21.019. 1. -21.019. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -21.019. 1. -21.019. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -21.019. 1. -21.019. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -21.019. 1. -21.019. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -21.019. 1. -21.019. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -21.019. 1. -21.019. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -21.019. 1. -21.019. 0. 0. 0. 0. . NO. 0. 0. NO

; End of data for load case [NCOMB21] ------------------------

*USE-STLD. NCOMB22

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.
```

```
*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. [ECCEN]. [VALUE]. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. [ECCEN]. [VALUE]. GROUP
; [VALUE]       : D1. P1. D2. P2. D3. P3. D4. P4
; [ECCEN]       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; [ADDITIONAL]  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 30.0945. 1. 27.858. 0. 0. 0. 0. . NO. 0. 0. NO
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -30.0945. 1. -27.858. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 27.858. 1. 26.665. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -27.858. 1. -26.665. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 26.665. 1. 25.472. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -26.665. 1. -25.472. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 25.472. 1. 24.279. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -25.472. 1. -24.279. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 24.279. 1. 23.086. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -24.279. 1. -23.086. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 23.086. 1. 21.893. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -23.086. 1. -21.893. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 21.893. 1. 19.763. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -21.893. 1. -19.763. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -21.019. 1. -21.019. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -21.019. 1. -21.019. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -21.019. 1. -21.019. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -21.019. 1. -21.019. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -21.019. 1. -21.019. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -21.019. 1. -21.019. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -21.019. 1. -21.019. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -21.019. 1. -21.019. 0. 0. 0. 0. . NO. 0. 0. NO

; End of data for load case [NCOMB22] ------------------------

*USE-STLD. NCOMB23

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. [ECCEN]. [VALUE]. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. [ECCEN]. [VALUE]. GROUP
; [VALUE]       : D1. P1. D2. P2. D3. P3. D4. P4
; [ECCEN]       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; [ADDITIONAL]  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 60.189. 1. 55.716. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -60.189. 1. -55.716. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 55.716. 1. 53.33. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -55.716. 1. -53.33. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 53.33. 1. 50.944. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -53.33. 1. -50.944. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 50.944. 1. 48.558. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -50.944. 1. -48.558. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 48.558. 1. 46.172. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -48.558. 1. -46.172. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 46.172. 1. 43.786. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -46.172. 1. -43.786. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 43.786. 1. 39.526. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -43.786. 1. -39.526. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
```

```
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -21.019. 1. -21.019. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -21.019. 1. -21.019. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -21.019. 1. -21.019. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -21.019. 1. -21.019. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO

; End of data for load case [NCOMB23] ------------------------

*USE-STLD. NCOMB24

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. [ECCEN]. [VALUE]. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. [ECCEN]. [VALUE]. GROUP
; [VALUE]       : D1. P1. D2. P2. D3. P3. D4. P4
; [ECCEN]       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; [ADDITIONAL]  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 30.0945. 1. 27.858. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -30.0945. 1. -27.858. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 27.858. 1. 26.665. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -27.858. 1. -26.665. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 26.665. 1. 25.472. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -26.665. 1. -25.472. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 25.472. 1. 24.279. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -25.472. 1. -24.279. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 24.279. 1. 23.086. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -24.279. 1. -23.086. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 23.086. 1. 21.893. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -23.086. 1. -21.893. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 21.893. 1. 19.763. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -21.893. 1. -19.763. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -21.019. 1. -21.019. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -21.019. 1. -21.019. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -21.019. 1. -21.019. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -21.019. 1. -21.019. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO

; End of data for load case [NCOMB24] ------------------------

*USE-STLD. NCOMB25

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. [ECCEN]. [VALUE]. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. [ECCEN]. [VALUE]. GROUP
; [VALUE]       : D1. P1. D2. P2. D3. P3. D4. P4
; [ECCEN]       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; [ADDITIONAL]  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 60.189. 1. 55.716. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -60.189. 1. -55.716. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 55.716. 1. 53.33. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -55.716. 1. -53.33. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 53.33. 1. 50.944. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -53.33. 1. -50.944. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 50.944. 1. 48.558. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -50.944. 1. -48.558. 0. 0. 0. 0. . NO. 0. 0. NO
```

```
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 48.558. 1. 46.172. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -48.558. 1. -46.172. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 46.172. 1. 43.786. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -46.172. 1. -43.786. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 43.786. 1. 39.526. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -43.786. 1. -39.526. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -21.019. 1. -21.019. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -21.019. 1. -21.019. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -21.019. 1. -21.019. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -21.019. 1. -21.019. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -21.019. 1. -21.019. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -21.019. 1. -21.019. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -21.019. 1. -21.019. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -21.019. 1. -21.019. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO

; End of data for load case [NCOMB25] ------------------------

*USE-STLD. NCOMB26

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. [ECCEN]. [VALUE]. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. [ECCEN]. [VALUE]. GROUP
; [VALUE]       : D1. P1. D2. P2. D3. P3. D4. P4
; [ECCEN]       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; [ADDITIONAL]  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 30.0945. 1. 27.858. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -30.0945. 1. -27.858. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 27.858. 1. 26.665. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -27.858. 1. -26.665. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 26.665. 1. 25.472. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -26.665. 1. -25.472. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 25.472. 1. 24.279. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -25.472. 1. -24.279. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 24.279. 1. 23.086. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -24.279. 1. -23.086. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 23.086. 1. 21.893. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -23.086. 1. -21.893. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 21.893. 1. 19.763. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -21.893. 1. -19.763. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -21.019. 1. -21.019. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -21.019. 1. -21.019. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -21.019. 1. -21.019. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -21.019. 1. -21.019. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -21.019. 1. -21.019. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -21.019. 1. -21.019. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -21.019. 1. -21.019. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -21.019. 1. -21.019. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
```

```
; End of data for load case [NCOMB26] ------------------------

*USE-STLD. NCOMB27

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. [ECCEN]. [VALUE]. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. [ECCEN]. [VALUE]. GROUP
; [VALUE]       : D1. P1. D2. P2. D3. P3. D4. P4
; [ECCEN]       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; [ADDITIONAL]  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 60.189. 1. 55.716. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -60.189. 1. -55.716. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 55.716. 1. 53.33. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -55.716. 1. -53.33. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 53.33. 1. 50.944. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -53.33. 1. -50.944. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 50.944. 1. 48.558. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -50.944. 1. -48.558. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 48.558. 1. 46.172. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -48.558. 1. -46.172. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 46.172. 1. 43.786. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -46.172. 1. -43.786. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 43.786. 1. 39.526. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -43.786. 1. -39.526. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -21.019. 1. -21.019. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -21.019. 1. -21.019. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -21.019. 1. -21.019. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -21.019. 1. -21.019. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -21.019. 1. -21.019. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -21.019. 1. -21.019. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -21.019. 1. -21.019. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -21.019. 1. -21.019. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO

*ELTEMPER    ; Element Temperatures
; ELEM LIST. TEMPER. GROUP
     1. -15.
     2. -15.
     3. -15.
     4. -15.
     5. -15.
     6. -15.
     7. -15.
     8. -15.
     9. -15.
    10. -15.
    11. -15.
    12. -15.
    13. -15.
    14. -15.
    15. -15.
    16. -15.
    17. -15.
    18. -15.
    19. -15.
    20. -15.
    21. -15.
    22. -15.
    23. -15.
    24. -15.
    25. -15.
    26. -15.
```

```
    27. -15.
    28. -15.
    29. -15.
    30. -15.

; End of data for load case [NCOMB27] ------------------------

*USE-STLD. NCOMB28

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. [ECCEN]. [VALUE]. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. [ECCEN]. [VALUE]. GROUP
; [VALUE]       : D1. P1. D2. P2. D3. P3. D4. P4
; [ECCEN]       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; [ADDITIONAL]  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 30.0945. 1. 27.858. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -30.0945. 1. -27.858. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 27.858. 1. 26.665. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -27.858. 1. -26.665. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 26.665. 1. 25.472. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -26.665. 1. -25.472. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 25.472. 1. 24.279. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -25.472. 1. -24.279. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 24.279. 1. 23.086. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -24.279. 1. -23.086. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 23.086. 1. 21.893. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -23.086. 1. -21.893. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 21.893. 1. 19.763. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -21.893. 1. -19.763. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -21.019. 1. -21.019. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -21.019. 1. -21.019. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -21.019. 1. -21.019. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -21.019. 1. -21.019. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -21.019. 1. -21.019. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -21.019. 1. -21.019. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -21.019. 1. -21.019. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -21.019. 1. -21.019. 0. 0. 0. 0. . NO. 0. 0. NO

*ELTEMPER    ; Element Temperatures
; ELEM LIST. TEMPER. GROUP
     1. -15.
     2. -15.
     3. -15.
     4. -15.
     5. -15.
     6. -15.
     7. -15.
     8. -15.
     9. -15.
    10. -15.
    11. -15.
    12. -15.
    13. -15.
    14. -15.
    15. -15.
    16. -15.
    17. -15.
    18. -15.
    19. -15.
    20. -15.
    21. -15.
    22. -15.
```

```
     23. -15.
     24. -15.
     25. -15.
     26. -15.
     27. -15.
     28. -15.
     29. -15.
     30. -15.

; End of data for load case [NCOMB28] ------------------------

*USE-STLD. NCOMB29

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. [ECCEN]. [VALUE]. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. [ECCEN]. [VALUE]. GROUP
; [VALUE]       : D1. P1. D2. P2. D3. P3. D4. P4
; [ECCEN]       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; [ADDITIONAL]  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 60.189. 1. 55.716. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -60.189. 1. -55.716. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 55.716. 1. 53.33. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -55.716. 1. -53.33. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 53.33. 1. 50.944. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -53.33. 1. -50.944. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 50.944. 1. 48.558. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -50.944. 1. -48.558. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 48.558. 1. 46.172. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -48.558. 1. -46.172. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 46.172. 1. 43.786. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -46.172. 1. -43.786. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 43.786. 1. 39.526. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -43.786. 1. -39.526. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -21.019. 1. -21.019. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -21.019. 1. -21.019. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -21.019. 1. -21.019. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -21.019. 1. -21.019. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO

; End of data for load case [NCOMB29] ------------------------

*USE-STLD. NCOMB30

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. [ECCEN]. [VALUE]. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. [ECCEN]. [VALUE]. GROUP
; [VALUE]       : D1. P1. D2. P2. D3. P3. D4. P4
; [ECCEN]       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; [ADDITIONAL]  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 30.0945. 1. 27.858. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -30.0945. 1. -27.858. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 27.858. 1. 26.665. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -27.858. 1. -26.665. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 26.665. 1. 25.472. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -26.665. 1. -25.472. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 25.472. 1. 24.279. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -25.472. 1. -24.279. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 24.279. 1. 23.086. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -24.279. 1. -23.086. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 23.086. 1. 21.893. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -23.086. 1. -21.893. 0. 0. 0. 0. . NO. 0. 0. NO
```

```
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 21.893. 1. 19.763. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -21.893. 1. -19.763. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -21.019. 1. -21.019. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -21.019. 1. -21.019. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -21.019. 1. -21.019. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -21.019. 1. -21.019. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO

; End of data for load case [NCOMB30] ------------------------

*USE-STLD. NCOMB31

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. [ECCEN]. [VALUE]. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. [ECCEN]. [VALUE]. GROUP
; [VALUE]       : D1. P1. D2. P2. D3. P3. D4. P4
; [ECCEN]       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; [ADDITIONAL]  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 60.189. 1. 55.716. 0. 0. 0. 0. . NO. 0. 0. NO
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -60.189. 1. -55.716. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 55.716. 1. 53.33. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -55.716. 1. -53.33. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 53.33. 1. 50.944. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -53.33. 1. -50.944. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 50.944. 1. 48.558. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -50.944. 1. -48.558. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 48.558. 1. 46.172. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -48.558. 1. -46.172. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 46.172. 1. 43.786. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -46.172. 1. -43.786. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 43.786. 1. 39.526. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -43.786. 1. -39.526. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -21.019. 1. -21.019. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -21.019. 1. -21.019. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -21.019. 1. -21.019. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -21.019. 1. -21.019. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO

*ELTEMPER    ; Element Temperatures
; ELEM LIST. TEMPER. GROUP
     1. -15.
     2. -15.
     3. -15.
     4. -15.
     5. -15.
     6. -15.
     7. -15.
     8. -15.
     9. -15.
    10. -15.
    11. -15.
    12. -15.
    13. -15.
    14. -15.
    15. -15.
    16. -15.
    17. -15.
    18. -15.
    19. -15.
    20. -15.
    21. -15.
    22. -15.
```

```
    23. -15.
    24. -15.
    25. -15.
    26. -15.
    27. -15.
    28. -15.
    29. -15.
    30. -15.

; End of data for load case [NCOMB31] ------------------------

*USE-STLD. NCOMB32

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. [ECCEN]. [VALUE]. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. [ECCEN]. [VALUE]. GROUP
; [VALUE]       : D1. P1. D2. P2. D3. P3. D4. P4
; [ECCEN]       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; [ADDITIONAL]  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 30.0945. 1. 27.858. 0. 0. 0. 0. . NO. 0. 0. NO
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -30.0945. 1. -27.858. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 27.858. 1. 26.665. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -27.858. 1. -26.665. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 26.665. 1. 25.472. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -26.665. 1. -25.472. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 25.472. 1. 24.279. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -25.472. 1. -24.279. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 24.279. 1. 23.086. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -24.279. 1. -23.086. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 23.086. 1. 21.893. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -23.086. 1. -21.893. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 21.893. 1. 19.763. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -21.893. 1. -19.763. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -21.019. 1. -21.019. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -21.019. 1. -21.019. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -21.019. 1. -21.019. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -21.019. 1. -21.019. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO

*ELTEMPER    ; Element Temperatures
; ELEM LIST. TEMPER. GROUP
     1. -15.
     2. -15.
     3. -15.
     4. -15.
     5. -15.
     6. -15.
     7. -15.
     8. -15.
     9. -15.
    10. -15.
    11. -15.
    12. -15.
    13. -15.
    14. -15.
    15. -15.
    16. -15.
    17. -15.
    18. -15.
    19. -15.
    20. -15.
    21. -15.
    22. -15.
    23. -15.
    24. -15.
    25. -15.
    26. -15.
    27. -15.
    28. -15.
    29. -15.
```

```
    30. -15.

; End of data for load case [NCOMB32] ------------------------

*USE-STLD. NCOMB33

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. [ECCEN]. [VALUE]. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. [ECCEN]. [VALUE]. GROUP
; [VALUE]       : D1. P1. D2. P2. D3. P3. D4. P4
; [ECCEN]       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; [ADDITIONAL]  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 60.189. 1. 55.716. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -60.189. 1. -55.716. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 55.716. 1. 53.33. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -55.716. 1. -53.33. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 53.33. 1. 50.944. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -53.33. 1. -50.944. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 50.944. 1. 48.558. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -50.944. 1. -48.558. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 48.558. 1. 46.172. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -48.558. 1. -46.172. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 46.172. 1. 43.786. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -46.172. 1. -43.786. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 43.786. 1. 39.526. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -43.786. 1. -39.526. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO

; End of data for load case [NCOMB33] ------------------------

*USE-STLD. NCOMB34

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. [ECCEN]. [VALUE]. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. [ECCEN]. [VALUE]. GROUP
; [VALUE]       : D1. P1. D2. P2. D3. P3. D4. P4
; [ECCEN]       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; [ADDITIONAL]  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 22.367. 1. 17.894. 0. 0. 0. 0. . NO. 0. 0. NO
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 17.894. 1. 15.508. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.508. 1. 13.122. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.122. 1. 10.736. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 10.736. 1. 8.35. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.35. 1. 5.964. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 5.964. 1. 1.704. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -21.019. 1. -21.019. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -21.019. 1. -21.019. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -21.019. 1. -21.019. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -21.019. 1. -21.019. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO

; End of data for load case [NCOMB34] ------------------------

*USE-STLD. NCOMB35

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. [ECCEN]. [VALUE]. GROUP
```

```
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. [ECCEN]. [VALUE]. GROUP
; [VALUE]       : D1. P1. D2. P2. D3. P3. D4. P4
; [ECCEN]       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; [ADDITIONAL]  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.1835. 1. 8.947. 0. 0. 0. 0. . NO. 0. 0. NO
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.947. 1. 7.754. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 7.754. 1. 6.561. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 6.561. 1. 5.368. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 5.368. 1. 4.175. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 4.175. 1. 2.982. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 2.982. 1. 0.852. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -21.019. 1. -21.019. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -21.019. 1. -21.019. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -21.019. 1. -21.019. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -21.019. 1. -21.019. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -88.785. 1. -88.785. 0. 0. 0. 0. . NO. 0. 0. NO

; End of data for load case [NCOMB35] ----------------------

*LOADCOMB    ; Combinations
; NAME=NAME. KIND. ACTIVE. bES. iTYPE. DESC. iSERV-TYPE. nLCOMTYPE   ; line 1
;      ANAL1. LCNAME1. FACT1. ...                                    ; from line 2
  NAME=COMB1. GEN. INACTIVE. 0. 0. . 0. 0
       ST. LC1. 1.35. ST. LC2. 1.85. ST. LC4. 1.85. ST. LC6. 1.6
  NAME=COMB2. GEN. INACTIVE. 0. 0. . 0. 0
       ST. LC1. 1.35. ST. LC2. 1.85. ST. LC4. 1.85. ST. LC6. 0.6
  NAME=COMB3. GEN. INACTIVE. 0. 0. . 0. 0
       ST. LC1. 1.35. ST. LC3. 1.85. ST. LC5. 1.85. ST. LC6. 1.6
  NAME=COMB4. GEN. INACTIVE. 0. 0. . 0. 0
       ST. LC1. 1.35. ST. LC3. 1.85. ST. LC5. 1.85. ST. LC6. 0.6
  NAME=COMB5. GEN. INACTIVE. 0. 0. . 0. 0
       ST. LC1. 1.6. ST. LC2. 1.6. ST. LC4. 1.6. ST. LC6. 1.6
  NAME=COMB6. GEN. INACTIVE. 0. 0. . 0. 0
       ST. LC1. 1.6. ST. LC2. 1.6. ST. LC4. 1.6. ST. LC6. 0.6
  NAME=COMB7. GEN. INACTIVE. 0. 0. . 0. 0
       ST. LC1. 1.6. ST. LC3. 1.6. ST. LC5. 1.6. ST. LC6. 1.6
  NAME=COMB8. GEN. INACTIVE. 0. 0. . 0. 0
       ST. LC1. 1.6. ST. LC3. 1.6. ST. LC5. 1.6. ST. LC6. 0.6
  NAME=COMB9. GEN. INACTIVE. 0. 0. . 0. 0
       ST. LC1. 1.35. ST. LC2. 1.4. ST. LC4. 1.4. ST. LC6. 1.6. ST. LC8. 1.35
       ST. LC11. 1.35
  NAME=COMB10. GEN. INACTIVE. 0. 0. . 0. 0
       ST. LC1. 1.35. ST. LC2. 1.4. ST. LC4. 1.4. ST. LC6. 0.6. ST. LC8. 1.35
       ST. LC11. 1.35
  NAME=COMB11. GEN. INACTIVE. 0. 0. . 0. 0
       ST. LC1. 1.35. ST. LC2. 1.4. ST. LC4. 1.4. ST. LC6. 1.6. ST. LC9. 1.35
       ST. LC10. 1.35. ST. LC11. 1.4
  NAME=COMB12. GEN. INACTIVE. 0. 0. . 0. 0
       ST. LC1. 1.35. ST. LC2. 1.4. ST. LC4. 1.4. ST. LC6. 0.6. ST. LC9. 1.35
       ST. LC10. 1.35. ST. LC11. 1.4
  NAME=COMB13. GEN. INACTIVE. 0. 0. . 0. 0
       ST. LC1. 1.35. ST. LC3. 1.4. ST. LC5. 1.4. ST. LC6. 1.6. ST. LC8. 1.35
       ST. LC11. 1.35
  NAME=COMB14. GEN. INACTIVE. 0. 0. . 0. 0
       ST. LC1. 1.35. ST. LC3. 1.4. ST. LC5. 1.4. ST. LC6. 0.6. ST. LC8. 1.35
       ST. LC11. 1.35
  NAME=COMB15. GEN. INACTIVE. 0. 0. . 0. 0
       ST. LC1. 1.35. ST. LC3. 1.4. ST. LC5. 1.4. ST. LC6. 1.6. ST. LC9. 1.35
       ST. LC10. 1.35. ST. LC11. 1.4
  NAME=COMB16. GEN. INACTIVE. 0. 0. . 0. 0
       ST. LC1. 1.35. ST. LC3. 1.4. ST. LC5. 1.4. ST. LC6. 0.6. ST. LC9. 1.35
       ST. LC10. 1.35. ST. LC11. 1.4
  NAME=COMB17. GEN. INACTIVE. 0. 0. . 0. 0
       ST. LC1. 1.35. ST. LC3. 1.85. ST. LC5. 1.85. ST. LC7. 1.6
  NAME=COMB18. GEN. INACTIVE. 0. 0. . 0. 0
       ST. LC1. 1.35. ST. LC3. 1.85. ST. LC5. 1.85. ST. LC7. 0.6
  NAME=COMB19. GEN. INACTIVE. 0. 0. . 0. 0
       ST. LC1. 1.6. ST. LC3. 1.6. ST. LC5. 1.6. ST. LC7. 1.6
  NAME=COMB20. GEN. INACTIVE. 0. 0. . 0. 0
       ST. LC1. 1.6. ST. LC3. 1.6. ST. LC5. 1.6. ST. LC7. 0.6
  NAME=COMB21. GEN. INACTIVE. 0. 0. . 0. 0
       ST. LC1. 1. ST. LC2. 1. ST. LC4. 1. ST. LC6. 1
```

```
NAME=COMB22. GEN. INACTIVE. 0. 0. . 0. 0
     ST. LC1. 1. ST. LC2. 1. ST. LC4. 1. ST. LC6. 0.5
NAME=COMB23. GEN. INACTIVE. 0. 0. . 0. 0
     ST. LC1. 1. ST. LC3. 1. ST. LC5. 1. ST. LC6. 1
NAME=COMB24. GEN. INACTIVE. 0. 0. . 0. 0
     ST. LC1. 1. ST. LC3. 1. ST. LC5. 1. ST. LC6. 0.5
NAME=COMB25. GEN. INACTIVE. 0. 0. . 0. 0
     ST. LC1. 1. ST. LC2. 1. ST. LC4. 1. ST. LC6. 1. ST. LC8. 1. ST. LC11. 1
NAME=COMB26. GEN. INACTIVE. 0. 0. . 0. 0
     ST. LC1. 1. ST. LC2. 1. ST. LC4. 1. ST. LC6. 0.5. ST. LC8. 1
     ST. LC11. 1
NAME=COMB27. GEN. INACTIVE. 0. 0. . 0. 0
     ST. LC1. 1. ST. LC2. 1. ST. LC4. 1. ST. LC6. 1. ST. LC9. 1. ST. LC10. 1
     ST. LC11. 1
NAME=COMB28. GEN. INACTIVE. 0. 0. . 0. 0
     ST. LC1. 1. ST. LC2. 1. ST. LC4. 1. ST. LC6. 0.5. ST. LC9. 1
     ST. LC10. 1. ST. LC11. 1
NAME=COMB29. GEN. INACTIVE. 0. 0. . 0. 0
     ST. LC1. 1. ST. LC3. 1. ST. LC5. 1. ST. LC6. 1. ST. LC8. 1. ST. LC11. 1
NAME=COMB30. GEN. INACTIVE. 0. 0. . 0. 0
     ST. LC1. 1. ST. LC3. 1. ST. LC5. 1. ST. LC6. 0.5. ST. LC8. 1
     ST. LC11. 1
NAME=COMB31. GEN. INACTIVE. 0. 0. . 0. 0
     ST. LC1. 1. ST. LC3. 1. ST. LC5. 1. ST. LC6. 1. ST. LC9. 1. ST. LC10. 1
     ST. LC11. 1
NAME=COMB32. GEN. INACTIVE. 0. 0. . 0. 0
     ST. LC1. 1. ST. LC3. 1. ST. LC5. 1. ST. LC6. 0.5. ST. LC9. 1
     ST. LC10. 1. ST. LC11. 1
NAME=COMB33. GEN. INACTIVE. 0. 0. . 0. 0
     ST. LC1. 1. ST. LC6. 1
NAME=COMB34. GEN. INACTIVE. 0. 0. . 0. 0
     ST. LC1. 1. ST. LC3. 1. ST. LC5. 1. ST. LC7. 1
NAME=COMB35. GEN. INACTIVE. 0. 0. . 0. 0
     ST. LC1. 1. ST. LC3. 1. ST. LC5. 1. ST. LC7. 0.5
NAME=USD. GEN. ACTIVE. 0. 1. . 0. 0
     ST. NCOMB1. 1. ST. NCOMB2. 1. ST. NCOMB3. 1. ST. NCOMB4. 1
     ST. NCOMB5. 1. ST. NCOMB6. 1. ST. NCOMB7. 1. ST. NCOMB8. 1
     ST. NCOMB9. 1. ST. NCOMB10. 1. ST. NCOMB11. 1. ST. NCOMB12. 1
     ST. NCOMB13. 1. ST. NCOMB14. 1. ST. NCOMB15. 1. ST. NCOMB16. 1
     ST. NCOMB17. 1. ST. NCOMB18. 1. ST. NCOMB19. 1. ST. NCOMB20. 1
NAME=WSD. GEN. ACTIVE. 0. 1. . 0. 0
     ST. NCOMB21. 1. ST. NCOMB22. 1. ST. NCOMB23. 1. ST. NCOMB24. 1
     ST. NCOMB25. 1. ST. NCOMB26. 1. ST. NCOMB27. 1. ST. NCOMB28. 1
     ST. NCOMB29. 1. ST. NCOMB30. 1. ST. NCOMB31. 1. ST. NCOMB32. 1
     ST. NCOMB33. 1. ST. NCOMB34. 1. ST. NCOMB35. 1
NAME=NCOMB1. CONC. STRENGTH. 0. 0. . 0. 0
     ST. NCOMB1. 1
NAME=NCOMB2. CONC. STRENGTH. 0. 0. . 0. 0
     ST. NCOMB2. 1
NAME=NCOMB3. CONC. STRENGTH. 0. 0. . 0. 0
     ST..NCOMB3. 1
NAME=NCOMB4. CONC. STRENGTH. 0. 0. . 0. 0
     ST. NCOMB4. 1
NAME=NCOMB5. CONC. STRENGTH. 0. 0. . 0. 0
     ST. NCOMB5. 1
NAME=NCOMB6. CONC. STRENGTH. 0. 0. . 0. 0
     ST. NCOMB6. 1
NAME=NCOMB7. CONC. STRENGTH. 0. 0. . 0. 0
     ST. NCOMB7. 1
NAME=NCOMB8. CONC. STRENGTH. 0. 0. . 0. 0
     ST. NCOMB8. 1
NAME=NCOMB9. CONC. STRENGTH. 0. 0. . 0. 0
     ST. NCOMB9. 1
NAME=NCOMB10. CONC. STRENGTH. 0. 0. . 0. 0
     ST. NCOMB10. 1
NAME=NCOMB11. CONC. STRENGTH. 0. 0. . 0. 0
     ST. NCOMB11. 1
NAME=NCOMB12. CONC. STRENGTH. 0. 0. . 0. 0
     ST. NCOMB12. 1
NAME=NCOMB13. CONC. STRENGTH. 0. 0. . 0. 0
     ST. NCOMB13. 1
NAME=NCOMB14. CONC. STRENGTH. 0. 0. . 0. 0
     ST. NCOMB14. 1
NAME=NCOMB15. CONC. STRENGTH. 0. 0. . 0. 0
     ST. NCOMB15. 1
NAME=NCOMB16. CONC. STRENGTH. 0. 0. . 0. 0
     ST. NCOMB16. 1
NAME=NCOMB17. CONC. STRENGTH. 0. 0. . 0. 0
     ST. NCOMB17. 1
NAME=NCOMB18. CONC. STRENGTH. 0. 0. . 0. 0
     ST. NCOMB18. 1
NAME=NCOMB19. CONC. STRENGTH. 0. 0. . 0. 0
     ST. NCOMB19. 1
NAME=NCOMB20. CONC. STRENGTH. 0. 0. . 0. 0
     ST. NCOMB20. 1
NAME=NCOMB21. CONC. STRENGTH. 0. 0. . 0. 0
     ST. NCOMB21. 1
```

```
    NAME=NCOMB22. CONC. STRENGTH. 0. 0. . 0. 0
          ST. NCOMB22. 1
    NAME=NCOMB23. CONC. STRENGTH. 0. 0. . 0. 0
          ST. NCOMB23. 1
    NAME=NCOMB24. CONC. STRENGTH. 0. 0. . 0. 0
          ST. NCOMB24. 1
    NAME=NCOMB25. CONC. STRENGTH. 0. 0. . 0. 0
          ST. NCOMB25. 1
    NAME=NCOMB26. CONC. STRENGTH. 0. 0. . 0. 0
          ST. NCOMB26. 1
    NAME=NCOMB27. CONC. STRENGTH. 0. 0. . 0. 0
          ST. NCOMB27. 1
    NAME=NCOMB28. CONC. STRENGTH. 0. 0. . 0. 0
          ST. NCOMB28. 1
    NAME=NCOMB29. CONC. STRENGTH. 0. 0. . 0. 0
          ST. NCOMB29. 1
    NAME=NCOMB30. CONC. STRENGTH. 0. 0. . 0. 0
          ST. NCOMB30. 1
    NAME=NCOMB31. CONC. STRENGTH. 0. 0. . 0. 0
          ST. NCOMB31. 1
    NAME=NCOMB32. CONC. STRENGTH. 0. 0. . 0. 0
          ST. NCOMB32. 1
    NAME=NCOMB33. CONC. STRENGTH. 0. 0. . 0. 0
          ST. NCOMB33. 1
    NAME=NCOMB34. CONC. STRENGTH. 0. 0. . 0. 0
          ST. NCOMB34. 1
    NAME=NCOMB35. CONC. STRENGTH. 0. 0. . 0. 0
          ST. NCOMB35. 1

*LOADCONST    ; Load Constribution for Nonlinear Load Case
; NAME=STLDCASE. DESC                                          ; 1st line
;      LCNAME1. LCTYPE1. FACTOR1. LCNAME2. LCTYPE2. FACTOR2. ...   ; from line 2
    NAME=NCOMB1.
          LC1. ST. 1.35. LC2. ST. 1.85. LC4. ST. 1.85. LC6. ST. 1.6
    NAME=NCOMB2.
          LC1. ST. 1.35. LC2. ST. 1.85. LC4. ST. 1.85. LC6. ST. 0.6
    NAME=NCOMB3.
          LC1. ST. 1.35. LC3. ST. 1.85. LC5. ST. 1.85. LC6. ST. 1.6
    NAME=NCOMB4.
          LC1. ST. 1.35. LC3. ST. 1.85. LC5. ST. 1.85. LC6. ST. 0.6
    NAME=NCOMB5.
          LC1. ST. 1.6. LC2. ST. 1.6. LC4. ST. 1.6. LC6. ST. 1.6
    NAME=NCOMB6.
          LC1. ST. 1.6. LC2. ST. 1.6. LC4. ST. 1.6. LC6. ST. 0.6
    NAME=NCOMB7.
          LC1. ST. 1.6. LC3. ST. 1.6. LC5. ST. 1.6. LC6. ST. 1.6
    NAME=NCOMB8.
          LC1. ST. 1.6. LC3. ST. 1.6. LC5. ST. 1.6. LC6. ST. 0.6
    NAME=NCOMB9.
          LC1. ST. 1.35. LC2. ST. 1.4. LC4. ST. 1.4. LC6. ST. 1.6. LC8. ST. 1.35
          LC11. ST. 1.35
    NAME=NCOMB10.
          LC1. ST. 1.35. LC2. ST. 1.4. LC4. ST. 1.4. LC6. ST. 0.6. LC8. ST. 1.35
          LC11. ST. 1.35
    NAME=NCOMB11.
          LC1. ST. 1.35. LC2. ST. 1.4. LC4. ST. 1.4. LC6. ST. 1.6. LC9. ST. 1.35
          LC10. ST. 1.35. LC11. ST. 1.4
    NAME=NCOMB12.
          LC1. ST. 1.35. LC2. ST. 1.4. LC4. ST. 1.4. LC6. ST. 0.6. LC9. ST. 1.35
          LC10. ST. 1.35. LC11. ST. 1.4
    NAME=NCOMB13.
          LC1. ST. 1.35. LC3. ST. 1.4. LC5. ST. 1.4. LC6. ST. 1.6. LC8. ST. 1.35
          LC11. ST. 1.35
    NAME=NCOMB14.
          LC1. ST. 1.35. LC3. ST. 1.4. LC5. ST. 1.4. LC6. ST. 0.6. LC8. ST. 1.35
          LC11. ST. 1.35
    NAME=NCOMB15.
          LC1. ST. 1.35. LC3. ST. 1.4. LC5. ST. 1.4. LC6. ST. 1.6. LC9. ST. 1.35
          LC10. ST. 1.35. LC11. ST. 1.4
    NAME=NCOMB16.
          LC1. ST. 1.35. LC3. ST. 1.4. LC5. ST. 1.4. LC6. ST. 0.6. LC9. ST. 1.35
          LC10. ST. 1.35. LC11. ST. 1.4
    NAME=NCOMB17.
          LC1. ST. 1.35. LC3. ST. 1.85. LC5. ST. 1.85. LC7. ST. 1.6
    NAME=NCOMB18.
          LC1. ST. 1.35. LC3. ST. 1.85. LC5. ST. 1.85. LC7. ST. 0.6
    NAME=NCOMB19.
          LC1. ST. 1.6. LC3. ST. 1.6. LC5. ST. 1.6. LC7. ST. 1.6
    NAME=NCOMB20.
          LC1. ST. 1.6. LC3. ST. 1.6. LC5. ST. 1.6. LC7. ST. 0.6
    NAME=NCOMB21.
          LC1. ST. 1. LC2. ST. 1. LC4. ST. 1. LC6. ST. 1
    NAME=NCOMB22.
          LC1. ST. 1. LC2. ST. 1. LC4. ST. 1. LC6. ST. 0.5
    NAME=NCOMB23.
          LC1. ST. 1. LC3. ST. 1. LC5. ST. 1. LC6. ST. 1
    NAME=NCOMB24.
```

```
        LC1, ST, 1, LC3, ST, 1, LC5, ST, 1, LC6, ST, 0.5
    NAME=NCOMB25,
        LC1, ST, 1, LC2, ST, 1, LC4, ST, 1, LC6, ST, 1, LC8, ST, 1, LC11, ST, 1
    NAME=NCOMB26,
        LC1, ST, 1, LC2, ST, 1, LC4, ST, 1, LC6, ST, 0.5, LC8, ST, 1
        LC11, ST, 1
    NAME=NCOMB27,
        LC1, ST, 1, LC2, ST, 1, LC4, ST, 1, LC6, ST, 1, LC9, ST, 1, LC10, ST, 1
        LC11, ST, 1
    NAME=NCOMB28,
        LC1, ST, 1, LC2, ST, 1, LC4, ST, 1, LC6, ST, 0.5, LC9, ST, 1
        LC10, ST, 1, LC11, ST, 1
    NAME=NCOMB29,
        LC1, ST, 1, LC3, ST, 1, LC5, ST, 1, LC6, ST, 1, LC8, ST, 1, LC11, ST, 1
    NAME=NCOMB30,
        LC1, ST, 1, LC3, ST, 1, LC5, ST, 1, LC6, ST, 0.5, LC8, ST, 1
        LC11, ST, 1
    NAME=NCOMB31,
        LC1, ST, 1, LC3, ST, 1, LC5, ST, 1, LC6, ST, 1, LC9, ST, 1, LC10, ST, 1
        LC11, ST, 1
    NAME=NCOMB32,
        LC1, ST, 1, LC3, ST, 1, LC5, ST, 1, LC6, ST, 0.5, LC9, ST, 1
        LC10, ST, 1, LC11, ST, 1
    NAME=NCOMB33,
        LC1, ST, 1, LC6, ST, 1
    NAME=NCOMB34,
        LC1, ST, 1, LC3, ST, 1, LC5, ST, 1, LC7, ST, 1
    NAME=NCOMB35,
        LC1, ST, 1, LC3, ST, 1, LC5, ST, 1, LC7, ST, 0.5

*LC-COLOR    ; Diagram Color for Load Case
; ANAL, LCNAME, iR1(ALL), iG1(ALL), iB1(ALL), iR2(MIN), iG2(MIN), iB2(MIN), iR3(MAX), iG2(MAX), iB2(MAX)
 CB, COMB1, 160, 255, 255, 255, 87, 87, 192, 192, 0
 CB, COMB2, 192, 192, 0, 0, 128, 128, 0, 192, 192
 CB, COMB3, 192, 72, 0, 85, 0, 192, 160, 192, 255
 CB, COMB4, 192, 128, 0, 212, 160, 255, 93, 255, 87
 CB, COMB5, 255, 192, 87, 85, 192, 0, 192, 192, 192
 CB, COMB6, 192, 192, 192, 192, 0, 192, 160, 255, 255
 CB, COMB7, 255, 87, 128, 93, 255, 87, 0, 192, 128
 CB, COMB8, 210, 210, 210, 0, 128, 255, 85, 0, 192
 CB, COMB9, 163, 255, 160, 192, 128, 0, 148, 87, 255
 CB, COMB10, 0, 128, 255, 0, 128, 255, 85, 192, 0
 CB, COMB11, 93, 255, 87, 192, 0, 192, 192, 128, 0
 CB, COMB12, 85, 192, 0, 255, 87, 128, 192, 72, 0
 CB, COMB13, 0, 157, 192, 0, 128, 57, 0, 192, 128
 CB, COMB14, 0, 192, 128, 255, 0, 192, 0, 192, 128
 CB, COMB15, 0, 128, 255, 163, 160, 255, 192, 192, 0
 CB, COMB16, 0, 128, 255, 85, 0, 192, 148, 87, 255
 CB, COMB17, 163, 255, 160, 160, 255, 255, 128, 192, 0
 CB, COMB18, 0, 128, 192, 192, 0, 192, 163, 160, 255
 CB, COMB19, 0, 128, 192, 255, 160, 255, 255, 160, 255
 CB, COMB20, 0, 128, 128, 0, 128, 57, 255, 87, 128
 CB, COMB21, 255, 255, 87, 192, 192, 192, 212, 160, 255
 CB, COMB22, 0, 192, 192, 163, 160, 255, 163, 255, 160
 CB, COMB23, 255, 87, 128, 192, 72, 0, 192, 128, 0
 CB, COMB24, 0, 192, 192, 192, 128, 0, 0, 128, 57
 CB, COMB25, 148, 87, 255, 212, 160, 255, 128, 192, 0
 CB, COMB26, 0, 192, 128, 210, 210, 210, 0, 128, 255
 CB, COMB27, 255, 0, 192, 192, 0, 192, 0, 192, 192
 CB, COMB28, 160, 192, 255, 192, 72, 0, 85, 0, 192
 CB, COMB29, 78, 0, 255, 210, 210, 210, 255, 87, 128
 CB, COMB30, 0, 128, 57, 255, 160, 255, 148, 87, 255
 CB, COMB31, 0, 192, 128, 85, 192, 0, 0, 157, 192
 CB, COMB32, 160, 255, 255, 146, 0, 255, 255, 87, 87
 CB, COMB33, 160, 192, 255, 0, 128, 192, 212, 160, 255
 CB, COMB34, 148, 87, 255, 0, 157, 192, 163, 160, 255
 CB, COMB35, 163, 160, 255, 255, 192, 160, 146, 0, 255
 CB, USD, 255, 192, 160, 255, 255, 87, 255, 160, 255
 CB, WSD, 128, 192, 0, 163, 255, 160, 160, 255, 255
 ST, LC1, 146, 0, 255, 255, 128, 0, 255, 192, 160
 ST, LC2, 85, 0, 192, 192, 72, 0, 148, 87, 255
 ST, LC3, 192, 128, 0, 85, 192, 0, 255, 255, 255
 ST, LC4, 0, 192, 192, 163, 255, 160, 255, 255, 87
 ST, LC5, 85, 192, 0, 255, 255, 87, 192, 128, 0
 ST, LC6, 255, 255, 255, 0, 128, 255, 163, 160, 255
 ST, LC7, 0, 128, 255, 192, 128, 0, 255, 0, 128
 ST, LC8, 255, 192, 160, 85, 192, 0, 255, 0, 192
 ST, LC9, 255, 160, 255, 93, 255, 87, 0, 192, 192
 ST, LC10, 148, 87, 255, 78, 0, 255, 255, 160, 255
 ST, LC11, 78, 0, 255, 163, 255, 160, 255, 192, 87
 CBC, NCOMB1, 163, 255, 160, 146, 0, 255, 85, 192, 0
 CBC, NCOMB2, 255, 255, 255, 163, 255, 160, 255, 128, 0
 CBC, NCOMB3, 163, 255, 160, 85, 0, 192, 192, 72, 0
 CBC, NCOMB4, 148, 87, 255, 255, 128, 0, 0, 157, 192
 CBC, NCOMB5, 0, 128, 128, 148, 87, 255, 210, 210, 210
 CBC, NCOMB6, 255, 128, 0, 255, 255, 255, 128, 192, 0
 CBC, NCOMB7, 255, 255, 87, 192, 192, 192, 0, 128, 255
```

CBC. NCOMB8. 255. 0. 192. 0. 192. 192. 192. 128. 0
CBC. NCOMB9. 148. 87. 255. 0. 128. 255. 0. 128. 128
CBC. NCOMB10. 192. 72. 0. 160. 192. 255. 0. 128. 128
CBC. NCOMB11. 255. 192. 87. 0. 128. 255. 148. 87. 255
CBC. NCOMB12. 192. 0. 128. 163. 160. 255. 192. 0. 128
CBC. NCOMB13. 0. 128. 255. 255. 0. 192. 160. 255. 255
CBC. NCOMB14. 192. 128. 0. 0. 128. 128. 192. 72. 0
CBC. NCOMB15. 212. 160. 255. 0. 128. 57. 0. 192. 192
CBC. NCOMB16. 255. 87. 87. 212. 160. 255. 0. 128. 57
CBC. NCOMB17. 255. 160. 255. 0. 128. 128. 163. 255. 160
CBC. NCOMB18. 192. 192. 192. 255. 160. 255. 192. 0. 128
CBC. NCOMB19. 78. 0. 255. 192. 0. 192. 192. 0. 128
CBC. NCOMB20. 0. 192. 192. 255. 87. 128. 255. 255. 255
CBC. NCOMB21. 0. 128. 57. 163. 255. 160. 160. 255. 255
CBC. NCOMB22. 255. 255. 255. 192. 128. 0. 0. 192. 192
CBC. NCOMB23. 85. 192. 0. 255. 0. 128. 255. 0. 192
CBC. NCOMB24. 160. 192. 255. 78. 0. 255. 192. 72. 0
CBC. NCOMB25. 212. 160. 255. 192. 128. 0. 93. 255. 87
CBC. NCOMB26. 255. 0. 192. 212. 160. 255. 128. 192. 0
CBC. NCOMB27. 255. 160. 255. 146. 0. 255. 160. 192. 255
CBC. NCOMB28. 148. 87. 255. 255. 255. 255. 146. 0. 255
CBC. NCOMB29. 192. 128. 0. 255. 128. 0. 192. 128. 0
CBC. NCOMB30. 255. 87. 87. 255. 128. 0. 255. 255. 87
CBC. NCOMB31. 255. 0. 128. 160. 255. 255. 255. 192. 160
CBC. NCOMB32. 146. 0. 255. 0. 192. 192. 255. 160. 255
CBC. NCOMB33. 255. 160. 255. 255. 192. 160. 0. 192. 192
CBC. NCOMB34. 255. 255. 87. 210. 210. 210. 78. 0. 255
CBC. NCOMB35. 0. 192. 192. 212. 160. 255. 192. 192. 0
ST. NCOMB1. 93. 255. 87. 210. 210. 210. 163. 255. 160

8.OUPUT

F R A M E E L E M E N T F O R C E S

Elem	Load	Part	Axial (kN)	Shear-y (kN)	Shear-z (kN)	Torsion (kN · m)	Moment-y (kN · m)	Moment-z (kN · m)
1	USD(max)	I[1]	31.650	0.000	-249.900	0.00E+00	-17.430	0.000
1	USD(max)	1/4	31.650	0.000	-250.930	0.00E+00	3.070	0.000
1	USD(max)	2/4	31.650	0.000	-251.950	0.00E+00	23.660	0.000
1	USD(max)	3/4	31.650	0.000	-252.970	0.00E+00	44.330	0.000
1	USD(max)	J[2]	31.650	0.000	-254.000	0.00E+00	65.090	0.000
1	USD(min)	I[1]	-172.190	0.000	-302.090	0.00E+00	-59.220	0.000
1	USD(min)	1/4	-172.190	0.000	-303.300	0.00E+00	-41.500	0.000
1	USD(min)	2/4	-172.190	0.000	-304.510	0.00E+00	-23.710	0.000
1	USD(min)	3/4	-172.190	0.000	-305.730	0.00E+00	-5.850	0.000
1	USD(min)	J[2]	-172.190	0.000	-306.940	0.00E+00	12.080	0.000
1	WSD(max)	I[1]	19.780	0.000	-169.310	0.00E+00	-12.200	0.000
1	WSD(max)	1/4	19.780	0.000	-170.070	0.00E+00	0.650	0.000
1	WSD(max)	2/4	19.780	0.000	-170.820	0.00E+00	13.560	0.000
1	WSD(max)	3/4	19.780	0.000	-171.580	0.00E+00	26.520	0.000
1	WSD(max)	J[2]	19.780	0.000	-172.340	0.00E+00	39.530	0.000
1	WSD(min)	I[1]	-104.760	0.000	-188.800	0.00E+00	-35.470	0.000
1	WSD(min)	1/4	-104.760	0.000	-189.560	0.00E+00	-22.750	0.000
1	WSD(min)	2/4	-104.760	0.000	-190.320	0.00E+00	-9.970	0.000
1	WSD(min)	3/4	-104.760	0.000	-191.080	0.00E+00	2.870	0.000
1	WSD(min)	J[2]	-104.760	0.000	-191.840	0.00E+00	15.750	0.000
2	USD(max)	I[2]	31.650	0.000	-154.170	0.00E+00	65.090	0.000
2	USD(max)	1/4	31.650	0.000	-155.130	0.00E+00	77.210	0.000
2	USD(max)	2/4	31.650	0.000	-156.090	0.00E+00	89.400	0.000
2	USD(max)	3/4	31.650	0.000	-157.040	0.00E+00	101.660	0.000
2	USD(max)	J[3]	31.650	0.000	-158.000	0.00E+00	114.000	0.000
2	USD(min)	I[2]	-172.190	0.000	-195.870	0.00E+00	12.080	0.000
2	USD(min)	1/4	-172.190	0.000	-197.010	0.00E+00	22.490	0.000
2	USD(min)	2/4	-172.190	0.000	-198.140	0.00E+00	32.960	0.000
2	USD(min)	3/4	-172.190	0.000	-199.270	0.00E+00	43.500	0.000
2	USD(min)	J[3]	-172.190	0.000	-200.410	0.00E+00	54.090	0.000
2	WSD(max)	I[2]	19.780	0.000	-102.320	0.00E+00	39.530	0.000
2	WSD(max)	1/4	19.780	0.000	-103.030	0.00E+00	47.160	0.000
2	WSD(max)	2/4	19.780	0.000	-103.740	0.00E+00	54.850	0.000
2	WSD(max)	3/4	19.780	0.000	-104.450	0.00E+00	62.570	0.000
2	WSD(max)	J[3]	19.780	0.000	-105.160	0.00E+00	70.350	0.000
2	WSD(min)	I[2]	-104.760	0.000	-122.420	0.00E+00	15.750	0.000
2	WSD(min)	1/4	-104.760	0.000	-123.130	0.00E+00	23.160	0.000
2	WSD(min)	2/4	-104.760	0.000	-123.840	0.00E+00	30.610	0.000
2	WSD(min)	3/4	-104.760	0.000	-124.550	0.00E+00	38.110	0.000
2	WSD(min)	J[3]	-104.760	0.000	-125.250	0.00E+00	45.650	0.000
3	USD(max)	I[3]	31.650	0.000	-91.610	0.00E+00	114.000	0.000
3	USD(max)	1/4	31.650	0.000	-92.570	0.00E+00	121.680	0.000
3	USD(max)	2/4	31.650	0.000	-93.520	0.00E+00	129.430	0.000
3	USD(max)	3/4	31.650	0.000	-94.470	0.00E+00	137.250	0.000
3	USD(max)	J[4]	31.650	0.000	-95.420	0.00E+00	145.150	0.000
3	USD(min)	I[3]	-172.190	0.000	-128.650	0.00E+00	54.090	0.000
3	USD(min)	1/4	-172.190	0.000	-129.780	0.00E+00	60.630	0.000
3	USD(min)	2/4	-172.190	0.000	-130.910	0.00E+00	67.040	0.000
3	USD(min)	3/4	-172.190	0.000	-132.040	0.00E+00	73.400	0.000
3	USD(min)	J[4]	-172.190	0.000	-133.170	0.00E+00	79.820	0.000
3	WSD(max)	I[3]	19.780	0.000	-60.760	0.00E+00	70.350	0.000
3	WSD(max)	1/4	19.780	0.000	-61.460	0.00E+00	75.220	0.000
3	WSD(max)	2/4	19.780	0.000	-62.170	0.00E+00	80.140	0.000
3	WSD(max)	3/4	19.780	0.000	-62.870	0.00E+00	85.100	0.000
3	WSD(max)	J[4]	19.780	0.000	-63.580	0.00E+00	90.110	0.000
3	WSD(min)	I[3]	-104.760	0.000	-80.410	0.00E+00	45.650	0.000
3	WSD(min)	1/4	-104.760	0.000	-81.110	0.00E+00	50.240	0.000
3	WSD(min)	2/4	-104.760	0.000	-81.820	0.00E+00	54.450	0.000
3	WSD(min)	3/4	-104.760	0.000	-82.530	0.00E+00	58.450	0.000
3	WSD(min)	J[4]	-104.760	0.000	-83.230	0.00E+00	62.490	0.000
4	USD(max)	I[4]	31.650	0.000	-29.230	0.00E+00	145.150	0.000
4	USD(max)	1/4	31.650	0.000	-30.190	0.00E+00	148.420	0.000
4	USD(max)	2/4	31.650	0.000	-31.150	0.00E+00	151.760	0.000
4	USD(max)	3/4	31.650	0.000	-32.100	0.00E+00	155.170	0.000
4	USD(max)	J[5]	31.650	0.000	-33.060	0.00E+00	158.660	0.000
4	USD(min)	I[4]	-172.190	0.000	-60.230	0.00E+00	79.820	0.000
4	USD(min)	1/4	-172.190	0.000	-61.370	0.00E+00	82.290	0.000
4	USD(min)	2/4	-172.190	0.000	-62.500	0.00E+00	84.820	0.000
4	USD(min)	3/4	-172.190	0.000	-63.640	0.00E+00	87.410	0.000
4	USD(min)	J[5]	-172.190	0.000	-64.770	0.00E+00	90.070	0.000
4	WSD(max)	I[4]	19.780	0.000	-19.290	0.00E+00	90.110	0.000
4	WSD(max)	1/4	19.780	0.000	-20.000	0.00E+00	92.230	0.000
4	WSD(max)	2/4	19.780	0.000	-20.710	0.00E+00	94.400	0.000
4	WSD(max)	3/4	19.780	0.000	-21.420	0.00E+00	96.610	0.000

Elem	Load	Part	Axial (kN)	Shear-y (kN)	Shear-z (kN)	Torsion (kN · m)	Moment-y (kN · m)	Moment-z (kN · m)
4	WSD(max)	J[5]	19.780	0.000	-22.130	0.00E+00	98.870	0.000
4	WSD(min)	I[4]	-104.760	0.000	-37.650	0.00E+00	62.490	0.000
4	WSD(min)	1/4	-104.760	0.000	-38.360	0.00E+00	63.760	0.000
4	WSD(min)	2/4	-104.760	0.000	-39.060	0.00E+00	65.060	0.000
4	WSD(min)	3/4	-104.760	0.000	-39.770	0.00E+00	66.420	0.000
4	WSD(min)	J[5]	-104.760	0.000	-40.480	0.00E+00	67.820	0.000
5	USD(max)	I[5]	31.650	0.000	39.120	0.00E+00	158.660	0.000
5	USD(max)	1/4	31.650	0.000	37.980	0.00E+00	157.450	0.000
5	USD(max)	2/4	31.650	0.000	36.850	0.00E+00	156.310	0.000
5	USD(max)	3/4	31.650	0.000	35.720	0.00E+00	155.240	0.000
5	USD(max)	J[6]	31.650	0.000	34.580	0.00E+00	154.490	0.000
5	USD(min)	I[5]	-172.190	0.000	2.460	0.00E+00	90.070	0.000
5	USD(min)	1/4	-172.190	0.000	1.500	0.00E+00	88.730	0.000
5	USD(min)	2/4	-172.190	0.000	0.540	0.00E+00	87.460	0.000
5	USD(min)	3/4	-172.190	0.000	-0.410	0.00E+00	86.250	0.000
5	USD(min)	J[6]	-172.190	0.000	-1.370	0.00E+00	85.100	0.000
5	WSD(max)	I[5]	19.780	0.000	24.450	0.00E+00	98.870	0.000
5	WSD(max)	1/4	19.780	0.000	23.740	0.00E+00	98.190	0.000
5	WSD(max)	2/4	19.780	0.000	23.030	0.00E+00	97.560	0.000
5	WSD(max)	3/4	19.780	0.000	22.320	0.00E+00	96.970	0.000
5	WSD(max)	J[6]	19.780	0.000	21.610	0.00E+00	96.560	0.000
5	WSD(min)	I[5]	-104.760	0.000	5.940	0.00E+00	67.820	0.000
5	WSD(min)	1/4	-104.760	0.000	5.240	0.00E+00	66.420	0.000
5	WSD(min)	2/4	-104.760	0.000	4.530	0.00E+00	65.060	0.000
5	WSD(min)	3/4	-104.760	0.000	3.820	0.00E+00	63.760	0.000
5	WSD(min)	J[6]	-104.760	0.000	3.110	0.00E+00	62.490	0.000
6	USD(max)	I[6]	31.650	0.000	112.890	0.00E+00	154.490	0.000
6	USD(max)	1/4	31.650	0.000	111.760	0.00E+00	149.360	0.000
6	USD(max)	2/4	31.650	0.000	110.630	0.00E+00	144.300	0.000
6	USD(max)	3/4	31.650	0.000	109.500	0.00E+00	139.310	0.000
6	USD(max)	J[7]	31.650	0.000	108.370	0.00E+00	134.390	0.000
6	USD(min)	I[6]	-172.190	0.000	64.020	0.00E+00	85.100	0.000
6	USD(min)	1/4	-172.190	0.000	63.060	0.00E+00	79.960	0.000
6	USD(min)	2/4	-172.190	0.000	62.110	0.00E+00	74.880	0.000
6	USD(min)	3/4	-172.190	0.000	61.160	0.00E+00	69.710	0.000
6	USD(min)	J[7]	-172.190	0.000	60.210	0.00E+00	63.800	0.000
6	WSD(max)	I[6]	19.780	0.000	70.550	0.00E+00	96.560	0.000
6	WSD(max)	1/4	19.780	0.000	69.850	0.00E+00	93.350	0.000
6	WSD(max)	2/4	19.780	0.000	69.140	0.00E+00	90.190	0.000
6	WSD(max)	3/4	19.780	0.000	68.440	0.00E+00	87.070	0.000
6	WSD(max)	J[7]	19.780	0.000	67.730	0.00E+00	83.990	0.000
6	WSD(min)	I[6]	-104.760	0.000	50.480	0.00E+00	62.490	0.000
6	WSD(min)	1/4	-104.760	0.000	49.780	0.00E+00	58.450	0.000
6	WSD(min)	2/4	-104.760	0.000	49.070	0.00E+00	54.450	0.000
6	WSD(min)	3/4	-104.760	0.000	48.370	0.00E+00	50.490	0.000
6	WSD(min)	J[7]	-104.760	0.000	47.660	0.00E+00	46.580	0.000
7	USD(max)	I[7]	31.650	0.000	186.870	0.00E+00	134.390	0.000
7	USD(max)	1/4	31.650	0.000	185.730	0.00E+00	124.550	0.000
7	USD(max)	2/4	31.650	0.000	184.600	0.00E+00	114.780	0.000
7	USD(max)	3/4	31.650	0.000	183.470	0.00E+00	105.090	0.000
7	USD(max)	J[8]	31.650	0.000	182.330	0.00E+00	95.470	0.000
7	USD(min)	I[7]	-172.190	0.000	127.280	0.00E+00	63.800	0.000
7	USD(min)	1/4	-172.190	0.000	126.320	0.00E+00	53.660	0.000
7	USD(min)	2/4	-172.190	0.000	125.370	0.00E+00	43.580	0.000
7	USD(min)	3/4	-172.190	0.000	124.410	0.00E+00	33.560	0.000
7	USD(min)	J[8]	-172.190	0.000	123.450	0.00E+00	23.600	0.000
7	WSD(max)	I[7]	19.780	0.000	116.790	0.00E+00	83.990	0.000
7	WSD(max)	1/4	19.780	0.000	116.080	0.00E+00	77.840	0.000
7	WSD(max)	2/4	19.780	0.000	115.370	0.00E+00	71.740	0.000
7	WSD(max)	3/4	19.780	0.000	114.670	0.00E+00	65.680	0.000
7	WSD(max)	J[8]	19.780	0.000	113.960	0.00E+00	59.670	0.000
7	WSD(min)	I[7]	-104.760	0.000	96.080	0.00E+00	46.580	0.000
7	WSD(min)	1/4	-104.760	0.000	95.370	0.00E+00	39.850	0.000
7	WSD(min)	2/4	-104.760	0.000	94.660	0.00E+00	33.160	0.000
7	WSD(min)	3/4	-104.760	0.000	93.960	0.00E+00	26.510	0.000
7	WSD(min)	J[8]	-104.760	0.000	93.250	0.00E+00	19.920	0.000
8	USD(max)	I[8]	31.650	0.000	306.130	0.00E+00	95.470	0.000
8	USD(max)	1/4	31.650	0.000	304.920	0.00E+00	76.680	0.000
8	USD(max)	2/4	31.650	0.000	303.710	0.00E+00	57.980	0.000
8	USD(max)	3/4	31.650	0.000	302.500	0.00E+00	39.370	0.000
8	USD(max)	J[9]	31.650	0.000	301.280	0.00E+00	21.920	0.000
8	USD(min)	I[8]	-172.190	0.000	231.710	0.00E+00	23.600	0.000
8	USD(min)	1/4	-172.190	0.000	230.690	0.00E+00	5.810	0.000
8	USD(min)	2/4	-172.190	0.000	229.670	0.00E+00	-11.920	0.000
8	USD(min)	3/4	-172.190	0.000	228.640	0.00E+00	-30.110	0.000
8	USD(min)	J[9]	-172.190	0.000	227.620	0.00E+00	-48.280	0.000
8	WSD(max)	I[8]	19.780	0.000	191.330	0.00E+00	59.670	0.000
8	WSD(max)	1/4	19.780	0.000	190.580	0.00E+00	47.930	0.000
8	WSD(max)	2/4	19.780	0.000	189.820	0.00E+00	36.240	0.000
8	WSD(max)	3/4	19.780	0.000	189.060	0.00E+00	24.600	0.000

Elem	Load	Part	Axial (kN)	Shear-y (kN)	Shear-z (kN)	Torsion (kN・m)	Moment-y (kN・m)	Moment-z (kN・m)
8	WSD(max)	J[9]	19.780	0.000	188.300	0.00E+00	13.020	0.000
8	WSD(min)	I[8]	-104.760	0.000	171.130	0.00E+00	19.920	0.000
8	WSD(min)	1/4	-104.760	0.000	170.380	0.00E+00	8.100	0.000
8	WSD(min)	2/4	-104.760	0.000	169.620	0.00E+00	-3.670	0.000
8	WSD(min)	3/4	-104.760	0.000	168.860	0.00E+00	-16.590	0.000
8	WSD(min)	J[9]	-104.760	0.000	168.100	0.00E+00	-29.560	0.000
9	USD(max)	I[1]	-362.020	0.000	-14.850	0.00E+00	-70.380	0.000
9	USD(max)	1/4	-360.280	0.000	-13.590	0.00E+00	-64.680	0.000
9	USD(max)	2/4	-358.550	0.000	-12.350	0.00E+00	-59.370	0.000
9	USD(max)	3/4	-356.810	0.000	-11.120	0.00E+00	-54.430	0.000
9	USD(max)	J[10]	-355.070	0.000	-9.910	0.00E+00	-49.880	0.000
9	USD(min)	I[1]	-443.480	0.000	-131.160	0.00E+00	-97.320	0.000
9	USD(min)	1/4	-441.430	0.000	-123.340	0.00E+00	-95.760	0.000
9	USD(min)	2/4	-439.370	0.000	-115.550	0.00E+00	-94.310	0.000
9	USD(min)	3/4	-437.310	0.000	-107.800	0.00E+00	-92.960	0.000
9	USD(min)	J[10]	-435.250	0.000	-100.080	0.00E+00	-91.720	0.000
9	WSD(max)	I[1]	-249.430	0.000	-11.470	0.00E+00	-46.830	0.000
9	WSD(max)	1/4	-248.150	0.000	-10.570	0.00E+00	-43.610	0.000
9	WSD(max)	2/4	-246.860	0.000	-9.670	0.00E+00	-40.610	0.000
9	WSD(max)	3/4	-245.570	0.000	-8.790	0.00E+00	-37.830	0.000
9	WSD(max)	J[10]	-244.290	0.000	-7.920	0.00E+00	-35.260	0.000
9	WSD(min)	I[1]	-277.180	0.000	-78.650	0.00E+00	-60.830	0.000
9	WSD(min)	1/4	-275.890	0.000	-73.820	0.00E+00	-59.850	0.000
9	WSD(min)	2/4	-274.600	0.000	-69.020	0.00E+00	-58.940	0.000
9	WSD(min)	3/4	-273.320	0.000	-64.240	0.00E+00	-58.100	0.000
9	WSD(min)	J[10]	-272.030	0.000	-59.480	0.00E+00	-57.330	0.000
10	USD(max)	I[9]	-350.290	0.000	31.650	0.00E+00	-50.100	0.000
10	USD(max)	1/4	-348.560	0.000	31.650	0.00E+00	-51.640	0.000
10	USD(max)	2/4	-346.820	0.000	31.650	0.00E+00	-48.390	0.000
10	USD(max)	3/4	-345.080	0.000	31.650	0.00E+00	-44.350	0.000
10	USD(max)	J[11]	-343.350	0.000	31.650	0.00E+00	-40.650	0.000
10	USD(min)	I[9]	-443.480	0.000	-120.520	0.00E+00	-84.120	0.000
10	USD(min)	1/4	-441.430	0.000	-112.700	0.00E+00	-82.170	0.000
10	USD(min)	2/4	-439.370	0.000	-104.910	0.00E+00	-80.380	0.000
10	USD(min)	3/4	-437.310	0.000	-97.160	0.00E+00	-78.760	0.000
10	USD(min)	J[11]	-435.250	0.000	-89.440	0.00E+00	-77.300	0.000
10	WSD(max)	I[9]	-249.430	0.000	19.780	0.00E+00	-39.220	0.000
10	WSD(max)	1/4	-248.150	0.000	19.780	0.00E+00	-40.210	0.000
10	WSD(max)	2/4	-246.860	0.000	19.780	0.00E+00	-38.210	0.000
10	WSD(max)	3/4	-245.570	0.000	19.780	0.00E+00	-35.710	0.000
10	WSD(max)	J[11]	-244.290	0.000	19.780	0.00E+00	-33.420	0.000
10	WSD(min)	I[9]	-277.180	0.000	-72.890	0.00E+00	-52.470	0.000
10	WSD(min)	1/4	-275.890	0.000	-68.070	0.00E+00	-50.790	0.000
10	WSD(min)	2/4	-274.600	0.000	-63.270	0.00E+00	-49.240	0.000
10	WSD(min)	3/4	-273.320	0.000	-58.490	0.00E+00	-47.830	0.000
10	WSD(min)	J[11]	-272.030	0.000	-53.730	0.00E+00	-46.540	0.000
11	USD(max)	I[10]	-355.070	0.000	-9.910	0.00E+00	-49.880	0.000
11	USD(max)	1/4	-354.150	0.000	-8.230	0.00E+00	-44.130	0.000
11	USD(max)	2/4	-353.220	0.000	-6.570	0.00E+00	-39.110	0.000
11	USD(max)	3/4	-352.290	0.000	-4.940	0.00E+00	-34.820	0.000
11	USD(max)	J[12]	-351.370	0.000	-3.330	0.00E+00	-31.250	0.000
11	USD(min)	I[10]	-435.250	0.000	-100.080	0.00E+00	-91.720	0.000
11	USD(min)	1/4	-434.150	0.000	-89.330	0.00E+00	-90.170	0.000
11	USD(min)	2/4	-433.060	0.000	-78.650	0.00E+00	-88.810	0.000
11	USD(min)	3/4	-431.960	0.000	-68.040	0.00E+00	-88.410	0.000
11	USD(min)	J[12]	-430.860	0.000	-57.490	0.00E+00	-88.120	0.000
11	WSD(max)	I[10]	-244.290	0.000	-7.920	0.00E+00	-35.260	0.000
11	WSD(max)	1/4	-243.600	0.000	-6.710	0.00E+00	-32.030	0.000
11	WSD(max)	2/4	-242.920	0.000	-5.530	0.00E+00	-29.220	0.000
11	WSD(max)	3/4	-242.230	0.000	-4.370	0.00E+00	-26.830	0.000
11	WSD(max)	J[12]	-241.540	0.000	-3.220	0.00E+00	-24.860	0.000
11	WSD(min)	I[10]	-272.030	0.000	-59.480	0.00E+00	-57.330	0.000
11	WSD(min)	1/4	-271.350	0.000	-52.860	0.00E+00	-56.350	0.000
11	WSD(min)	2/4	-270.660	0.000	-46.270	0.00E+00	-55.510	0.000
11	WSD(min)	3/4	-269.970	0.000	-39.730	0.00E+00	-55.160	0.000
11	WSD(min)	J[12]	-269.290	0.000	-33.230	0.00E+00	-54.890	0.000
12	USD(max)	I[11]	-343.350	0.000	31.650	0.00E+00	-40.650	0.000
12	USD(max)	1/4	-342.420	0.000	31.650	0.00E+00	-36.050	0.000
12	USD(max)	2/4	-341.490	0.000	31.650	0.00E+00	-32.120	0.000
12	USD(max)	3/4	-340.570	0.000	31.650	0.00E+00	-28.870	0.000
12	USD(max)	J[13]	-339.640	0.000	31.650	0.00E+00	-26.280	0.000
12	USD(min)	I[11]	-435.250	0.000	-89.440	0.00E+00	-77.300	0.000
12	USD(min)	1/4	-434.150	0.000	-78.690	0.00E+00	-75.540	0.000
12	USD(min)	2/4	-433.060	0.000	-68.010	0.00E+00	-77.310	0.000
12	USD(min)	3/4	-431.960	0.000	-57.400	0.00E+00	-79.180	0.000
12	USD(min)	J[13]	-430.860	0.000	-46.850	0.00E+00	-81.060	0.000
12	WSD(max)	I[11]	-244.290	0.000	19.780	0.00E+00	-33.420	0.000
12	WSD(max)	1/4	-243.600	0.000	19.780	0.00E+00	-30.590	0.000
12	WSD(max)	2/4	-242.920	0.000	19.780	0.00E+00	-28.180	0.000
12	WSD(max)	3/4	-242.230	0.000	19.780	0.00E+00	-26.180	0.000

Elem	Load	Part	Axial (kN)	Shear-y (kN)	Shear-z (kN)	Torsion (kN · m)	Moment-y (kN · m)	Moment-z (kN · m)
12	WSD(max)	J[13]	-241.540	0.000	19.780	0.00E+00	-24.600	0.000
12	WSD(min)	I[11]	-272.030	0.000	-53.730	0.00E+00	-46.540	0.000
12	WSD(min)	1/4	-271.350	0.000	-47.110	0.00E+00	-46.630	0.000
12	WSD(min)	2/4	-270.660	0.000	-40.520	0.00E+00	-47.840	0.000
12	WSD(min)	3/4	-269.970	0.000	-33.980	0.00E+00	-49.060	0.000
12	WSD(min)	J[13]	-269.290	0.000	-27.480	0.00E+00	-50.270	0.000
13	USD(max)	I[12]	-351.370	0.000	-3.330	0.00E+00	-31.250	0.000
13	USD(max)	1/4	-350.440	0.000	-1.750	0.00E+00	-28.270	0.000
13	USD(max)	2/4	-349.520	0.000	-0.200	0.00E+00	-25.560	0.000
13	USD(max)	3/4	-348.590	0.000	3.910	0.00E+00	-23.570	0.000
13	USD(max)	J[14]	-347.660	0.000	8.300	0.00E+00	-22.280	0.000
13	USD(min)	I[12]	-430.860	0.000	-57.490	0.00E+00	-88.120	0.000
13	USD(min)	1/4	-429.760	0.000	-47.010	0.00E+00	-87.940	0.000
13	USD(min)	2/4	-428.670	0.000	-36.590	0.00E+00	-87.870	0.000
13	USD(min)	3/4	-427.570	0.000	-26.240	0.00E+00	-87.910	0.000
13	USD(min)	J[14]	-426.470	0.000	-15.960	0.00E+00	-88.060	0.000
13	WSD(max)	I[12]	-241.540	0.000	-3.220	0.00E+00	-24.860	0.000
13	WSD(max)	1/4	-240.860	0.000	-2.100	0.00E+00	-23.300	0.000
13	WSD(max)	2/4	-240.170	0.000	-1.000	0.00E+00	-22.140	0.000
13	WSD(max)	3/4	-239.490	0.000	0.310	0.00E+00	-21.400	0.000
13	WSD(max)	J[14]	-238.800	0.000	3.770	0.00E+00	-21.050	0.000
13	WSD(min)	I[12]	-269.290	0.000	-33.230	0.00E+00	-54.890	0.000
13	WSD(min)	1/4	-268.600	0.000	-26.770	0.00E+00	-54.710	0.000
13	WSD(min)	2/4	-267.920	0.000	-20.350	0.00E+00	-54.600	0.000
13	WSD(min)	3/4	-267.230	0.000	-13.980	0.00E+00	-54.570	0.000
13	WSD(min)	J[14]	-266.540	0.000	-7.640	0.00E+00	-54.610	0.000
14	USD(max)	I[13]	-339.640	0.000	31.650	0.00E+00	-26.280	0.000
14	USD(max)	1/4	-338.720	0.000	31.650	0.00E+00	-24.280	0.000
14	USD(max)	2/4	-337.790	0.000	31.650	0.00E+00	-22.830	0.000
14	USD(max)	3/4	-336.860	0.000	31.650	0.00E+00	-22.030	0.000
14	USD(max)	J[15]	-335.940	0.000	31.650	0.00E+00	-21.870	0.000
14	USD(min)	I[13]	-430.860	0.000	-46.850	0.00E+00	-81.060	0.000
14	USD(min)	1/4	-429.760	0.000	-36.370	0.00E+00	-82.940	0.000
14	USD(min)	2/4	-428.670	0.000	-25.950	0.00E+00	-84.820	0.000
14	USD(min)	3/4	-427.570	0.000	-15.600	0.00E+00	-86.690	0.000
14	USD(min)	J[15]	-426.470	0.000	-5.380	0.00E+00	-88.570	0.000
14	WSD(max)	I[13]	-241.540	0.000	19.780	0.00E+00	-24.600	0.000
14	WSD(max)	1/4	-240.860	0.000	19.780	0.00E+00	-23.300	0.000
14	WSD(max)	2/4	-240.170	0.000	19.780	0.00E+00	-22.140	0.000
14	WSD(max)	3/4	-239.490	0.000	19.780	0.00E+00	-21.400	0.000
14	WSD(max)	J[15]	-238.800	0.000	19.780	0.00E+00	-21.050	0.000
14	WSD(min)	I[13]	-269.290	0.000	-27.480	0.00E+00	-50.270	0.000
14	WSD(min)	1/4	-268.600	0.000	-21.020	0.00E+00	-51.490	0.000
14	WSD(min)	2/4	-267.920	0.000	-14.600	0.00E+00	-52.700	0.000
14	WSD(min)	3/4	-267.230	0.000	-8.230	0.00E+00	-53.920	0.000
14	WSD(min)	J[15]	-266.540	0.000	-2.030	0.00E+00	-55.140	0.000
15	USD(max)	I[14]	-347.660	0.000	8.300	0.00E+00	-22.280	0.000
15	USD(max)	1/4	-346.740	0.000	12.670	0.00E+00	-21.690	0.000
15	USD(max)	2/4	-345.810	0.000	17.040	0.00E+00	-21.790	0.000
15	USD(max)	3/4	-344.890	0.000	26.970	0.00E+00	-22.580	0.000
15	USD(max)	J[16]	-343.960	0.000	36.840	0.00E+00	-24.060	0.000
15	USD(min)	I[14]	-426.470	0.000	-15.960	0.00E+00	-88.060	0.000
15	USD(min)	1/4	-425.370	0.000	-5.750	0.00E+00	-88.310	0.000
15	USD(min)	2/4	-424.280	0.000	-1.020	0.00E+00	-88.660	0.000
15	USD(min)	3/4	-423.180	0.000	1.370	0.00E+00	-89.120	0.000
15	USD(min)	J[16]	-422.080	0.000	3.700	0.00E+00	-89.670	0.000
15	WSD(max)	I[14]	-238.800	0.000	3.770	0.00E+00	-21.050	0.000
15	WSD(max)	1/4	-238.110	0.000	7.210	0.00E+00	-21.110	0.000
15	WSD(max)	2/4	-237.430	0.000	10.650	0.00E+00	-21.570	0.000
15	WSD(max)	3/4	-236.740	0.000	16.860	0.00E+00	-22.420	0.000
15	WSD(max)	J[16]	-236.060	0.000	23.020	0.00E+00	-23.660	0.000
15	WSD(min)	I[14]	-266.540	0.000	-7.640	0.00E+00	-54.610	0.000
15	WSD(min)	1/4	-265.860	0.000	-1.350	0.00E+00	-54.730	0.000
15	WSD(min)	2/4	-265.170	0.000	1.510	0.00E+00	-54.910	0.000
15	WSD(min)	3/4	-264.490	0.000	2.910	0.00E+00	-55.170	0.000
15	WSD(min)	J[16]	-263.800	0.000	4.280	0.00E+00	-55.500	0.000
16	USD(max)	I[15]	-335.940	0.000	31.650	0.00E+00	-21.870	0.000
16	USD(max)	1/4	-335.010	0.000	31.650	0.00E+00	-22.350	0.000
16	USD(max)	2/4	-334.090	0.000	31.650	0.00E+00	-23.470	0.000
16	USD(max)	3/4	-333.160	0.000	32.970	0.00E+00	-25.220	0.000
16	USD(max)	J[17]	-332.230	0.000	41.900	0.00E+00	-27.600	0.000
16	USD(min)	I[15]	-426.470	0.000	-5.380	0.00E+00	-88.570	0.000
16	USD(min)	1/4	-425.370	0.000	4.570	0.00E+00	-90.450	0.000
16	USD(min)	2/4	-424.280	0.000	14.420	0.00E+00	-92.330	0.000
16	USD(min)	3/4	-423.180	0.000	18.610	0.00E+00	-94.200	0.000
16	USD(min)	J[17]	-422.080	0.000	22.780	0.00E+00	-96.080	0.000
16	WSD(max)	I[15]	-238.800	0.000	19.780	0.00E+00	-21.050	0.000
16	WSD(max)	1/4	-238.110	0.000	19.780	0.00E+00	-21.110	0.000
16	WSD(max)	2/4	-237.430	0.000	19.780	0.00E+00	-21.570	0.000
16	WSD(max)	3/4	-236.740	0.000	20.610	0.00E+00	-22.420	0.000

Elem	Load	Part	Axial (kN)	Shear-y (kN)	Shear-z (kN)	Torsion (kN · m)	Moment-y (kN · m)	Moment-z (kN · m)
16	WSD(max)	J[17]	-236.060	0.000	26.190	0.00E+00	-23.660	0.000
16	WSD(min)	I[15]	-266.540	0.000	-2.030	0.00E+00	-55.140	0.000
16	WSD(min)	1/4	-265.860	0.000	3.680	0.00E+00	-56.350	0.000
16	WSD(min)	2/4	-265.170	0.000	9.340	0.00E+00	-57.570	0.000
16	WSD(min)	3/4	-264.490	0.000	14.030	0.00E+00	-58.780	0.000
16	WSD(min)	J[17]	-263.800	0.000	17.370	0.00E+00	-60.000	0.000
17	USD(max)	I[16]	-343.960	0.000	36.840	0.00E+00	-24.060	0.000
17	USD(max)	1/4	-343.030	0.000	46.640	0.00E+00	-26.220	0.000
17	USD(max)	2/4	-342.110	0.000	56.370	0.00E+00	-29.050	0.000
17	USD(max)	3/4	-341.180	0.000	66.040	0.00E+00	-32.490	0.000
17	USD(max)	J[18]	-340.250	0.000	75.640	0.00E+00	-36.620	0.000
17	USD(min)	I[16]	-422.080	0.000	3.700	0.00E+00	-89.670	0.000
17	USD(min)	1/4	-420.980	0.000	5.950	0.00E+00	-90.320	0.000
17	USD(min)	2/4	-419.890	0.000	8.150	0.00E+00	-91.070	0.000
17	USD(min)	3/4	-418.790	0.000	9.970	0.00E+00	-91.910	0.000
17	USD(min)	J[18]	-417.690	0.000	11.420	0.00E+00	-92.840	0.000
17	WSD(max)	I[16]	-236.060	0.000	23.020	0.00E+00	-23.660	0.000
17	WSD(max)	1/4	-235.370	0.000	29.150	0.00E+00	-25.290	0.000
17	WSD(max)	2/4	-234.680	0.000	35.230	0.00E+00	-27.310	0.000
17	WSD(max)	3/4	-234.000	0.000	41.270	0.00E+00	-29.590	0.000
17	WSD(max)	J[18]	-233.310	0.000	47.270	0.00E+00	-32.280	0.000
17	WSD(min)	I[16]	-263.800	0.000	4.280	0.00E+00	-55.500	0.000
17	WSD(min)	1/4	-263.110	0.000	5.590	0.00E+00	-55.890	0.000
17	WSD(min)	2/4	-262.430	0.000	6.870	0.00E+00	-56.350	0.000
17	WSD(min)	3/4	-261.740	0.000	7.960	0.00E+00	-56.880	0.000
17	WSD(min)	J[18]	-261.060	0.000	8.850	0.00E+00	-57.470	0.000
18	USD(max)	I[17]	-332.230	0.000	41.900	0.00E+00	-27.600	0.000
18	USD(max)	1/4	-331.310	0.000	50.760	0.00E+00	-30.600	0.000
18	USD(max)	2/4	-330.380	0.000	59.550	0.00E+00	-34.220	0.000
18	USD(max)	3/4	-329.450	0.000	68.270	0.00E+00	-38.320	0.000
18	USD(max)	J[19]	-328.530	0.000	76.930	0.00E+00	-43.050	0.000
18	USD(min)	I[17]	-422.080	0.000	22.780	0.00E+00	-96.080	0.000
18	USD(min)	1/4	-420.980	0.000	25.910	0.00E+00	-97.960	0.000
18	USD(min)	2/4	-419.890	0.000	25.910	0.00E+00	-100.100	0.000
18	USD(min)	3/4	-418.790	0.000	25.910	0.00E+00	-102.310	0.000
18	USD(min)	J[19]	-417.690	0.000	25.910	0.00E+00	-104.530	0.000
18	WSD(max)	I[17]	-236.060	0.000	26.190	0.00E+00	-23.660	0.000
18	WSD(max)	1/4	-235.370	0.000	31.720	0.00E+00	-25.290	0.000
18	WSD(max)	2/4	-234.680	0.000	37.220	0.00E+00	-27.310	0.000
18	WSD(max)	3/4	-234.000	0.000	42.670	0.00E+00	-29.710	0.000
18	WSD(max)	J[19]	-233.310	0.000	48.080	0.00E+00	-32.490	0.000
18	WSD(min)	I[17]	-263.800	0.000	17.370	0.00E+00	-60.000	0.000
18	WSD(min)	1/4	-263.110	0.000	17.370	0.00E+00	-61.210	0.000
18	WSD(min)	2/4	-262.430	0.000	17.370	0.00E+00	-62.560	0.000
18	WSD(min)	3/4	-261.740	0.000	17.370	0.00E+00	-63.940	0.000
18	WSD(min)	J[19]	-261.060	0.000	17.370	0.00E+00	-65.330	0.000
19	USD(max)	I[18]	-340.250	0.000	75.640	0.00E+00	-36.620	0.000
19	USD(max)	1/4	-339.330	0.000	85.170	0.00E+00	-41.440	0.000
19	USD(max)	2/4	-338.400	0.000	94.640	0.00E+00	-46.920	0.000
19	USD(max)	3/4	-337.480	0.000	104.030	0.00E+00	-53.080	0.000
19	USD(max)	J[20]	-336.550	0.000	113.370	0.00E+00	-59.900	0.000
19	USD(min)	I[18]	-417.690	0.000	11.420	0.00E+00	-92.840	0.000
19	USD(min)	1/4	-416.590	0.000	12.850	0.00E+00	-93.860	0.000
19	USD(min)	2/4	-415.490	0.000	14.250	0.00E+00	-94.980	0.000
19	USD(min)	3/4	-414.400	0.000	15.630	0.00E+00	-96.540	0.000
19	USD(min)	J[20]	-413.300	0.000	16.980	0.00E+00	-100.530	0.000
19	WSD(max)	I[18]	-233.310	0.000	47.270	0.00E+00	-32.280	0.000
19	WSD(max)	1/4	-232.630	0.000	53.230	0.00E+00	-35.400	0.000
19	WSD(max)	2/4	-231.940	0.000	59.150	0.00E+00	-38.930	0.000
19	WSD(max)	3/4	-231.250	0.000	65.020	0.00E+00	-42.870	0.000
19	WSD(max)	J[20]	-230.570	0.000	70.850	0.00E+00	-47.230	0.000
19	WSD(min)	I[18]	-261.060	0.000	8.850	0.00E+00	-57.470	0.000
19	WSD(min)	1/4	-260.370	0.000	9.720	0.00E+00	-58.120	0.000
19	WSD(min)	2/4	-259.680	0.000	10.570	0.00E+00	-58.830	0.000
19	WSD(min)	3/4	-259.000	0.000	11.400	0.00E+00	-59.600	0.000
19	WSD(min)	J[20]	-258.310	0.000	12.210	0.00E+00	-60.930	0.000
20	USD(max)	I[19]	-328.530	0.000	76.930	0.00E+00	-43.050	0.000
20	USD(max)	1/4	-327.600	0.000	85.520	0.00E+00	-48.440	0.000
20	USD(max)	2/4	-326.680	0.000	94.640	0.00E+00	-54.490	0.000
20	USD(max)	3/4	-325.750	0.000	104.030	0.00E+00	-61.200	0.000
20	USD(max)	J[21]	-324.820	0.000	113.370	0.00E+00	-68.550	0.000
20	USD(min)	I[19]	-417.690	0.000	25.910	0.00E+00	-104.530	0.000
20	USD(min)	1/4	-416.590	0.000	25.910	0.00E+00	-106.740	0.000
20	USD(min)	2/4	-415.490	0.000	25.910	0.00E+00	-108.960	0.000
20	USD(min)	3/4	-414.400	0.000	25.910	0.00E+00	-111.170	0.000
20	USD(min)	J[21]	-413.300	0.000	25.910	0.00E+00	-113.390	0.000
20	WSD(max)	I[19]	-233.310	0.000	48.080	0.00E+00	-32.490	0.000
20	WSD(max)	1/4	-232.630	0.000	53.450	0.00E+00	-35.650	0.000
20	WSD(max)	2/4	-231.940	0.000	59.150	0.00E+00	-39.180	0.000
20	WSD(max)	3/4	-231.250	0.000	65.020	0.00E+00	-43.090	0.000

Elem	Load	Part	Axial (kN)	Shear-y (kN)	Shear-z (kN)	Torsion (kN · m)	Moment-y (kN · m)	Moment-z (kN · m)
20	WSD(max)	J[21]	-230.570	0.000	70.850	0.00E+00	-47.360	0.000
20	WSD(min)	I[19]	-261.060	0.000	17.370	0.00E+00	-65.330	0.000
20	WSD(min)	1/4	-260.370	0.000	17.370	0.00E+00	-66.710	0.000
20	WSD(min)	2/4	-259.680	0.000	17.370	0.00E+00	-68.100	0.000
20	WSD(min)	3/4	-259.000	0.000	17.370	0.00E+00	-69.480	0.000
20	WSD(min)	J[21]	-258.310	0.000	17.370	0.00E+00	-70.870	0.000
21	USD(max)	I[20]	-336.550	0.000	113.370	0.00E+00	-59.900	0.000
21	USD(max)	1/4	-334.900	0.000	119.990	0.00E+00	-65.180	0.000
21	USD(max)	2/4	-333.240	0.000	126.580	0.00E+00	-70.770	0.000
21	USD(max)	3/4	-331.590	0.000	133.140	0.00E+00	-76.660	0.000
21	USD(max)	J[22]	-329.940	0.000	139.660	0.00E+00	-82.350	0.000
21	USD(min)	I[20]	-413.300	0.000	16.980	0.00E+00	-100.530	0.000
21	USD(min)	1/4	-411.340	0.000	17.930	0.00E+00	-103.550	0.000
21	USD(min)	2/4	-409.380	0.000	18.870	0.00E+00	-106.720	0.000
21	USD(min)	3/4	-407.420	0.000	19.790	0.00E+00	-110.030	0.000
21	USD(min)	J[22]	-405.460	0.000	20.710	0.00E+00	-113.490	0.000
21	WSD(max)	I[20]	-230.570	0.000	70.850	0.00E+00	-47.230	0.000
21	WSD(max)	1/4	-229.340	0.000	75.000	0.00E+00	-50.590	0.000
21	WSD(max)	2/4	-228.120	0.000	79.110	0.00E+00	-54.100	0.000
21	WSD(max)	3/4	-226.890	0.000	83.210	0.00E+00	-57.750	0.000
21	WSD(max)	J[22]	-225.670	0.000	87.290	0.00E+00	-61.480	0.000
21	WSD(min)	I[20]	-258.310	0.000	12.210	0.00E+00	-60.930	0.000
21	WSD(min)	1/4	-257.090	0.000	12.770	0.00E+00	-63.180	0.000
21	WSD(min)	2/4	-255.860	0.000	13.320	0.00E+00	-65.530	0.000
21	WSD(min)	3/4	-254.640	0.000	13.870	0.00E+00	-68.000	0.000
21	WSD(min)	J[22]	-253.410	0.000	14.400	0.00E+00	-70.580	0.000
22	USD(max)	I[21]	-324.820	0.000	113.370	0.00E+00	-68.550	0.000
22	USD(max)	1/4	-323.170	0.000	119.990	0.00E+00	-74.170	0.000
22	USD(max)	2/4	-321.520	0.000	126.580	0.00E+00	-79.990	0.000
22	USD(max)	3/4	-319.860	0.000	133.140	0.00E+00	-86.100	0.000
22	USD(max)	J[30]	-318.210	0.000	139.660	0.00E+00	-92.500	0.000
22	USD(min)	I[21]	-413.300	0.000	25.910	0.00E+00	-113.390	0.000
22	USD(min)	1/4	-411.340	0.000	25.910	0.00E+00	-114.970	0.000
22	USD(min)	2/4	-409.380	0.000	25.910	0.00E+00	-116.550	0.000
22	USD(min)	3/4	-407.420	0.000	25.910	0.00E+00	-118.140	0.000
22	USD(min)	J[30]	-405.460	0.000	25.910	0.00E+00	-119.720	0.000
22	WSD(max)	I[21]	-230.570	0.000	70.850	0.00E+00	-47.360	0.000
22	WSD(max)	1/4	-229.340	0.000	75.000	0.00E+00	-50.640	0.000
22	WSD(max)	2/4	-228.120	0.000	79.110	0.00E+00	-54.100	0.000
22	WSD(max)	3/4	-226.890	0.000	83.210	0.00E+00	-57.750	0.000
22	WSD(max)	J[30]	-225.670	0.000	87.290	0.00E+00	-61.570	0.000
22	WSD(min)	I[21]	-258.310	0.000	17.370	0.00E+00	-70.870	0.000
22	WSD(min)	1/4	-257.090	0.000	17.370	0.00E+00	-71.860	0.000
22	WSD(min)	2/4	-255.860	0.000	17.370	0.00E+00	-72.850	0.000
22	WSD(min)	3/4	-254.640	0.000	17.370	0.00E+00	-73.830	0.000
22	WSD(min)	J[30]	-253.410	0.000	17.370	0.00E+00	-74.820	0.000
23	USD(max)	I[22]	-25.910	0.000	-251.870	0.00E+00	-2.600	0.000
23	USD(max)	1/4	-25.910	0.000	-238.860	0.00E+00	9.720	0.000
23	USD(max)	2/4	-25.910	0.000	-225.850	0.00E+00	22.750	0.000
23	USD(max)	3/4	-25.910	0.000	-212.720	0.00E+00	35.520	0.000
23	USD(max)	J[23]	-25.910	0.000	-199.230	0.00E+00	47.520	0.000
23	USD(min)	I[22]	-178.610	0.000	-313.310	0.00E+00	-50.560	0.000
23	USD(min)	1/4	-178.610	0.000	-297.950	0.00E+00	-36.170	0.000
23	USD(min)	2/4	-178.610	0.000	-282.590	0.00E+00	-23.430	0.000
23	USD(min)	3/4	-178.610	0.000	-267.230	0.00E+00	-11.360	0.000
23	USD(min)	J[23]	-178.610	0.000	-251.880	0.00E+00	-0.240	0.000
23	WSD(max)	I[22]	-17.370	0.000	-174.380	0.00E+00	-3.190	0.000
23	WSD(max)	1/4	-17.370	0.000	-165.830	0.00E+00	5.760	0.000
23	WSD(max)	2/4	-17.370	0.000	-157.280	0.00E+00	14.220	0.000
23	WSD(max)	3/4	-17.370	0.000	-148.740	0.00E+00	22.200	0.000
23	WSD(max)	J[23]	-17.370	0.000	-140.190	0.00E+00	29.700	0.000
23	WSD(min)	I[22]	-111.300	0.000	-195.820	0.00E+00	-31.600	0.000
23	WSD(min)	1/4	-111.300	0.000	-186.220	0.00E+00	-22.050	0.000
23	WSD(min)	2/4	-111.300	0.000	-176.620	0.00E+00	-12.980	0.000
23	WSD(min)	3/4	-111.300	0.000	-167.020	0.00E+00	-4.390	0.000
23	WSD(min)	J[23]	-111.300	0.000	-157.420	0.00E+00	3.120	0.000
24	USD(max)	I[23]	-25.910	0.000	-199.230	0.00E+00	47.520	0.000
24	USD(max)	1/4	-25.910	0.000	-180.830	0.00E+00	62.670	0.000
24	USD(max)	2/4	-25.910	0.000	-162.420	0.00E+00	76.380	0.000
24	USD(max)	3/4	-25.910	0.000	-144.010	0.00E+00	88.670	0.000
24	USD(max)	J[24]	-25.910	0.000	-125.610	0.00E+00	99.560	0.000
24	USD(min)	I[23]	-178.610	0.000	-251.880	0.00E+00	-0.240	0.000
24	USD(min)	1/4	-178.610	0.000	-230.910	0.00E+00	13.720	0.000
24	USD(min)	2/4	-178.610	0.000	-209.950	0.00E+00	26.460	0.000
24	USD(min)	3/4	-178.610	0.000	-188.980	0.00E+00	38.000	0.000
24	USD(min)	J[24]	-178.610	0.000	-168.020	0.00E+00	48.320	0.000
24	WSD(max)	I[23]	-17.370	0.000	-140.190	0.00E+00	29.700	0.000
24	WSD(max)	1/4	-17.370	0.000	-128.520	0.00E+00	39.170	0.000
24	WSD(max)	2/4	-17.370	0.000	-116.850	0.00E+00	47.740	0.000
24	WSD(max)	3/4	-17.370	0.000	-105.180	0.00E+00	55.420	0.000

Elem	Load	Part	Axial (kN)	Shear-y (kN)	Shear-z (kN)	Torsion (kN · m)	Moment-y (kN · m)	Moment-z (kN · m)
24	WSD(max)	J[24]	-17.370	0.000	-92.830	0.00E+00	62.220	0.000
24	WSD(min)	I[23]	-111.300	0.000	-157.420	0.00E+00	3.120	0.000
24	WSD(min)	1/4	-111.300	0.000	-144.320	0.00E+00	12.290	0.000
24	WSD(min)	2/4	-111.300	0.000	-131.220	0.00E+00	20.670	0.000
24	WSD(min)	3/4	-111.300	0.000	-118.120	0.00E+00	28.240	0.000
24	WSD(min)	J[24]	-111.300	0.000	-105.010	0.00E+00	35.020	0.000
25	USD(max)	I[24]	-25.910	0.000	-125.610	0.00E+00	99.560	0.000
25	USD(max)	1/4	-25.910	0.000	-107.130	0.00E+00	109.180	0.000
25	USD(max)	2/4	-25.910	0.000	-88.660	0.00E+00	117.370	0.000
25	USD(max)	3/4	-25.910	0.000	-70.190	0.00E+00	124.110	0.000
25	USD(max)	J[25]	-25.910	0.000	-51.720	0.00E+00	129.410	0.000
25	USD(min)	I[24]	-178.610	0.000	-168.020	0.00E+00	48.320	0.000
25	USD(min)	1/4	-178.610	0.000	-146.980	0.00E+00	57.460	0.000
25	USD(min)	2/4	-178.610	0.000	-125.940	0.00E+00	65.380	0.000
25	USD(min)	3/4	-178.610	0.000	-104.900	0.00E+00	71.420	0.000
25	USD(min)	J[25]	-178.610	0.000	-83.860	0.00E+00	75.970	0.000
25	WSD(max)	I[24]	-17.370	0.000	-92.830	0.00E+00	62.220	0.000
25	WSD(max)	1/4	-17.370	0.000	-79.680	0.00E+00	68.210	0.000
25	WSD(max)	2/4	-17.370	0.000	-66.530	0.00E+00	73.310	0.000
25	WSD(max)	3/4	-17.370	0.000	-53.380	0.00E+00	77.500	0.000
25	WSD(max)	J[25]	-17.370	0.000	-40.230	0.00E+00	80.790	0.000
25	WSD(min)	I[24]	-111.300	0.000	-105.010	0.00E+00	35.020	0.000
25	WSD(min)	1/4	-111.300	0.000	-91.860	0.00E+00	41.030	0.000
25	WSD(min)	2/4	-111.300	0.000	-78.710	0.00E+00	46.230	0.000
25	WSD(min)	3/4	-111.300	0.000	-65.560	0.00E+00	50.630	0.000
25	WSD(min)	J[25]	-111.300	0.000	-52.410	0.00E+00	54.230	0.000
26	USD(max)	I[25]	-25.910	0.000	-51.720	0.00E+00	129.410	0.000
26	USD(max)	1/4	-25.910	0.000	-33.310	0.00E+00	133.260	0.000
26	USD(max)	2/4	-25.910	0.000	-14.900	0.00E+00	135.680	0.000
26	USD(max)	3/4	-25.910	0.000	3.500	0.00E+00	136.660	0.000
26	USD(max)	J[26]	-25.910	0.000	21.910	0.00E+00	136.220	0.000
26	USD(min)	I[25]	-178.610	0.000	-83.860	0.00E+00	75.970	0.000
26	USD(min)	1/4	-178.610	0.000	-62.890	0.00E+00	79.280	0.000
26	USD(min)	2/4	-178.610	0.000	-41.930	0.00E+00	81.390	0.000
26	USD(min)	3/4	-178.610	0.000	-20.960	0.00E+00	82.280	0.000
26	USD(min)	J[26]	-178.610	0.000	0.000	0.00E+00	81.960	0.000
26	WSD(max)	I[25]	-17.370	0.000	-40.230	0.00E+00	80.790	0.000
26	WSD(max)	1/4	-17.370	0.000	-27.130	0.00E+00	83.180	0.000
26	WSD(max)	2/4	-17.370	0.000	-14.030	0.00E+00	84.660	0.000
26	WSD(max)	3/4	-17.370	0.000	-0.920	0.00E+00	85.260	0.000
26	WSD(max)	J[26]	-17.370	0.000	12.180	0.00E+00	84.960	0.000
26	WSD(min)	I[25]	-111.300	0.000	-52.410	0.00E+00	54.230	0.000
26	WSD(min)	1/4	-111.300	0.000	-39.310	0.00E+00	57.020	0.000
26	WSD(min)	2/4	-111.300	0.000	-26.210	0.00E+00	59.010	0.000
26	WSD(min)	3/4	-111.300	0.000	-13.100	0.00E+00	60.200	0.000
26	WSD(min)	J[26]	-111.300	0.000	0.000	0.00E+00	60.600	0.000
27	USD(max)	I[26]	-25.910	0.000	21.910	0.00E+00	136.220	0.000
27	USD(max)	1/4	-25.910	0.000	38.160	0.00E+00	134.420	0.000
27	USD(max)	2/4	-25.910	0.000	56.820	0.00E+00	131.350	0.000
27	USD(max)	3/4	-25.910	0.000	75.490	0.00E+00	127.010	0.000
27	USD(max)	J[27]	-25.910	0.000	94.160	0.00E+00	121.390	0.000
27	USD(min)	I[26]	-178.610	0.000	0.000	0.00E+00	81.960	0.000
27	USD(min)	1/4	-178.610	0.000	17.760	0.00E+00	80.500	0.000
27	USD(min)	2/4	-178.610	0.000	35.520	0.00E+00	77.960	0.000
27	USD(min)	3/4	-178.610	0.000	53.280	0.00E+00	74.350	0.000
27	USD(min)	J[27]	-178.610	0.000	71.040	0.00E+00	69.660	0.000
27	WSD(max)	I[26]	-17.370	0.000	12.180	0.00E+00	84.960	0.000
27	WSD(max)	1/4	-17.370	0.000	23.850	0.00E+00	83.820	0.000
27	WSD(max)	2/4	-17.370	0.000	35.510	0.00E+00	81.880	0.000
27	WSD(max)	3/4	-17.370	0.000	47.180	0.00E+00	79.140	0.000
27	WSD(max)	J[27]	-17.370	0.000	58.850	0.00E+00	75.610	0.000
27	WSD(min)	I[26]	-111.300	0.000	0.000	0.00E+00	60.600	0.000
27	WSD(min)	1/4	-111.300	0.000	11.670	0.00E+00	60.200	0.000
27	WSD(min)	2/4	-111.300	0.000	23.340	0.00E+00	59.010	0.000
27	WSD(min)	3/4	-111.300	0.000	35.000	0.00E+00	57.020	0.000
27	WSD(min)	J[27]	-111.300	0.000	46.670	0.00E+00	54.230	0.000
28	USD(max)	I[27]	-25.910	0.000	94.160	0.00E+00	121.390	0.000
28	USD(max)	1/4	-25.910	0.000	112.900	0.00E+00	114.470	0.000
28	USD(max)	2/4	-25.910	0.000	131.640	0.00E+00	106.260	0.000
28	USD(max)	3/4	-25.910	0.000	150.370	0.00E+00	96.770	0.000
28	USD(max)	J[28]	-25.910	0.000	169.110	0.00E+00	86.000	0.000
28	USD(min)	I[27]	-178.610	0.000	71.040	0.00E+00	69.660	0.000
28	USD(min)	1/4	-178.610	0.000	88.870	0.00E+00	63.870	0.000
28	USD(min)	2/4	-178.610	0.000	106.690	0.00E+00	56.970	0.000
28	USD(min)	3/4	-178.610	0.000	123.990	0.00E+00	48.720	0.000
28	USD(min)	J[28]	-178.610	0.000	139.800	0.00E+00	39.380	0.000
28	WSD(max)	I[27]	-17.370	0.000	58.850	0.00E+00	75.610	0.000
28	WSD(max)	1/4	-17.370	0.000	70.560	0.00E+00	71.260	0.000
28	WSD(max)	2/4	-17.370	0.000	82.270	0.00E+00	66.110	0.000
28	WSD(max)	3/4	-17.370	0.000	93.980	0.00E+00	60.160	0.000

Elem	Load	Part	Axial (kN)	Shear-y (kN)	Shear-z (kN)	Torsion (kN · m)	Moment-y (kN · m)	Moment-z (kN · m)
28	WSD(max)	J[28]	-17.370	0.000	105.690	0.00E+00	53.400	0.000
28	WSD(min)	I[27]	-111.300	0.000	46.670	0.00E+00	54.230	0.000
28	WSD(min)	1/4	-111.300	0.000	58.380	0.00E+00	50.630	0.000
28	WSD(min)	2/4	-111.300	0.000	70.090	0.00E+00	46.150	0.000
28	WSD(min)	3/4	-111.300	0.000	81.800	0.00E+00	40.280	0.000
28	WSD(min)	J[28]	-111.300	0.000	93.520	0.00E+00	33.620	0.000
29	USD(max)	I[28]	-25.910	0.000	169.110	0.00E+00	86.000	0.000
29	USD(max)	1/4	-25.910	0.000	188.980	0.00E+00	73.990	0.000
29	USD(max)	2/4	-25.910	0.000	209.950	0.00E+00	60.710	0.000
29	USD(max)	3/4	-25.910	0.000	230.910	0.00E+00	46.150	0.000
29	USD(max)	J[29]	-25.910	0.000	251.880	0.00E+00	30.320	0.000
29	USD(min)	I[28]	-178.610	0.000	139.800	0.00E+00	39.380	0.000
29	USD(min)	1/4	-178.610	0.000	155.560	0.00E+00	29.010	0.000
29	USD(min)	2/4	-178.610	0.000	171.310	0.00E+00	17.550	0.000
29	USD(min)	3/4	-178.610	0.000	187.060	0.00E+00	5.030	0.000
29	USD(min)	J[29]	-178.610	0.000	202.810	0.00E+00	-8.570	0.000
29	WSD(max)	I[28]	-17.370	0.000	105.690	0.00E+00	53.400	0.000
29	WSD(max)	1/4	-17.370	0.000	118.120	0.00E+00	45.880	0.000
29	WSD(max)	2/4	-17.370	0.000	131.220	0.00E+00	37.560	0.000
29	WSD(max)	3/4	-17.370	0.000	144.320	0.00E+00	28.440	0.000
29	WSD(max)	J[29]	-17.370	0.000	157.420	0.00E+00	18.520	0.000
29	WSD(min)	I[28]	-111.300	0.000	93.520	0.00E+00	33.620	0.000
29	WSD(min)	1/4	-111.300	0.000	105.180	0.00E+00	26.170	0.000
29	WSD(min)	2/4	-111.300	0.000	116.850	0.00E+00	17.940	0.000
29	WSD(min)	3/4	-111.300	0.000	128.520	0.00E+00	8.900	0.000
29	WSD(min)	J[29]	-111.300	0.000	140.190	0.00E+00	-0.930	0.000
30	USD(max)	I[29]	-25.910	0.000	251.880	0.00E+00	30.320	0.000
30	USD(max)	1/4	-25.910	0.000	267.230	0.00E+00	17.920	0.000
30	USD(max)	2/4	-25.910	0.000	282.590	0.00E+00	4.830	0.000
30	USD(max)	3/4	-25.910	0.000	297.950	0.00E+00	-8.950	0.000
30	USD(max)	J[30]	-25.910	0.000	313.310	0.00E+00	-23.110	0.000
30	USD(min)	I[29]	-178.610	0.000	202.810	0.00E+00	-8.570	0.000
30	USD(min)	1/4	-178.610	0.000	214.350	0.00E+00	-19.220	0.000
30	USD(min)	2/4	-178.610	0.000	225.890	0.00E+00	-30.440	0.000
30	USD(min)	3/4	-178.610	0.000	237.430	0.00E+00	-42.250	0.000
30	USD(min)	J[30]	-178.610	0.000	248.970	0.00E+00	-54.920	0.000
30	WSD(max)	I[29]	-17.370	0.000	157.420	0.00E+00	18.520	0.000
30	WSD(max)	1/4	-17.370	0.000	167.020	0.00E+00	10.750	0.000
30	WSD(max)	2/4	-17.370	0.000	176.620	0.00E+00	2.550	0.000
30	WSD(max)	3/4	-17.370	0.000	186.220	0.00E+00	-6.070	0.000
30	WSD(max)	J[30]	-17.370	0.000	195.820	0.00E+00	-15.120	0.000
30	WSD(min)	I[29]	-111.300	0.000	140.190	0.00E+00	-0.930	0.000
30	WSD(min)	1/4	-111.300	0.000	148.740	0.00E+00	-8.640	0.000
30	WSD(min)	2/4	-111.300	0.000	157.280	0.00E+00	-16.770	0.000
30	WSD(min)	3/4	-111.300	0.000	165.830	0.00E+00	-25.330	0.000
30	WSD(min)	J[30]	-111.300	0.000	174.380	0.00E+00	-34.320	0.000

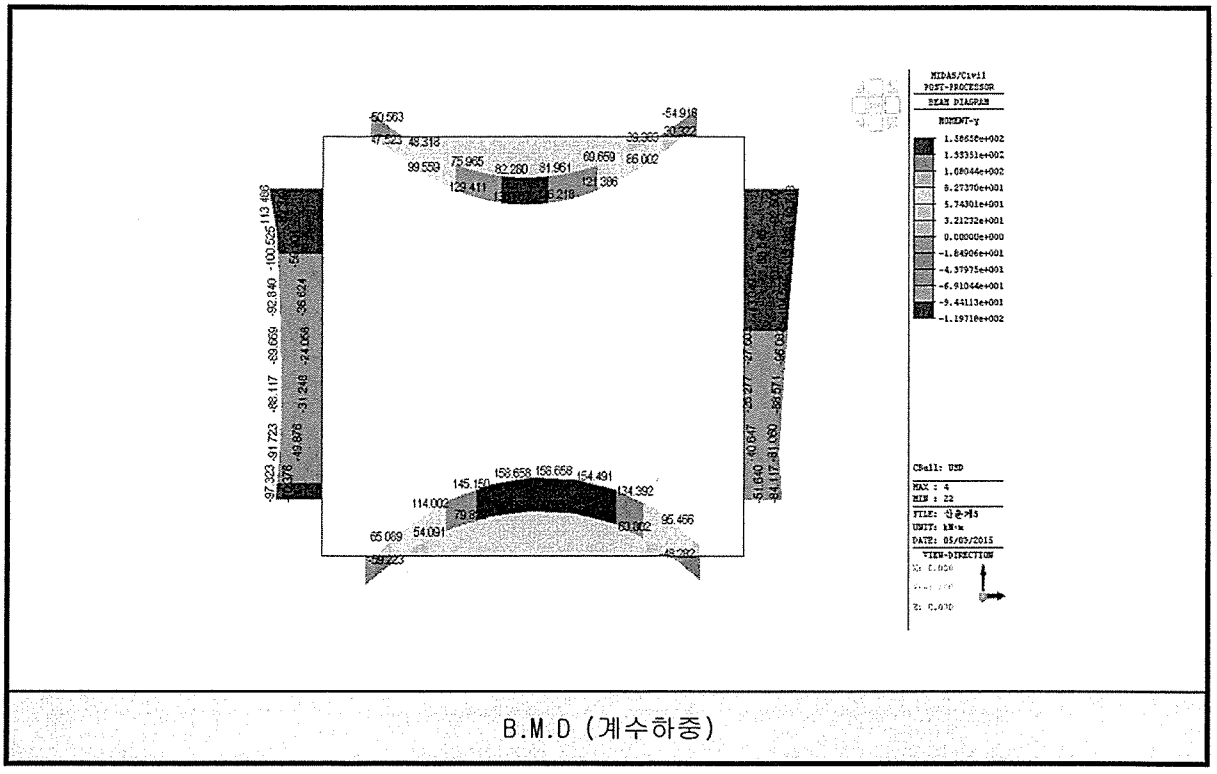
9. 단면력 요약

구분	위치	부재	극한하중			사용하중	비고
			Mu(kN · m)	Su(kN)	Pu(kN)	M(kN · m)	
상부슬래브	단부	23,30	-54.92	313.31	-	-34.32	
	중앙부	26,27	136.66	94.16	-	85.26	
벽체	상단부 (축력최대)	21.22	-100.53	139.66	-413.30	-47.23	
	상단부 (모멘트최대)	21,22	-119.72	139.66	-380.55	-74.82	
	중앙부 (축력최대)	15,16	-72.00	41.90	-426.47	-21.05	
	중앙부 (모멘트최대)	15,16	-96.08	-15.96	-394.68	-60.00	
	하단부 (축력최대)	9,10	-84.12	-131.16	-443.48	-33.42	
	하단부 (모멘트최대)	9,10	-97.32	-131.16	-424.00	-60.83	
하부슬래브	단부	1,8	-59.22	306.94	-	-35.47	
	중앙부	4,5	158.66	64.77	-	98.87	

-'전단력과 사용하중 상태에서의 모멘트는 선택 부재에서의 최대값 적용

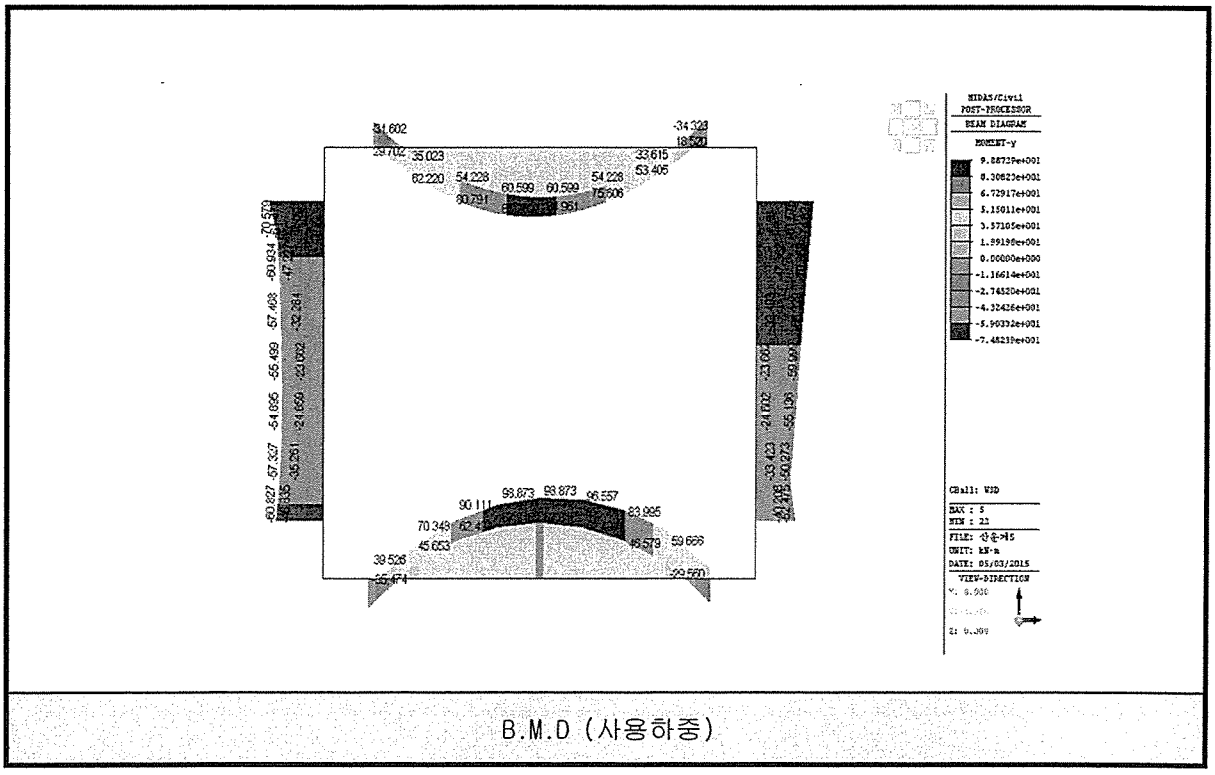
10. 단면력도

(1) 극한하중 모멘트도



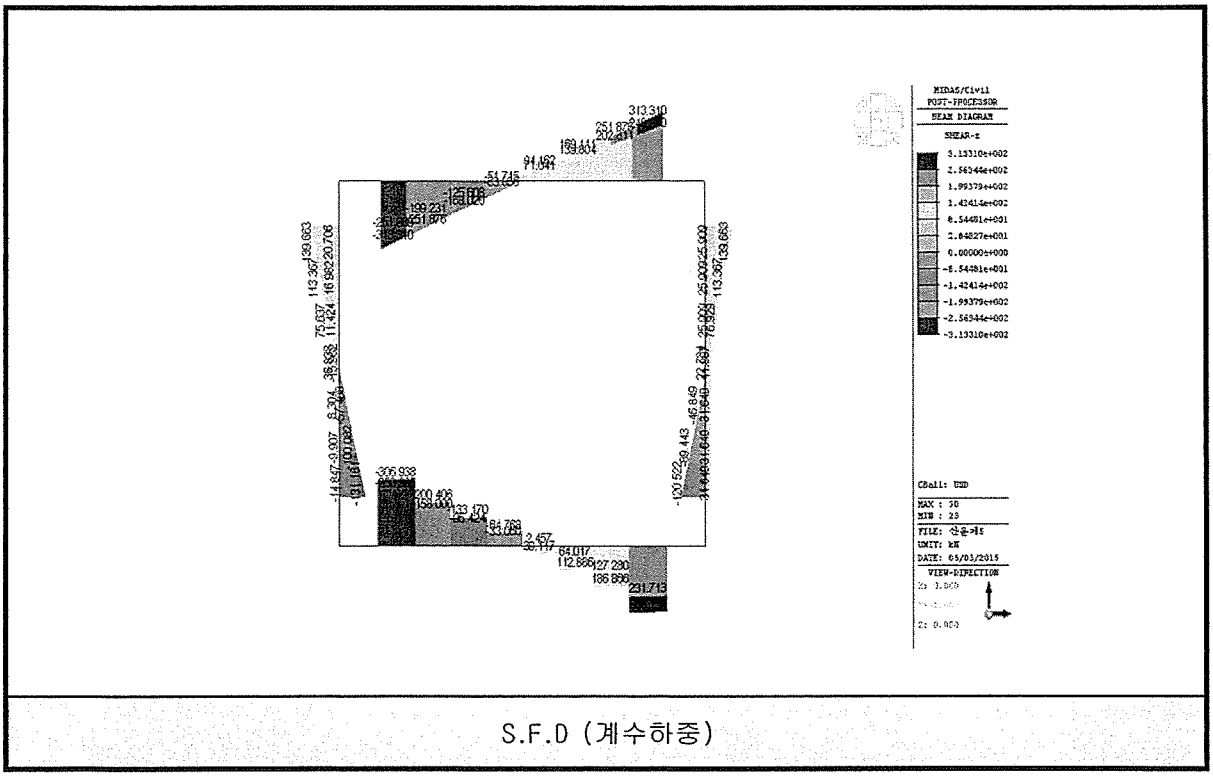
B.M.D (계수하중)

(2) 사용하중 모멘트도



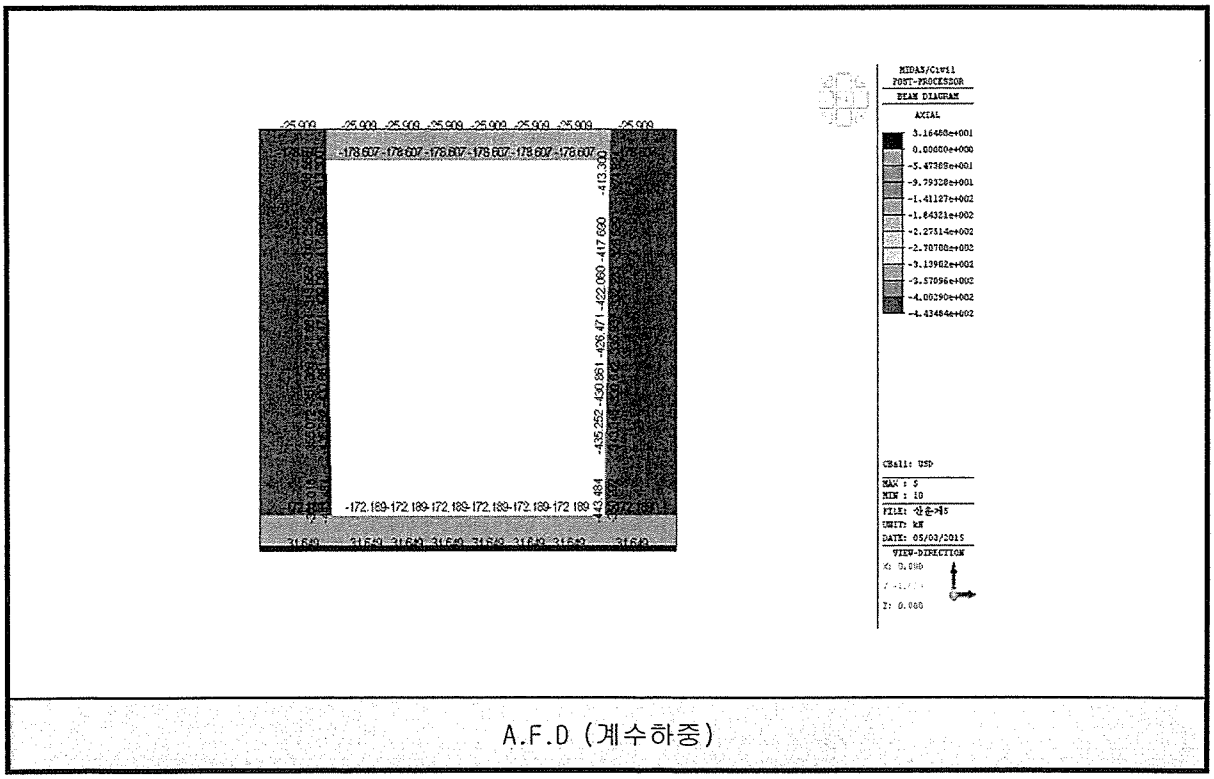
B.M.D (사용하중)

(3) 극한하중 전단력도



S.F.D (계수하중)

(4) 극한하중 축력도



A.F.D (계수하중)

11. 단면검토

① 상부 슬래브 단부

* 검토 조건

pmin = max(0.25√fck / fy, 1.4/fy) = 0.00350

fck (Mpa)	fy (Mpa)	β1	Φf	Φv	Mo (kN.m)
30.0	400.0	0.836	0.900	0.850	34.320
B (mm)	H (mm)	d (mm)	피복 (mm)	Mu (kN.m)	Su (kN)
1000.0	500.0	400.0	100.0	54.920	313.310

전단설계시 단면의 유효높이 ds = 300.0 d1' = 100 d2' = 0

* 휨모멘트 검토

공칭강도시 등가응력깊이 a = (As×fy) / (0.85×fck×B) = 24.922 mm

최외단 인장철근 변형률 εt = 0.03725 ≥ 0.004 ----- ∴ O.K.

여기서 εt = 0.003×(H - a/β1 - Dc_min) / (a/β1)

0.005 ≤ εt 이므로 인장지배단면, Φf = 0.900 를 적용한다.

ⓐ 필요철근량 및 철근비 검토

Mu / Φ = As×fy / (d - a/2) ---------- (1)

a = As×fy / (0.85×fck×b) ---------- (2)

式(2)를 式(1)에 대입하여 2차방정식으로 As를 구한다.

$$\frac{fy^2}{2\times 0.85\times fck\times b}\times As^2 - fy\times d\times As + \frac{Mu}{\Phi} = 0$$

필요 철근량 req.As = 384.284 mm^2

사용철근비 : Puse = As / (B × D) = 0.00397

최대철근비 : Pmax = 0.714 x k1 x Φx (fck / fy) x {600 / (600 + fy)} = 0.02283

최소철근비 :
- Pmin = 1.4 / fy = 0.00350
- Pmin = 0.25 √fck / fy = 0.00342
- 적용 = 0.0035

As(req) = 384.284 mm^2 As(min) = 1400.000 mm^2

4/3×As(req) = 512.379 mm^2 ※ As = 512.379 mm^2

사용철근량 = H16 × 8ea = 1588.800 ㎟ ----- ∴ O.K.

ⓑ 휨강도 검토

ØMn = Øf · fy · As · (D - a/2) = 221659907 N · mm

= 221.660 kN · m > 54.920 kN · m ----- ∴ O.K. [사용률 = 4.036]

* 전단력 검토

Øv · Vc = Øv · 1/6 · √fck · B · d / 1000 = 232.782 kN

Vu > Φv x Vc ∴ 전단철근보강이 필요하다.

Req Av = (313.3 - 232.782)×10³ ×150.0 / (400.0×300.0×0.85)

= 118.423 ㎟

Use Av = 253.400 ㎟ (H13×2 EA, 간격 s = 150.0 mm)

Øv · As = Øv · Av · fy · D / (s × B) = 172.312 kN

s = 150.0 mm ≥ Min (600, 0.5D) = 150.0 mm ----- ∴ O.K.

Øv · Vn = Øv · Vc + Øv · Vs = 405.094 kN > Vu ----- ∴ O.K.

▣ 사용성 검토 (균열방지 인장철근 간격검토)

ⓐ 응력산정

fs = M / [As x (d - χ/3)]

= 34.32 × 1000000 / [1588.8×(400 - 83.857/3)]

= 58.060 Mpa

χ = -nAs/b + nAs/b√[1 + 2bd/(nAs)]

= -7 × 1588.8/1000 + 7 × 1588.8/1000 × √[(1 + 2×1000×400/(7×1588.8)]

= 83.857 mm

사용철근량 = 1588.800 mm^2 (철근도심 : 100 mm)

1단 H16 @ 125 (= 1588.8 ㎟)

ⓑ 철근의 최대 중심간격

Cc = 100 - 16 / 2 = 92.00 mm

여기서 Cc ; 인장철근이나 긴장재의 표면과 콘크리트 표면사이의 두께(mm)

Smin : 375 x (210 / fs) - 2.5 x Cc = 375 × (210 / 58.06) - 2.5 × 92 = 1126.348 mm

300 x (210 / fs) = 300 × (210 / 58.06) = 1085.078 mm

Sa는 작은 값인 1085.078 mm 를 적용

S = 125.00 ≤ Sa (= 1085.078 mm) ----- ∴ O.K.

② 상부슬래브 중앙부

* 검토 조건

pmin = max(0.25√fck / fy, 1.4/fy) = 0.00350

fck (Mpa)	fy (Mpa)	β1	Φf	Φv	Mo (kN.m)
30.0	400.0	0.836	0.900	0.850	85.260
B (mm)	H (mm)	d (mm)	피복 (mm)	Mu (kN.m)	Vu (kN)
1000.0	400.0	300.0	100.0	136.660	94.160

전단설계시 단면의 유효높이 ds = 300.0 d1' = 100 d2' = 0

* 휨모멘트 검토

공칭강도시 등가응력깊이 a = (As×fy) / (0.85×fck×B) = 24.922 mm

최외단 인장철근 변형률 εt = 0.02719 ≥ 0.004 ----- ∴ O.K.

여기서 εt = 0.003×(H - a/β1 - Dc_min) / (a/β1)

0.005 ≤ εt 이므로 인장지배단면, Φf = 0.900 를 적용한다.

ⓐ 필요철근량 및 철근비 검토

$Mu / \Phi = As \times fy / (d - a/2)$ ———————— (1)

$a = As \times fy / (0.85 \times fck \times b)$ ———————— (2)

式(2)를 式(1)에 대입하여 2차방정식으로 As를 구한다.

$$\frac{fy^2}{2\times 0.85\times fck\times b} \times As^2 - fy\times d\times As + \frac{Mu}{\Phi} = 0$$

필요 철근량 req.As = 1310.253 mm^2

사용철근비 : Puse = As / (B × D) = 0.00530

최대철근비 : Pmax = 0.714 x k1 x Φx (fck / fy) x {600 / (600 + fy)} = 0.02283

최소철근비 : Pmin = 1.4 / fy = 0.00350
Pmin = 0.25 √fck / fy = 0.00342
적용 = 0.0035

As(req) = 1310.253 mm^2 As(min) = 1050.000 mm^2

4/3×As(req) = 1747.004 mm^2 ※ As = 1310.253 mm^2

사용철근량 = H16 × 8ea = 1588.800 ㎟ ----- ∴ O.K.

ⓑ 휨강도 검토

ØMn = Ø f · fy · As · (D - a/2) = 164463107 N · mm

= 164.463 kN · m > 136.660 kN · m ----- ∴ O.K. [사용률 = 1.203]

* 전단력 검토

Øv · Vc = Øv · 1/6 · √fck · B · d / 1000 = 232.782 kN

∴ 전단철근이 필요없음.

▣ 사용성 검토 (균열방지 인장철근 간격검토)

ⓐ 응력산정

fs = M / [As x (d - χ/3)]

= 85.26 × 1000000 / [1588.8×(300 - 71.32/3)]

= 194.272 Mpa

χ = -nAs/b + nAs/b√[1 + 2bd/(nAs)]

= -7 × 1588.8/1000 + 7 × 1588.8/1000 × √[(1 + 2×1000×300/(7×1588.8)]

= 71.320 mm

사용철근량 = 1588.800 mm^2 (철근도심 : 100 mm)

1단 H16 @ 125 (= 1588.8 ㎟)

ⓑ 철근의 최대 중심간격

Cc = 100 - 16 / 2 = 92.00 mm

여기서 Cc ; 인장철근이나 긴장재의 표면과 콘크리트 표면사이의 두께(mm)

Smin : 375 x (210 / fs) - 2.5 x Cc = 375 × (210 / 194.272) - 2.5 × 92 = 175.359 mm

300 x (210 / fs) = 300 × (210 / 194.272) = 324.287 mm

Sa는 작은 값인 175.359 mm 를 적용

S = 125.00 ≤ Sa (= 175.359 mm) ----- ∴ O.K.

③ 하부슬래브 단부

* 검토 조건

pmin = max(0.25√fck / fy, 1.4/fy) = 0.00350

fck (Mpa)	fy (Mpa)	β1	Φf	Φv	Mo (kN.m)
30.0	400.0	0.836	0.900	0.850	35.470
B (mm)	H (mm)	d (mm)	피복 (mm)	Mu (kN.m)	Vu (kN)
1000.0	550.0	450.0	100.0	59.220	306.940

전단설계시 단면의 유효높이 ds = 350.0 d1' = 100 d2' = 0

* 휨모멘트 검토

공칭강도시 등가응력깊이 a = (As×fy) / (0.85×fck×B) = 24.922 mm

최외단 인장철근 변형률 εt = 0.04229 ≥ 0.004 ----- ∴ O.K

여기서 εt = 0.003×(H - a/β1 - Dc_min) / (a/β1)

0.005 ≤ εt 이므로 인장지배단면, Φf = 0.900 를 적용한다.

ⓐ 필요철근량 및 철근비 검토

$Mu / \Phi = As \times fy / (d - a/2)$ ---------- (1)

$a = As \times fy / (0.85 \times fck \times b)$ ---------- (2)

式(2)를 式(1)에 대입하여 2차방정식으로 As를 구한다.

$$\frac{fy^2}{2\times 0.85\times fck\times b} \times As^2 - fy\times d\times As + \frac{Mu}{\Phi} = 0$$

필요 철근량 req.As = 367.915 mm^2

사용철근비 : Puse = As / (B × D) = 0.00353

최대철근비 : Pmax = 0.714 x k1 x Φx (fck / fy) x {600 / (600 + fy)} = 0.02283

최소철근비 :
- Pmin = 1.4 / fy = 0.00350
- Pmin = 0.25 √fck / fy = 0.00342
- 적용 = 0.0035

As(req) = 367.915 mm^2 As(min) = 1575.000 mm^2

4/3×As(req) = 490.553 mm^2 ※ As = 490.553 mm^2

사용철근량 = H16 × 8ea = 1588.800 ㎟ ----- ∴ O.K.

ⓑ 휨강도 검토

ØMn = Ø f · fy · As · (D - a/2) = 250258307 N · mm

= 250.258 kN · m > 59.220 kN · m ----- ∴ O.K [사용률 = 4.226]

* 전단력 검토

Øv · Vc = Øv · 1/6 · √fck · B · d / 1000 = 271.579 kN

Vu > Φv x Vc ∴ 전단철근보강이 필요하다.

Req Av = (306.9 - 271.579)×10³ ×150.0 / (400.0×350.0×0.85)

= 44.573 ㎟

Use Av = 253.400 ㎟ (H13×2 EA, 간격 s = 150.0 mm)

Øv · As = Øv · Av · fy · D / (s × B) = 201.031 kN

s = 150.0 mm < Min (600, 0.5D) = 175.0 mm ----- ∴ O.K

Øv · Vn = Øv · Vc + Øv · Vs = 472.610 kN > Vu ----- ∴ O.K

▣ 사용성 검토 (균열방지 인장철근 간격검토)

ⓐ 응력산정

fs = M / [As x (d - χ/3)]

= 35.47 × 1000000 / [1588.8×(450 - 89.542/3)]

= 53.136 Mpa

χ = -nAs/b + nAs/b√[1 + 2bd/(nAs)]

= -7 × 1588.8/1000 + 7 × 1588.8/1000 × √[(1 + 2×1000×450/(7×1588.8)]

= 89.542 mm

사용철근량 = 1588.800 mm^2 (철근도심 : 100 mm)

1단 H16 @ 125 (= 1588.8 ㎟)

ⓑ 철근의 최대 중심간격

Cc = 100 - 16 / 2 = 92.00 mm

여기서 Cc ; 인장철근이나 긴장재의 표면과 콘크리트 표면사이의 두께(mm)

Smin : 375 x (210 / fs) - 2.5 x Cc = 375 × (210 / 53.136) - 2.5 × 92 = 1252.060 mm

300 x (210 / fs) = 300 × (210 / 53.136) = 1185.648 mm

Sa는 작은 값인 1185.648 mm 를 적용

S = 125.00 ≤ Sa (= 1185.648 mm) ----- ∴ O.K.

④ 하부슬래브 중앙부

* 검토 조건

pmin = max(0.25√fck / fy, 1.4/fy) = 0.00350

fck (Mpa)	fy (Mpa)	β1	Φf	Φv	Mo (kN.m)
30.0	400.0	0.836	0.900	0.850	98.870
B (mm)	H (mm)	d (mm)	피복 (mm)	Mu (kN.m)	Vu (kN)
1000.0	450.0	350.0	100.0	158.660	64.770

전단설계시 단면의 유효높이 ds = 350.0 d1' = 100 d2' = 0

* 휨모멘트 검토

공칭강도시 등가응력깊이 a = (As×fy) / (0.85×fck×B) = 24.922 mm

최외단 인장철근 변형률 εt = 0.03222 ≥ 0.004 ----- ∴ O.K

여기서 εt = 0.003×(H - a/β1 - Dc_min) / (a/β1)

0.005 ≤ εt 이므로 인장지배단면, Φf = 0.900 를 적용한다.

ⓐ 필요철근량 및 철근비 검토

Mu / Φ = As×fy / (d - a/2) ---------- (1)

a = As×fy / (0.85×fck×b) ---------- (2)

式(2)를 式(1)에 대입하여 2차방정식으로 As를 구한다.

$$\frac{fy^2}{2\times 0.85\times fck\times b}\times As^2 - fy\times d\times As + \frac{Mu}{\Phi} = 0$$

필요 철근량 req.As = 1296.897 mm^2

사용철근비 : Puse = As / (B × D) = 0.00454

최대철근비 : Pmax = 0.714 x k1 x Φx (fck / fy) x {600 / (600 + fy)} = 0.02283

최소철근비 :
- Pmin = 1.4 / fy = 0.00350
- Pmin = 0.25 √fck / fy = 0.00342
- 적용 = 0.0035

As(req) = 1296.897 mm^2 As(min) = 1225.000 mm^2

4/3×As(req) = 1729.196 mm^2 ※ As = 1296.897 mm^2

사용철근량 = H16 × 8ea = 1588.800 ㎟ ----- ∴ O.K.

ⓑ 휨강도 검토

ØMn = Øf · fy · As · (D - a/2) = 193061507 N · mm

= 193.062 kN · m > 158.660 kN · m ----- ∴ O.K [사용률 = 1.217]

* 전단력 검토

Øv · Vc = Øv · 1/6 · √fck · B · d / 1000 = 271.579 kN

∴ 전단철근이 필요없음.

▣ 사용성 검토 (균열방지 인장철근 간격검토)

ⓐ 응력산정

fs = M / [As x (d - χ/3)]

= 98.87 × 1000000 / [1588.8×(350 - 77.81/3)]

= 192.028 Mpa

χ = -nAs/b + nAs/b√[1 + 2bd/(nAs)]

= -7 × 1588.8/1000 + 7 × 1588.8/1000 × √[(1 + 2×1000×350/(7×1588.8)]

= 77.810 mm

사용철근량 = 1588.800 mm^2 (철근도심 : 100 mm)

1단 H16 @ 125 (= 1588.8 mm^2)

ⓑ 철근의 최대 중심간격

Cc = 100 - 16 / 2 = 92.00 mm

여기서 Cc ; 인장철근이나 긴장재의 표면과 콘크리트 표면사이의 두께(mm)

Smin : 375 x (210 / fs) - 2.5 x Cc = 375 × (210 / 192.028) - 2.5 × 92 = 180.096 mm

300 x (210 / fs) = 300 × (210 / 192.028) = 328.077 mm

Sa는 작은 값인 180.096 mm 를 적용

S = 125.00 ≤ Sa (= 180.096 mm) ——— ∴ O.K.

⑤ 벽체 상단부

* 검토 조건

pmin = max(0.25√fck / fy, 1.4/fy) = 0.00350

fck (Mpa)	fy (Mpa)	β1	Φf	Φv	Mo (kN.m)
30.0	400.0	0.836	0.900	0.850	74.820
B (mm)	H (mm)	d (mm)	피복 (mm)	Mu (kN.m)	Vu (kN)
1000.0	500.0	400.0	100.0	119.720	139.660

전단설계시 단면의 유효높이 ds = 300.0 d1' = 100 d2' = 0

* 휨모멘트 검토

공칭강도시 등가응력깊이 a = (As×fy) / (0.85×fck×B) = 24.922 mm

최외단 인장철근 변형률 εt = 0.03725 ≥ 0.004 ----- ∴ O.K

여기서 εt = 0.003×(H - a/β1 - Dc_min) / (a/β1)

0.005 ≤ εt 이므로 인장지배단면, Φf = 0.900 를 적용한다.

ⓐ 필요철근량 및 철근비 검토

$Mu / \Phi = As \times fy / (d - a/2)$ ———————— (1)

$a = As \times fy / (0.85 \times fck \times b)$ ———————— (2)

式(2)를 式(1)에 대입하여 2차방정식으로 As를 구한다.

$$\frac{fy^2}{2\times 0.85\times fck\times b} \times As^2 - fy\times d\times As + \frac{Mu}{\Phi} = 0$$

필요 철근량 req.As = 845.403 mm^2

사용철근비 : Puse = As / (B × D) = 0.00397

최대철근비 : Pmax = 0.714 x k1 x Φx (fck / fy) x {600 / (600 + fy)} = 0.02283

최소철근비 :
- Pmin = 1.4 / fy = 0.00350
- Pmin = 0.25 √fck / fy = 0.00342
- 적용 = 0.0035

As(req) = 845.403 mm^2 As(min) = 1400.000 mm^2

4/3×As(req) = 1127.204 mm^2 ※ As = 1127.204 mm^2

사용철근량 = H16 × 8ea = 1588.800 ㎟ ----- ∴ O.K.

ⓑ 휨강도 검토

ØMn = Øf · fy · As · (D - a/2) = 221659907 N · mm

= 221.660 kN · m > 119.720 kN · m ----- ∴ O.K [사용률 = 1.851]

* 전단력 검토

Øv · Vc = Øv · 1/6 · √fck · B · d / 1000 = 232.782 kN

1/2 x Φv x Vc = 116.391 kN ≤ Vu ≤Φv x Vc ∴ 슬래브이므로 최소전단 철근 배근이 필요없음.

▣ 사용성 검토 (균열방지 인장철근 간격검토)

ⓐ 응력산정

fs = M / [As x (d - χ/3)]

= 74.82 × 1000000 / [1588.8×(400 - 83.857/3)]

= 126.576 Mpa

χ = -nAs/b + nAs/b√[1 + 2bd/(nAs)]

= -7 × 1588.8/1000 + 7 × 1588.8/1000 × √[(1 + 2×1000×400/(7×1588.8)]

= 83.857 mm

사용철근량 = 1588.800 mm^2 (철근도심 : 100 mm)

1단 H16 @ 125 (= 1588.8 ㎟)

ⓑ 철근의 최대 중심간격

Cc = 100 - 16 / 2 = 92.00 mm

여기서 Cc ; 인장철근이나 긴장재의 표면과 콘크리트 표면사이의 두께(mm)

Smin : 375 x (210 / fs) - 2.5 x Cc = 375 × (210 / 126.576) - 2.5 × 92 = 392.158 mm

300 x (210 / fs) = 300 × (210 / 126.576) = 497.726 mm

Sa는 작은 값인 392.158 mm 를 적용

S = 125.00 ≤ Sa (= 392.158 mm) ----- ∴ O.K.

⑥ 벽체 중앙부

* 검토 조건

pmin = max(0.25√fck / fy, 1.4/fy) = 0.00350

fck (Mpa)	fy (Mpa)	β1	Φf	Φv	Mo (kN.m)
30.0	400.0	0.836	0.900	0.850	60.000
B (mm)	H (mm)	d (mm)	피복 (mm)	Mu (kN.m)	Vu (kN)
1000.0	400.0	300.0	100.0	96.080	15.960

전단설계시 단면의 유효높이 ds = 300.0 d1' = 100 d2' = 0

* 휨모멘트 검토

공칭강도시 등가응력깊이 a = (As×fy) / (0.85×fck×B) = 24.922 mm

최외단 인장철근 변형률 εt = 0.02719 ≥ 0.004 ----- ∴ O.K

여기서 εt = 0.003×(H - a/β1 - Dc_min) / (a/β1)

0.005 ≤ εt 이므로 인장지배단면, Φf = 0.900 를 적용한다.

ⓐ 필요철근량 및 철근비 검토

$Mu / \Phi = As \times fy / (d - a/2)$ ---------- (1)

$a = As \times fy / (0.85 \times fck \times b)$ ---------- (2)

式(2)를 式(1)에 대입하여 2차방정식으로 As를 구한다.

$$\frac{fy^2}{2 \times 0.85 \times fck \times b} \times As^2 - fy \times d \times As + \frac{Mu}{\Phi} = 0$$

필요 철근량 req.As = 911.343 mm^2

사용철근비 : Puse = As / (B × D) = 0.00530

최대철근비 : Pmax = 0.714 x k1 x Φx (fck / fy) x {600 / (600 + fy)} = 0.02283

최소철근비 :
- Pmin = 1.4 / fy = 0.00350
- Pmin = 0.25 √fck / fy = 0.00342
- 적용 = 0.0035

As(req) = 911.343 mm^2 As(min) = 1050.000 mm^2

4/3×As(req) = 1215.124 mm^2 ※ As = 1050.000 mm^2

사용철근량 = H16 × 8ea = 1588.800 ㎟ ----- ∴ O.K.

ⓑ 휨강도 검토

ØMn = Øf · fy · As · (D - a/2) = 164463107 N · mm

= 164.463 kN · m > 96.080 kN · m ----- ∴ O.K [사용률 = 1.712]

* 전단력 검토

Øv · Vc = Øv · 1/6 · √fck · B · d / 1000 = 232.782 kN

∴ 전단철근이 필요없음.

▣ 사용성 검토 (균열방지 인장철근 간격검토)

ⓐ 응력산정

fs = M / [As x (d - χ/3)]

= 60 × 1000000 / [1588.8×(300 - 71.32/3)]

= 136.715 Mpa

χ = -nAs/b + nAs/b√[1 + 2bd/(nAs)]

= -7 × 1588.8/1000 + 7 × 1588.8/1000 × √[(1 + 2×1000×300/(7×1588.8)]

= 71.320 mm

사용철근량 = 1588.800 mm^2 (철근도심 : 100 mm)

1단 H16 @ 125 (= 1588.8 ㎟)

ⓑ 철근의 최대 중심간격

Cc = 100 - 16 / 2 = 92.00 mm

여기서 Cc ; 인장철근이나 긴장재의 표면과 콘크리트 표면사이의 두께(mm)

Smin : 375 x (210 / fs) - 2.5 x Cc = 375 × (210 / 136.715) - 2.5 × 92 = 346.015 mm

300 x (210 / fs) = 300 × (210 / 136.715) = 460.812 mm

Sa는 작은 값인 346.015 mm 를 적용

S = 125.00 ≤ Sa (= 346.015 mm) ----- ∴ O.K.

⑦ 벽체 하단부

* 검토 조건

pmin = max(0.25√fck / fy, 1.4/fy) = 0.00350

fck (Mpa)	fy (Mpa)	β1	Φf	Φv	Mo (kN.m)
30.0	400.0	0.836	0.900	0.850	60.830
B (mm)	H (mm)	d (mm)	피복 (mm)	Mu (kN.m)	Vu (kN)
1000.0	500.0	400.0	100.0	97.320	131.160

전단설계시 단면의 유효높이 ds = 300.0 d1' = 100 d2' = 0

* 휨모멘트 검토

공칭강도시 등가응력깊이 a = (As×fy) / (0.85×fck×B) = 24.922 mm

최외단 인장철근 변형률 εt = 0.03725 ≥ 0.004 ----- ∴ O.K

여기서 εt = 0.003×(H - a/β1 - Dc_min) / (a/β1)

0.005 ≤ εt 이므로 인장지배단면, Φf = 0.900 를 적용한다.

ⓐ 필요철근량 및 철근비 검토

Mu / Φ = As×fy / (d - a/2) ---------- (1)

a = As×fy / (0.85×fck×b) ---------- (2)

式(2)를 式(1)에 대입하여 2차방정식으로 As를 구한다.

$$\frac{fy^2}{2\times 0.85\times fck\times b}\times As^2 - fy\times d\times As + \frac{Mu}{\Phi} = 0$$

필요 철근량 req.As = 685.035 mm^2

사용철근비 : Puse = As / (B × D) = 0.00397

최대철근비 : Pmax = 0.714 x k1 x Φx (fck / fy) x {600 / (600 + fy)} = 0.02283

최소철근비 :
- Pmin = 1.4 / fy = 0.00350
- Pmin = 0.25 √fck / fy = 0.00342
- 적용 = 0.0035

As(req) = 685.035 mm^2 As(min) = 1400.000 mm^2

4/3×As(req) = 913.380 mm^2 ※ As = 913.380 mm^2

사용철근량 = H16 × 8ea = 1588.800 ㎟ ------ ∴ O.K.

ⓑ 휨강도 검토

ØMn = Øf · fy · As · (D - a/2) = 221659907 N · mm

= 221.660 kN · m > 97.320 kN · m ----- ∴ O.K [사용률 = 2.278]

* 전단력 검토

Øv · Vc = Øv · 1/6 · √fck · B · d / 1000 = 232.782 kN

1/2 x Φv x Vc = 116.391 kN ≤ Vu ≤Φv x Vc ∴ 슬래브이므로 최소전단 철근 배근이 필요없음.

▣ 사용성 검토 (균열방지 인장철근 간격검토)

ⓐ 응력산정

fs = M / [As x (d - χ/3)]

= 60.83 × 1000000 / [1588.8×(400 - 83.857/3)]

= 102.908 Mpa

χ = -nAs/b + nAs/b√[1 + 2bd/(nAs)]

= -7 × 1588.8/1000 + 7 × 1588.8/1000 × √[(1 + 2×1000×400/(7×1588.8)]

= 83.857 mm

사용철근량 = 1588.800 mm^2 (철근도심 : 100 mm)

1단 H16 @ 125 (= 1588.8 ㎟)

ⓑ 철근의 최대 중심간격

Cc = 100 - 16 / 2 = 92.00 mm

여기서 Cc ; 인장철근이나 긴장재의 표면과 콘크리트 표면사이의 두께(mm)

Smin : 375 x (210 / fs) - 2.5 x Cc = 375 × (210 / 102.908) - 2.5 × 92 = 535.245 mm

300 x (210 / fs) = 300 × (210 / 102.908) = 612.196 mm

Sa는 작은 값인 535.245 mm 를 적용

S = 125.00 ≤ Sa (= 535.245 mm) ----- ∴ O.K.

⑤ 벽체 상단부 - Pmax 일 경우

설계축력	:	Pu	=	413.30	(kN) ,	설계모멘트	:	Mu	=	100.53	(kN · m)	
설계전단력	:	Vu	=	139.66	(kN) ,	사용 모멘트	:	M	=	47.23	(kN.m)	
부 재 높 이	:	H	=	500.0	(mm) ,	f_y	=	400	MPa	f_{ck}	=	30 MPa
폭	:	b	=	1000	(mm) ,	ϕ_f	=	0.90	,	ϕ_v	=	0.85
유효높이(휨)	:	d	=	400.0	(mm) ,	d'	=	100	(mm),	ϕc	=	0.70
유효높이(전단)	:	d	=	300.0	(mm) ,	k_1	=	0.836	,	e	=	243.24 (mm)

○ 휨철근량 계산

- 철근비검토

As = H 16 @ 8 EA = 15.888 cm^2 , d1 = 10.0 cm

Σ = 15.888 cm^2

Asf = H 16 @ 4 EA = 7.944 cm^2 , d'1 = 10.0 cm

Pmin (0.0012) < Puse (0.0048) < Pmax (0.0800) ———— O.K!!!

- 평형하중 산정

소성중심 계산

Cc = 0.84 x 30 x 500.00 x 1000.00 = 12540000.000 N

Cs = As x fy = 635520.00 N , Cs' = Asf x fy = 317760.000 N

Xp = (12540000.00 x 250.0 + 635520.0 x 100.0 + 317760.0 x 400.0) / 13493280.000

= 246.468 mm

- 평형상태 계산

Cb = 600 / (600 + fy) x d = 240.000 mm, ab = k1 x cb = 200.640 mm

fs' = 600 x (240.000 - 100.0) / 240.0(= 350 Mpa (fs' ≤ fy)

Cc = 0.836 x 30 x 200.640 x 1000 = 5032051.200 N

Cs = As' x (fs' - 0.9 x fck) = 256591.200 N

Ts = As x fs = 635520.000 N

Pb = 5032051.200 + 256591.200 - 635520.000 = 4653122.400 N

Mb = 5032051.200x(400.0-200.640/2)+256591.200x(400.0-100.0)-4653122.400x(246.468-100.0)

= 903450909.646 N.mm

eb < e → 인장파괴 (eb = Mb / Pb = 194.160 mm)

- 공칭강도 계산 : 반복계산을 통해 c = 175.166 mm , a = k1 x c = 146.439 mm 사용

fs = 600 x (400.000 - 175.166) / 175.166 = 400 Mpa (fs ≤ fy)

fs' = 600 x (175.166 - 100.000) / 175.166 = 257.4682 Mpa (fs ≤ fy)

Cc = 0.836 x 30 x 146.439 x 1000 = 3672688.695 N

Cs = 794.400 x (257.468 - 0.836 x 30) = 184609.158 N

Ts = 1588.800 x 400.000 = 635520.000 N

Pn = 3672688.695 + 184609.158 - 635520.000 = 3221777.853 N

Mn' = 3672688.695 x (400.0 - 146.439 / 2) + 184609.158 x (400.0 - 100.0)

= 1255545899.918 N.mm

- 편심오차 : | e' - Mn'/Pn | = 0.001 < 0.001 (e' = e + Xp - dc = 389.704933 mm)

- 축방향력 및 휨에대한 검토

(max) Pn = 0.80 x { 0.85 fck x (Ag - Ast) + fy x Ast} : 10914006.720 N ≥ Pn = 3221777.853

ΦPn = 2255244.497 > ΦPb = 3257185.680 , 0.1 x fck x Ag = 1500000.000

∴ Φ = 0.700

ΦPn = 0.70 x 3221777.853 = 2255.244 kN ≥ Pu = 413.300 kN ------- O.K!!!

ΦMn = ΦPn x 243.237 = 548.560 kN.m ≥ Mu = 100.530 kN.m ------- O.K!!!

○ 전단력 검토

$\phi Vc = 0.85 \times 1/6 \times (1 + Pu / (14 \times Ag)) \times \sqrt{fck} \times bo \times d$ = 246526.206 N

여기서 , $1/2\phi Vc < Vu \leq \phi Vc$ 이므로 최소 전단 철근 필요

- 계산된 스터럽 : min.Av = 0.35x(bo x s / fy)= 1.31㎠

- 배근할 스터럽 : H 13 다리수: N = 2 스터럽 간격 : s = 15 cm O.K !!!

Av(req)= 1.31㎠ < Av = 2.534 ㎠ O.K !!!

○ 사용성 검토 (균열방지 인장철근 간격검토)

- 응력산정

$fs = M / [As \times (d - \chi/3)]$

$= 47.23 \times 1000000 / [1588.8 \times (400 - 83.857/3)]$

= 79.901 Mpa

$\chi = -nAs/b + nAs/b\sqrt{[1 + 2bd/(nAs)]}$

$= -7 \times 1588.8/1000 + 7 \times 1588.8/1000 \times \sqrt{[(1 + 2 \times 1000 \times 400/(7 \times 1588.8)]}$

= 83.857 mm

사용철근량 = 1588.800 mm^2 (철근도심 : 100 mm)

1단 H16 @ 125 (= 1588.8 ㎟)

- 철근의 최대 중심간격

Cc = 100 - 16 / 2 = 92.00 mm

여기서 Cc : 인장철근이나 긴장재의 표면과 콘크리트 표면사이의 두께(mm)

Smin : 375 x (210 / fs) - 2.5 x Cc = 375 × (210 / 79.901) - 2.5 × 92 = 755.599 mm

300 x (210 / fs) = 300 × (210 / 79.901) = 788.479 mm

Sa는 작은 값인 755.599 mm 를 적용

S = 125.00 ≤ Sa (= 755.599 mm) ------ ∴ O.K.

⑥ 벽체 상단부 - Mmax 일 경우

설계축력	:	Pu	=	380.55	(kN) ,	설계모멘트	:	Mu	=	119.72	(kN · m)	
설계전단력	:	Vu	=	139.66	(kN) ,	사용 모멘트	:	M	=	74.82	(kN.m)	
부 재 높 이	:	H	=	500.0	(mm) ,	f_y	=	400	MPa	f_{ck}	=	30 MPa
폭	:	b	=	1000	(mm) ,	ϕ_f	=	0.90	,	ϕ_v	=	0.85
유효높이(휨)	:	d	=	400.0	(mm) ,	d'	=	100	(mm),	ϕc	=	0.70
유효높이(전단)	:	d	=	300.0	(mm) ,	k_1	=	0.836	,	e	=	314.60 (mm)

○ 휨철근량 계산

- 철근비검토

As = H 16 @ 8 EA = 15.888 cm^2 , d1 = 10.0 cm

$\sum$ = 15.888 cm^2

Asf = H 16 @ 4 EA = 7.944 cm^2 , d'1 = 10.0 cm

Pmin (0.0012) < Puse (0.0048) < Pmax (0.0800) ———— O.K!!!

- 평형하중 산정

소성중심 계산

Cc = 0.84 x 30 x 500.00 x 1000.00 = 12540000.000 N

Cs = As x fy = 635520.00 N , Cs' = Asf x fy = 317760.000 N

Xp = (12540000.00 x 250.0 + 635520.0 x 100.0 + 317760.0 x 400.0) / 13493280.000

= 246.468 mm

- 평형상태 계산

Cb = 600 / (600 + fy) x d = 240.000 mm, ab = k1 x cb = 200.640 mm

fs' = 600 x (240.000 - 100.0) / 240.0(= 350 Mpa (fs' ≤ fy)

Cc = 0.836 x 30 x 200.640 x 1000 = 5032051.200 N

Cs = As' x (fs' - 0.9 x fck) = 256591.200 N

Ts = As x fs = 635520.000 N

Pb = 5032051.200 + 256591.200 - 635520.000 = 4653122.400 N

Mb = 5032051.200x(400.0-200.640/2)+256591.200x(400.0-100.0)-4653122.400x(246.468-100.0)

= 903450909.646 N.mm

eb < e → 인장파괴 (eb = Mb / Pb = 194.160 mm)

- 공칭강도 계산 : 반복계산을 통해 c = 120.914 mm , a = k1 x c = 101.084 mm 사용

fs = 600 x (400.000 - 120.914) / 120.914 = 400 Mpa (fs ≤ fy)

fs' = 600 x (120.914 - 100.000) / 120.914 = 103.7795 Mpa (fs ≤ fy)

Cc = 0.836 x 30 x 101.084 x 1000 = 2535189.328 N

Cs = 794.400 x (103.780 - 0.836 x 30) = 62518.919 N

Ts = 1588.800 x 400.000 = 635520.000 N

Pn = 2535189.328 + 62518.919 - 635520.000 = 1962188.247 N

Mn' = 2535189.328 x (400.0 - 101.084 / 2) + 62518.919 x (400.0 - 100.0)

= 904697736.220 N.mm

- 편심오차 : | e' - Mn'/Pn | = 0.001 < 0.001 (e' = e + Xp - dc = 461.064868 mm)

- 축방향력 및 휨에대한 검토

(max) Pn = 0.80 x { 0.85 fck x (Ag - Ast) + fy x Ast} : 10914006.720 N ≥ Pn = 1962188.247

ΦPn = 1373531.773 < ΦPb = 3257185.680 , 0.1 x fck x Ag = 1500000.000

∴ Φ = 0.720

ΦPn = 0.72 x 1962188.247 = 1412.776 kN ≥ Pu = 380.550 kN ------ O.K!!!

ΦMn = ΦPn x 314.597 = 444.455 kN.m ≥ Mu = 119.720 kN.m ------ O.K!!!

○ 전단력 검토

$\phi Vc = 0.85 \times 1/6 \times (1 + Pu / (14 \times Ag)) \times \sqrt{fck} \times bo \times d$ = 245437.119 N

여기서 , $1/2\phi Vc < Vu \leq \phi Vc$ 이므로 최소 전단 철근 필요

- 계산된 스터럽 : min.Av = 0.35x(bo x s / fy)= 1.31㎠

- 배근할 스터럽 : H 13 다리수: N = 2 스터럽 간격 : s = 15 cm O.K !!!

Av(req)= 1.31㎠ < Av = 2.534 ㎠ O.K !!!

○ 사용성 검토 (균열방지 인장철근 간격검토)

- 응력산정

$fs = M / [As \times (d - \chi/3)]$

$= 74.82 \times 1000000 / [1588.8 \times (400 - 83.857/3)]$

= 126.576 Mpa

$\chi = -nAs/b + nAs/b\sqrt{[1 + 2bd/(nAs)]}$

$= -7 \times 1588.8/1000 + 7 \times 1588.8/1000 \times \sqrt{[(1 + 2 \times 1000 \times 400/(7 \times 1588.8)]}$

= 83.857 mm

사용철근량 = 1588.800 ㎟ (철근도심 : 100 mm)

1단 H16 @ 125 (= 1588.8 ㎟)

- 철근의 최대 중심간격

Cc = 100 - 16 / 2 = 92.00 mm

여기서 Cc : 인장철근이나 긴장재의 표면과 콘크리트 표면사이의 두께(mm)

Smin : 375 x (210 / fs) - 2.5 x Cc = 375 × (210 / 126.576) - 2.5 × 92 = 392.158 mm

300 x (210 / fs) = 300 × (210 / 126.576) = 497.726 mm

Sa는 작은 값인 392.158 mm 를 적용

S = 125.00 ≤ Sa (= 392.158 mm) ----- ∴ O.K.

⑦ 벽체 중앙부 - Pmax 일 경우

설계축력	:	Pu	=	426.47	(kN) ,	설계모멘트	:	Mu	=	72.00	(kN · m)
설계전단력	:	Vu	=	41.90	(kN) ,	사용 모멘트	:	M	=	21.05	(kN.m)
부 재 높 이	:	H	=	400.0	(mm) ,	f_y	=	400	MPa	f_{ck} =	30 MPa
폭	:	b	=	1000	(mm) ,	ϕ_f	=	0.90	,	ϕ_v =	0.85
유효높이(휨)	:	d	=	300.0	(mm) ,	d'	=	100	(mm),	ϕc =	0.70
유효높이(전단)	:	d	=	300.0	(mm) ,	k_1	=	0.836	,	e =	168.83 (mm)

○ 휨철근량 계산

- 철근비검토

As = H 16 @ 8 EA = 15.888 cm^2 , d1 = 10.0 cm

Σ = 15.888 cm^2

Asf = H 16 @ 4 EA = 7.944 cm^2 , d'1 = 10.0 cm

Pmin (0.0012) < Puse (0.0060) < Pmax (0.0800) ---------- O.K!!!

- 평형하중 산정

소성중심 계산

Cc = 0.84 x 30 x 400.00 x 1000.00 = 10032000.000 N

Cs = As x fy = 635520.00 N , Cs' = Asf x fy = 317760.000 N

Xp = (10032000.00 x 200.0 + 635520.0 x 100.0 + 317760.0 x 300.0) / 10985280.000

= 197.107 mm

- 평형상태 계산

Cb = 600 / (600 + fy) x d = 180.000 mm, ab = k1 x cb = 150.480 mm

fs' = 600 x (180.000 - 100.0) / 180.0(= 266.6667 Mpa (fs' ≤ fy)

Cc = 0.836 x 30 x 150.480 x 1000 = 3774038.400 N

Cs = As' x (fs' - 0.9 x fck) = 190391.200 N

Ts = As x fs = 635520.000 N

Pb = 3774038.400 + 190391.200 - 635520.000 = 3328909.600 N

Mb = 3774038.400x(300.0-150.480/2)+190391.200x(300.0-100.0)-3328909.600x(197.107-100.0)

= 563069348.351 N.mm

eb > e → 압축파괴 (eb = Mb / Pb = 169.145 mm)

- 공칭강도 계산 : 반복계산을 통해 c = 180.195 mm , a = k1 x c = 150.643 mm 사용

fs = 600 x (300.000 - 180.195) / 180.195 = 398.9173 Mpa (fs ≤ fy)

fs' = 600 x (180.195 - 100.000) / 180.195 = 267.0276 Mpa (fs ≤ fy)

Cc = 0.836 x 30 x 150.643 x 1000 = 3778129.038 N

Cs = 794.400 x (267.028 - 0.836 x 30) = 192203.151 N

Ts = 1588.800 x 398.917 = 633799.782 N

Pn = 3778129.038 + 192203.151 - 633799.782 = 3336532.407 N

Mn' = 3778129.038 x (300.0 - 150.643 / 2) + 192203.151 x (300.0 - 100.0)

= 887304799.627 N.mm

- 편심오차 : | e' - Mn'/Pn | = 0.001 < 0.001 (e' = e + Xp - dc = 265.935221 mm)

- 축방향력 및 휨에대한 검토

(max) Pn = 0.80 x { 0.85 fck x (Ag - Ast) + fy x Ast} : 8874006.720 N ≥ Pn = 3336532.407

ΦPn = 2335572.685 > ΦPb = 2330236.720 , 0.1 x fck x Ag = 1200000.000

∴ Φ = 0.700

ΦPn = 0.70 x 3336532.407 = 2335.573 kN ≥ Pu = 426.470 kN ------- O.K!!!

ΦMn = ΦPn x 168.828 = 394.310 kN.m ≥ Mu = 72.000 kN.m ------- O.K!!!

○ 전단력 검토

$\phi Vc = 0.85 \times 1/6 \times (1 + Pu / (14 \times Ag)) \times \sqrt{fck} \times bo \times d =$ 250509.690 N

여기서 , Vu < 1/2φVc 이므로 전단철근보강 불필요

○ 사용성 검토 (균열방지 인장철근 간격검토)

- 응력산정

fs = M / [As x (d - χ/3)]

= 21.05 × 1000000 / [1588.8×(300 - 71.32/3)]

= 47.964 Mpa

$\chi = -nAs/b + nAs/b\sqrt{[1 + 2bd/(nAs)]}$

$= -7 \times 1588.8/1000 + 7 \times 1588.8/1000 \times \sqrt{[(1 + 2\times 1000\times 300/(7\times 1588.8)]}$

= 71.320 mm

사용철근량 = 1588.800 mm^2 (철근도심 : 100 mm)

1단 H16 @ 125 (= 1588.8 mm^2)

- 철근의 최대 중심간격

Cc = 100 - 16 / 2 = 92.00 mm

여기서 Cc : 인장철근이나 긴장재의 표면과 콘크리트 표면사이의 두께(mm)

Smin : 375 x (210 / fs) - 2.5 x Cc = 375 × (210 / 47.964) - 2.5 × 92 = 1411.85 mm

300 x (210 / fs) = 300 × (210 / 47.964) = 1313.48 mm

Sa는 작은 값인 1313.48 mm 를 적용

S = 125.00 ≤ Sa (= 1313.479 mm) ------ ∴ O.K.

⑧ 벽체 중앙부 - Mmax 일 경우

설계축력	:	Pu	=	394.68	(kN) ,	설계모멘트	:	Mu	=	96.08	(kN·m)	
설계전단력	:	Vu	=	15.96	(kN) ,	사용 모멘트	:	M	=	60.00	(kN.m)	
부 재 높 이	:	H	=	400.0	(mm) ,	f_y	=	400	MPa	f_{ck}	=	30 MPa
폭	:	b	=	1000	(mm) ,	ϕ_f	=	0.90	,	ϕ_v	=	0.85
유효높이(휨)	:	d	=	300.0	(mm) ,	d'	=	100	(mm),	ϕc	=	0.70
유효높이(전단)	:	d	=	300.0	(mm) ,	k_1	=	0.836	,	e	=	243.44 (mm)

○ 휨철근량 계산

- 철근비검토

As = H 16 @ 8 EA = 15.888 cm^2 , d1 = 10.0 cm

Σ = 15.888 cm^2

Asf = H 16 @ 4 EA = 7.944 cm^2 , d'1 = 10.0 cm

Pmin (0.0012) < Puse (0.0060) < Pmax (0.0800) ---------- O.K!!!

- 평형하중 산정

소성중심 계산

Cc = 0.84 x 30 x 400.00 x 1000.00 = 10032000.000 N

Cs = As x fy = 635520.00 N , Cs' = Asf x fy = 317760.000 N

Xp = (10032000.00 x 200.0 + 635520.0 x 100.0 + 317760.0 x 300.0) / 10985280.000

= 197.107 mm

- 평형상태 계산

Cb = 600 / (600 + fy) x d = 180.000 mm, ab = k1 x cb = 150.480 mm

fs' = 600 x (180.000 - 100.0) / 180.0(= 266.6667 Mpa (fs' ≤ fy)

Cc = 0.836 x 30 x 150.480 x 1000 = 3774038.400 N

Cs = As' x (fs' - 0.9 x fck) = 190391.200 N

Ts = As x fs = 635520.000 N

Pb = 3774038.400 + 190391.200 - 635520.000 = 3328909.600 N

Mb = 3774038.400x(300.0-150.480/2)+190391.200x(300.0-100.0)-3328909.600x(197.107-100.0)

= 563069348.351 N.mm

eb < e → 인장파괴 (eb = Mb / Pb = 169.145 mm)

- 공칭강도 계산 : 반복계산을 통해 c = 114.055 mm , a = k1 x c = 95.350 mm 사용

fs = 600 x (300.000 - 114.055) / 114.055 = 400 Mpa (fs ≤ fy)

fs' = 600 x (114.055 - 100.000) / 114.055 = 73.93663 Mpa (fs ≤ fy)

Cc = 0.836 x 30 x 95.350 x 1000 = 2391371.208 N

Cs = 794.400 x (73.937 - 0.836 x 30) = 38811.706 N

Ts = 1588.800 x 400.000 = 635520.000 N

Pn = 2391371.208 + 38811.706 - 635520.000 = 1794662.914 N

Mn' = 2391371.208 x (300.0 - 95.350 / 2) + 38811.706 x (300.0 - 100.0)

= 611165405.095 N.mm

- 편심오차 : | e' - Mn'/Pn | = 0.001 < 0.001 (e' = e + Xp - dc = 340.545124 mm)

- 축방향력 및 휨에대한 검토

(max) Pn = 0.80 x { 0.85 fck x (Ag - Ast) + fy x Ast} : 8874006.720 N ≥ Pn = 1794662.914

ΦPn = 1256264.040 > ΦPb = 2330236.720 , 0.1 x fck x Ag = 1200000.000

∴ Φ = 0.700

ΦPn = 0.70 x 1794662.914 = 1256.264 kN ≥ Pu = 394.680 kN ------ O.K!!!

ΦMn = ΦPn x 243.438 = 305.822 kN.m ≥ Mu = 96.080 kN.m ------ O.K!!!

○ 전단력 검토

ϕVc = 0.85 × 1/6 × (1 + Pu / (14 x Ag)) x √fck × bo × d = 249188.236 N

여기서 , Vu < 1/2ϕVc 이므로 전단철근보강 불필요

○ 사용성 검토 (균열방지 인장철근 간격검토)

- 응력산정

fs = M / [As x (d - χ/3)]

= 60 × 1000000 / [1588.8×(300 - 71.32/3)]

= 136.715 Mpa

χ = -nAs/b + nAs/b√[1 + 2bd/(nAs)]

= -7 × 1588.8/1000 + 7 × 1588.8/1000 × √[(1 + 2×1000×300/(7×1588.8)]

= 71.320 mm

사용철근량 = 1588.800 mm^2 (철근도심 : 100 mm)

1단 H16 @ 125 (= 1588.8 mm^2)

- 철근의 최대 중심간격

Cc = 100 - 16 / 2 = 92.00 mm

여기서 Cc : 인장철근이나 긴장재의 표면과 콘크리트 표면사이의 두께(mm)

Smin : 375 x (210 / fs) - 2.5 x Cc = 375 × (210 / 136.715) - 2.5 × 92 = 346.02 mm

300 x (210 / fs) = 300 × (210 / 136.715) = 460.81 mm

Sa는 작은 값인 346.02 mm 를 적용

S = 125.00 ≤ Sa (= 346.015 mm) ----- ∴ O.K.

⑨ 벽체 하단부 - Pmax 일 경우

설계축력	:	Pu	=	443.48	(kN) ,	설계모멘트	:	Mu	=	84.12	(kN · m)	
설계전단력	:	Vu	=	131.16	(kN) ,	사용 모멘트	:	M	=	33.42	(kN.m)	
부 재 높 이	:	H	=	500.0	(mm) ,	f_y	=	400	MPa	f_{ck}	=	30 MPa
폭	:	b	=	1000	(mm) ,	ϕ_f	=	0.90	,	ϕ_v	=	0.85
유효높이(휨)	:	d	=	400.0	(mm) ,	d'	=	100	(mm),	ϕc	=	0.70
유효높이(전단)	:	d	=	300.0	(mm) ,	k_1	=	0.836	,	e	=	189.68 (mm)

○ 휨철근량 계산

- 철근비검토

As = H 16 @ 8 EA = 15.888 cm^2 , d1 = 10.0 cm

Σ = 15.888 cm^2

Asf = H 16 @ 4 EA = 7.944 cm^2 , d'1 = 10.0 cm

Pmin (0.0012) < Puse (0.0048) < Pmax (0.0800) ———— O.K!!!

- 평형하중 산정

소성중심 계산

Cc = 0.84 x 30 x 500.00 x 1000.00 = 12540000.000 N

Cs = As x fy = 635520.00 N , Cs' = Asf x fy = 317760.000 N

Xp = (12540000.00 x 250.0 + 635520.0 x 100.0 + 317760.0 x 400.0) / 13493280.000

= 246.468 mm

- 평형상태 계산

Cb = 600 / (600 + fy) x d = 240.000 mm, ab = k1 x cb = 200.640 mm

fs' = 600 x (240.000 - 100.0) / 240.0(= 350 Mpa (fs' ≤ fy)

Cc = 0.836 x 30 x 200.640 x 1000 = 5032051.200 N

Cs = As' x (fs' - 0.9 x fck) = 256591.200 N

Ts = As x fs = 635520.000 N

Pb = 5032051.200 + 256591.200 - 635520.000 = 4653122.400 N

Mb = 5032051.200x(400.0-200.640/2)+256591.200x(400.0-100.0)-4653122.400x(246.468-100.0)

= 903450909.646 N.mm

eb > e → 압축파괴 (eb = Mb / Pb = 194.160 mm)

- 공칭강도 계산 : 반복계산을 통해 c = 244.057 mm , a = k1 x c = 204.032 mm 사용

fs = 600 x (400.000 - 244.057) / 244.057 = 383.3752 Mpa (fs ≤ fy)

fs' = 600 x (244.057 - 100.000) / 244.057 = 354.1562 Mpa (fs ≤ fy)

Cc = 0.836 x 30 x 204.032 x 1000 = 5117122.219 N

Cs = 794.400 x (354.156 - 0.836 x 30) = 261418.129 N

Ts = 1588.800 x 383.375 = 609106.553 N

Pn = 5117122.219 + 261418.129 - 609106.553 = 4769433.794 N

Mn' = 5117122.219 x (400.0 - 204.032 / 2) + 261418.129 x (400.0 - 100.0)

= 1603246020.727 N.mm

- 편심오차 : | e' - Mn'/Pn | = 0.001 < 0.001 (e' = e + Xp - dc = 336.149184 mm)

- 축방향력 및 휨에대한 검토

(max) Pn = 0.80 x { 0.85 fck x (Ag - Ast) + fy x Ast} : 10914006.720 N ≥ Pn = 4769433.794

ΦPn = 3338603.656 > ΦPb = 3257185.680 , 0.1 x fck x Ag = 1500000.000

∴ Φ = 0.700

ΦPn = 0.70 x 4769433.794 = 3338.604 kN ≥ Pu = 443.480 kN ——— O.K!!!

ΦMn = ΦPn x 189.682 = 633.272 kN.m ≥ Mu = 84.120 kN.m ——— O.K!!!

○ 전단력 검토

$\phi Vc = 0.85 \times 1/6 \times (1 + Pu / (14 \times Ag)) \times \sqrt{fck} \times bo \times d$ = 247529.830 N

여기서 , $1/2\phi Vc < Vu \leq \phi Vc$ 이므로 최소 전단 철근 필요

- 계산된 스터럽 : min.Av = 0.35x(bo x s / fy)= 1.31㎠

- 배근할 스터럽 : H 13 다리수: N = 2 스터럽 간격 : s = 15 cm O.K !!!

Av(req)= 1.31㎠ < Av = 2.534 ㎠ O.K !!!

○ 사용성 검토 (균열방지 인장철근 간격검토)

- 응력산정

$fs = M / [As \times (d - \chi/3)]$

$= 33.42 \times 1000000 / [1588.8 \times (400 - 83.857/3)]$

= 56.538 Mpa

$\chi = -nAs/b + nAs/b\sqrt{[1 + 2bd/(nAs)]}$

$= -7 \times 1588.8/1000 + 7 \times 1588.8/1000 \times \sqrt{[(1 + 2 \times 1000 \times 400/(7 \times 1588.8)]}$

= 83.857 mm

사용철근량 = 1588.800 mm^2 (철근도심 : 100 mm)

1단 H16 @ 125 (= 1588.8 ㎟)

- 철근의 최대 중심간격

Cc = 100 - 16 / 2 = 92.00 mm

여기서 Cc ; 인장철근이나 긴장재의 표면과 콘크리트 표면사이의 두께(mm)

Smin : 375 x (210 / fs) - 2.5 x Cc = 375 × (210 / 56.538) - 2.5 × 92 = 1162.87 mm

300 x (210 / fs) = 300 × (210 / 56.538) = 1114.30 mm

Sa는 작은 값인 1114.30 mm 를 적용

S = 125.00 ≤ Sa (= 1114.299 mm) ----- ∴ O.K.

⑩ 벽체 하단부 - Mmax 일 경우

설계축력	:	Pu	=	424.00	(kN) ,	설계모멘트	:	Mu	=	97.32	(kN · m)	
설계전단력	:	Vu	=	131.16	(kN) ,	사용 모멘트	:	M	=	60.83	(kN.m)	
부 재 높 이	:	H	=	500.0	(mm) ,	f_y	=	400	MPa	f_{ck}	=	30 MPa
폭	:	b	=	1000	(mm) ,	ϕ_f	=	0.90	,	ϕ_v	=	0.85
유효높이(휨)	:	d	=	400.0	(mm) ,	d'	=	100	(mm),	ϕc	=	0.70
유효높이(전단)	:	d	=	300.0	(mm) ,	k_1	=	0.836	,	e	=	229.53 (mm)

○ 휨철근량 계산

- 철근비검토

As = H 16 @ 8 EA = 15.888 cm^2 , d1 = 10.0 cm

Σ = 15.888 cm^2

Asf = H 16 @ 4 EA = 7.944 cm^2 , d'1 = 10.0 cm

Pmin (0.0012) < Puse (0.0048) < Pmax (0.0800) ---------- O.K!!!

- 평형하중 산정

소성중심 계산

Cc = 0.84 x 30 x 500.00 x 1000.00 = 12540000.000 N

Cs = As x fy = 635520.00 N , Cs' = Asf x fy = 317760.000 N

Xp = (12540000.00 x 250.0 + 635520.0 x 100.0 + 317760.0 x 400.0) / 13493280.000

= 246.468 mm

- 평형상태 계산

Cb = 600 / (600 + fy) x d = 240.000 mm, ab = k1 x cb = 200.640 mm

fs' = 600 x (240.000 - 100.0) / 240.0(= 350 Mpa (fs' ≤ fy)

Cc = 0.836 x 30 x 200.640 x 1000 = 5032051.200 N

Cs = As' x (fs' - 0.9 x fck) = 256591.200 N

Ts = As x fs = 635520.000 N

Pb = 5032051.200 + 256591.200 - 635520.000 = 4653122.400 N

Mb = 5032051.200x(400.0-200.640/2)+256591.200x(400.0-100.0)-4653122.400x(246.468-100.0)

= 903450909.646 N.mm

eb < e → 인장파괴 (eb = Mb / Pb = 194.160 mm)

- 공칭강도 계산 : 반복계산을 통해 c = 190.867 mm , a = k1 x c = 159.565 mm 사용

fs = 600 x (400.000 - 190.867) / 190.867 = 400 Mpa (fs ≤ fy)

fs' = 600 x (190.867 - 100.000) / 190.867 = 285.6452 Mpa (fs ≤ fy)

Cc = 0.836 x 30 x 159.565 x 1000 = 4001888.630 N

Cs = 794.400 x (285.645 - 0.836 x 30) = 206993.015 N

Ts = 1588.800 x 400.000 = 635520.000 N

Pn = 4001888.630 + 206993.015 - 635520.000 = 3573361.645 N

Mn' = 4001888.630 x (400.0 - 159.565 / 2) + 206993.015 x (400.0 - 100.0)

= 1343572802.047 N.mm

- 편심오차 : | e' - Mn'/Pn | = 0.001 < 0.001 (e' = e + Xp - dc = 375.995877 mm)

- 축방향력 및 휨에대한 검토

(max) Pn = 0.80 x { 0.85 fck x (Ag - Ast) + fy x Ast} : 10914006.720 N ≥ Pn = 3573361.645

ΦPn = 2501353.151 > ΦPb = 3257185.680 , 0.1 x fck x Ag = 1500000.000

∴ Φ = 0.700

ΦPn = 0.70 x 3573361.645 = 2501.353 kN ≥ Pu = 424.000 kN ------ O.K!!!

ΦMn = ΦPn x 229.528 = 574.131 kN.m ≥ Mu = 97.320 kN.m ------ O.K!!!

○ 전단력 검토

ϕVc = 0.85 × 1/6 × (1 + Pu / (14 x Ag)) x √fck × bo × d = 246882.030 N

여기서 , 1/2ϕVc< Vu ≤ ϕVc 이므로 최소 전단 철근 필요

- 계산된 스터럽 : min.Av = 0.35x(bo x s / fy)= 1.31㎠

- 배근할 스터럽 : H 13 다리수: N = 2 스터럽 간격 : s = 15 cm O.K !!!

Av(req)= 1.31㎠ < Av = 2.534 cm^2 O.K !!!

○ 사용성 검토 (균열방지 인장철근 간격검토)

- 응력산정

fs = M / [As x (d - χ/3)]

= 60.83 × 1000000 / [1588.8×(400 - 83.857/3)]

= 102.908 Mpa

χ = -nAs/b + nAs/b√[1 + 2bd/(nAs)]

= -7 × 1588.8/1000 + 7 × 1588.8/1000 × √[(1 + 2×1000×400/(7×1588.8)]

= 83.857 mm

사용철근량 = 1588.800 mm^2 (철근도심 : 100 mm)

1단 H16 @ 125 (= 1588.8 ㎟)

- 철근의 최대 중심간격

Cc = 100 - 16 / 2 = 92.00 mm

여기서 Cc : 인장철근이나 긴장재의 표면과 콘크리트 표면사이의 두께(mm)

Smin : 375 x (210 / fs) - 2.5 x Cc = 375 × (210 / 102.908) - 2.5 × 92 = 535.245 mm

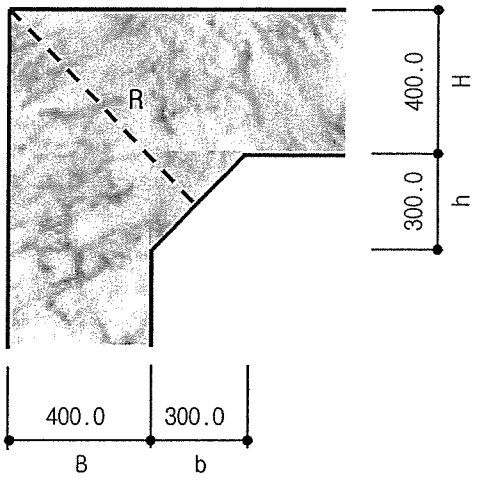
300 x (210 / fs) = 300 × (210 / 102.908) = 612.196 mm

Sa는 작은 값인 535.245 mm 를 적용

S = 125.00 ≤ Sa (= 535.245 mm) ------ ∴ O.K.

12. 우각부 검토

1) 상부 슬래브



CON'C 설계기준강도(fck) : 30.0 MPa

CON'C 허용휨인장응력(fta) = 0.13√.fck Mpa

: 0.712 MPa

철근 항복강도(fy) : 400.0 MPa

철근 허용응력 : 180.0 MPa

사용 모멘트 Mo : 74.82 kN · m

$R = \sqrt{2} \times b / (b+h) \times [B + h + (H \times h/b)]$

$= 777.82$ mm

① 보강철근 필요여부 판정

$$f_{tmax} = \frac{5 \times Mo}{R^2 \times W} = \frac{5 \times 74820000}{777.82^2 \times 1000.0} = 0.618 \text{ MPa}$$

f_{tmax} = 0.618 MPa < f_{ta} = 0.712 MPa 이므로 보강철근 필요없음.

② 소요 철근량

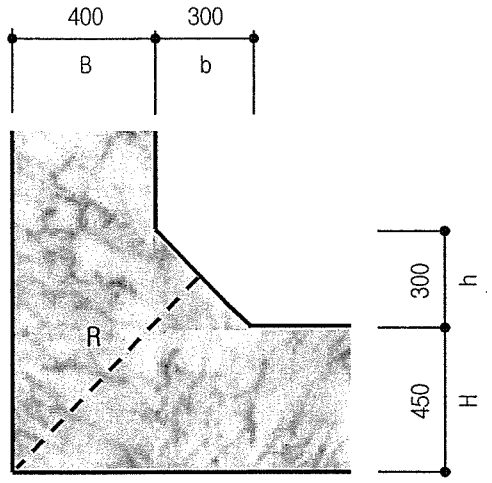
외측인장에 대한 보강 필요철근량(Asf)

$$Asf = \frac{2 \times Mo}{R \times fsa} = \frac{2 \times 0}{777.82 \times 180.0} = 0.00 \text{ ㎟}$$

▶ 보강 As = Asf - 주철근사용 As = 0.00 - 794.4 = -794.40 ㎟

----- 우각부 보강철근 필요없음

2) 하부 슬래브



CON'C 설계기준강도(fck)	:	30.0	MPa
CON'C 허용휨인장응력(fta) = 0.13√fck Mpa			
	:	0.712	MPa
철근 항복강도(fy)	:	400.0	MPa
철근 허용응력	:	180.0	MPa
사용 모멘트 Mo	:	60.83	kN·m

R = √ (B2 + H2) = 602.08 mm

① 보강철근 필요여부 판정

$$f_{tmax} = \frac{5 \times Mo}{R^2 \times W} = \frac{5 \times 60830000}{602.08^{\,2} \times 1000.0} = 0.839 \text{ MPa}$$

f_{tmax} = 0.839 MPa > f_{ta} = 0.712 MPa 이므로 보강철근 필요.

② 소요 철근량

외측인장에 대한 보강 필요철근량(Asf)

$$Asf = \frac{2 \times Mo}{R \times fsa} = \frac{2 \times 60830000}{602.08 \times 180.0} = 1122.59 \text{ ㎟}$$

▶ 보강 As = Asf - 주철근사용 As = 1122.59 - 794.4 = 328.19 ㎟

----- 우각부 보강철근 필요

외측인장에 대한 보강 사용철근량(As)

As = H16 @ 250 - 1 단 = 794.40 ㎟

Asf = 328.19 ㎟ < As = 794.40 ㎟ ----- ∴ O.K.

13. 배력철근 검토

1) 구조상세 - 철도설계기준(노반편) p.5-19

다. 종방향으로 영향을 받는 경우로써 상부슬래브, 하부슬래브와 벽체에 있어서 종방향 최소철근량은 복토의 깊이가 3.0 m 이하인 경우에는 콘크리트 단면적의 0.4%, 복토가 3.0m 이상인 경우에는 복토 깊이가 30m인 경우의 사용량인 1.0%를 기준으로 선형변화량을 사용하되, 종방향 철근량은 주철근량 미만이어야 한다.

라. 단단한 지반 위에 놓인 경우와 말뚝기초로 지지되는 경우로써 종방향 부등침하가 우려되지 않은 경우에는 다.항의 기준을 적용하지 않는다. 따라서 어느 정도 견고한 지반위에 놓이는 일반적인 구교로써 적적한 신축이음매가 설치되어 상세한 종방향해석이 필요하지 않다고 판단되는 경우 종방향 철근량은 슬래브의 경우 콘크리트단면적의 0.25%, 벽체의 경우 0.3%를 적용한다.

마. 배력철근은 단위폭주변의 인장 주철근량의 1/5 이상으로 하여 종단방향에 계산외의 응력이 발생하는 것을 고려하여야 한다.

2) 배력철근의 최소 철근비

슬래브의 배력 철근비 = 0.25 %　　벽체의 배력 철근비 = 0.30 %

① 상부슬래브

배력철근 최소 철근비 (Asreq) = 1,000.0 × 400.0 × 0.25 = 1000.00 ㎟

사용철근 인장측 ; H 13 @ 150 = 844.67 ㎟

압축측 ; H 13 @ 300 = 422.33 ㎟

∑ As = 1267.00 ㎟

따라서, As = 1267.00 ㎟ > Asreq = 1000.00 ㎟ ----- ∴ O.K.

사용 주철근량의 1/5 = 317.760 ㎟

따라서, As = 844.67 ㎟ > Asreq = 317.76 ㎟ ------ ∴ O.K.

② 하부슬래브

배력철근 최소 철근비 (Asreq) = 1,000.0 × 450.0 × 0.25 = 1125.00 ㎟

사용철근 인장측 ; H 13 @ 150 = 844.67 ㎟

압축측 ; H 13 @ 300 = 422.33 ㎟

∑ As = 1267.00 ㎟

따라서, As = 1267.00 ㎟ > Asreq = 1125.00 ㎟ ------ ∴ O.K.

사용 주철근량의 1/5 = 317.760 ㎟

따라서, As = 844.67 ㎟ > Asreq = 317.76 ㎟ ------ ∴ O.K.

③ 벽체

배력철근 최소 철근비 (Asreq) = 1,000.0 × 400.0 × 0.30 = 1200.00 ㎟

사용철근 인장측 ; H 13 @ 150 = 844.67 ㎟

압축측 ; H 13 @ 300 = 422.33 ㎟

∑ As = 1267.00 ㎟

따라서, As = 1267.00 ㎟ > Asreq = 1200.00 ㎟ ----- ∴ O.K.

사용 주철근량의 1/5 = 317.760 ㎟

따라서, As = 844.67 ㎟ > Asreq = 317.76 ㎟ ----- ∴ O.K.

14. 사용성검토

1) 상부슬래브 최소 두께

1.2(L+3)/30 = 1.2 × (2.470 + 3) / 30 = 218.8 mm

상부슬래브 두께 = 400.0 mm

Tuse = 400.0 mm > Tmin = 218.8 mm ----- ∴ O.K.

2) 철근 피로검토

피로응력한계 : 사용하중하에서 활하중과 충격에 의해 야기되는 직선철근의 최대 인장응력과 최소 응력 상이의 범위는 다음 값을 초과할수 없다.

$f_f = 165 - 0.33fmin$

여기서, f_f : 응력범위(Mpa)

fmin : 최소응력 수준으로 인장은 정(+), 압축은 부(-)의 값(Mpa)

① 상부슬래브 단부

2.47 m 지간에서의 모멘트 변화에 의한 피로검토

Mmax = 3.053 kN · m Mmin = -0.562 kN · m

- 사용철근량 = H16 × 8ea = 1588.800 ㎟

n = 7

p = As / bd = 1588.80 / (1000 × 400) = 0.00397

$K = -np + \sqrt{\{(np)^2 + 2np\}}$

$= -7 \times 0.00397 + \sqrt{\{ (7 \times 0.00397)^2 + 2 \times 7 \times 0.00397 \}}$

= 0.210

J = 1 - K / 3 = 1 - 0.210 / 3 = 0.930

$$fs\ max = \frac{M}{As \times j \times d} = \frac{3.053 \times 10^6}{1588.80 \times 0.930 \times 400} = 5.160 \text{ Mpa}$$

$$fs\ min = \frac{-0.562 \times 10^6}{1588.80 \times 0.930 \times 400} = -1 \text{ Mpa}$$

Δf = fs max - fs min = 6.111 Mpa

$f_f = 165 - 0.33fmin$

= 165 - 0.33 × -0.95 = 165.314 Mpa > 6.111 Mpa O.K.

② 상부슬래브 중앙부

2.47 m 지간에서의 모멘트 변화에 의한 피로검토

Mmax = 9.123 kN · m Mmin = 8.451 kN · m

- 사용철근량 = H16 × 8ea = 1588.800 ㎟

n = 7

p = As / bd = 1588.80 / (1000 × 300) = 0.00530

$K = -np + \sqrt{\{(np)^2 + 2np\}}$

$= -7 \times 0.0053 + \sqrt{\{ (7 \times 0.0053)^2 + 2 \times 7 \times 0.0053 \}}$

= 0.238

J = 1 - K / 3 = 1 - 0.238 / 3 = 0.921

$$fs\ max = \frac{M}{As \times j \times d} = \frac{9.123 \times 10^6}{1588.80 \times 0.921 \times 300} = 20.790\ Mpa$$

$$fs\ min = \frac{8.451 \times 10^6}{1588.80 \times 0.921 \times 300} = 19\ Mpa$$

Δf = fs max - fs min = 1.534 Mpa

$f_f = 165 - 0.33 fmin$

= 165 - 0.33 × 19.26 = 158.645 Mpa > 1.534 Mpa O.K.

15. 기초지지력 검토

1) 구체자중

-	2.800	x	0.450	x	24.500					=	30.870	kN/m
-	2.800	x	0.400	x	24.500					=	27.440	kN/m
-	2.000	x	0.400	x	24.500					=	19.600	kN/m
-	2.000	x	0.400	x	24.500					=	19.600	kN/m
-	0.300	x	0.300	x	1/2	x	4	x	24.500	=	4.410	kN/m
								∴	Total	=	101.920	kN/m

	101.920	/	2.800	=	36.400	kN/m²

2) 상부연직하중

= 167.6 kN/m²

3) 활하중

= 21.019 kN/m²

4) 최대 지반 반력

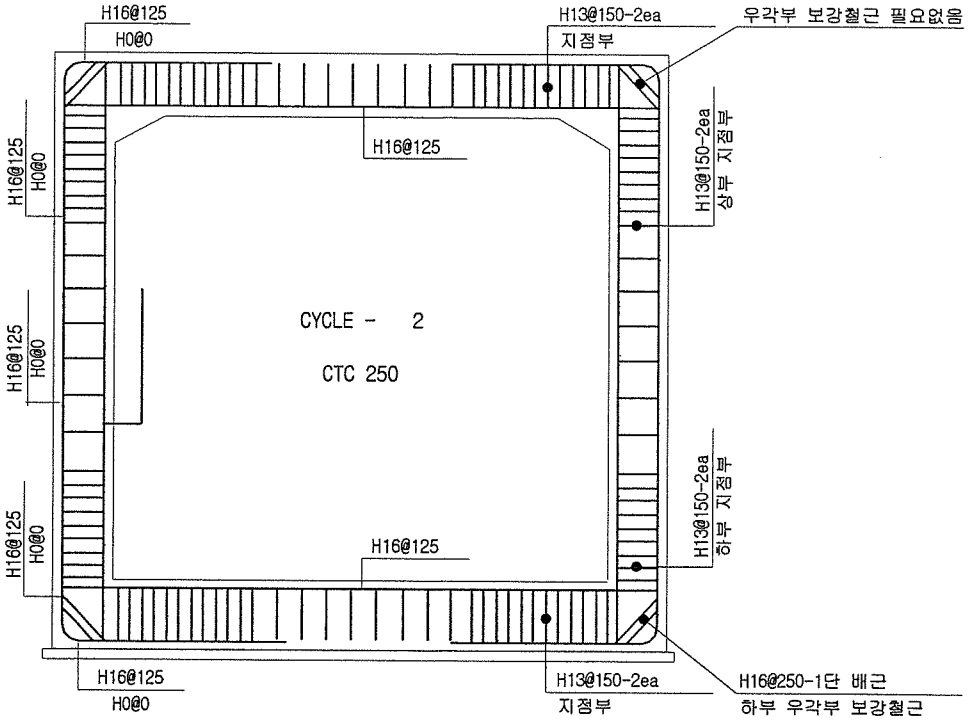
Qmax = 36.400 + 167.600 + 21.019

= 225.019 kN/m²

5) 지지력 검토

Qmax = 225.019 kN/m² < 300.00 kN/m² --- ∴ O.K.

16. 주철근 조립도



▶ 배력철근

- 상부 지점부 : H13, 인장측:150, 압축측:300
- 하부 지점부 : H13, 인장측:150, 압축측:300
- 벽체부 : H13, 인장측:150, 압축측:300

C(함) 탑리제2

- 4.0 x 4.00 x 1
- 토피 = 3.1m 이하

1. 설 계 조 건
2. 단 면 가 정
3. 해석모델 및 단면제원
4. 하중산정
5. 하중재하도
6. 하중계수 및 하중조합
7. INPUT DATA
8. OUTPUT
9. 단면력요약
10. 단 면 력 도
11. 단 면 검 토
12. 우각부 검토
13. 배력철근 검토
14. 사용성 검토
15. 기초지지력 검토
16. 주철근조립도
17. 날개벽 설계

1. 설계 조건

1) 구조물명 : c (함)

2) 구조형식 : 철근 콘크리트 구조

3) 설계하중 : KRL2012 (복 선)

4) 재료중량

- 철근 콘크리트(γ_c)	=	24.5	kN/m^3
- 무근 콘크리트(γ_{con})	=	23.0	kN/m^3
- 뒷채움 토사(γ_t)	=	20.0	kN/m^3
- 뒷채움 토사(γ_{sub})	=	11.0	kN/m^3
- 지하수(γ_w)	=	10.0	kN/m^3

5) 사용재료의 성질

- 콘크리트 설계기준 강도(fck)	=	30.0	MPa
- 콘크리트 탄성계수(Ec)	=	27537	MPa
- 철근의 항복강도(fy)	=	400.0	MPa
- 철근의 탄성계수(Es)	=	200000	MPa

6) 토 사

- 흙의 내부마찰각 (ϕ)	=	35.0	°
- 정지 토압계수 (Ko)	=	0.426	

7) 기 초 형 식 : 직접기초

8) 사 각(Skew) : 87.00 ° 연 장 (L) : 30.00 m

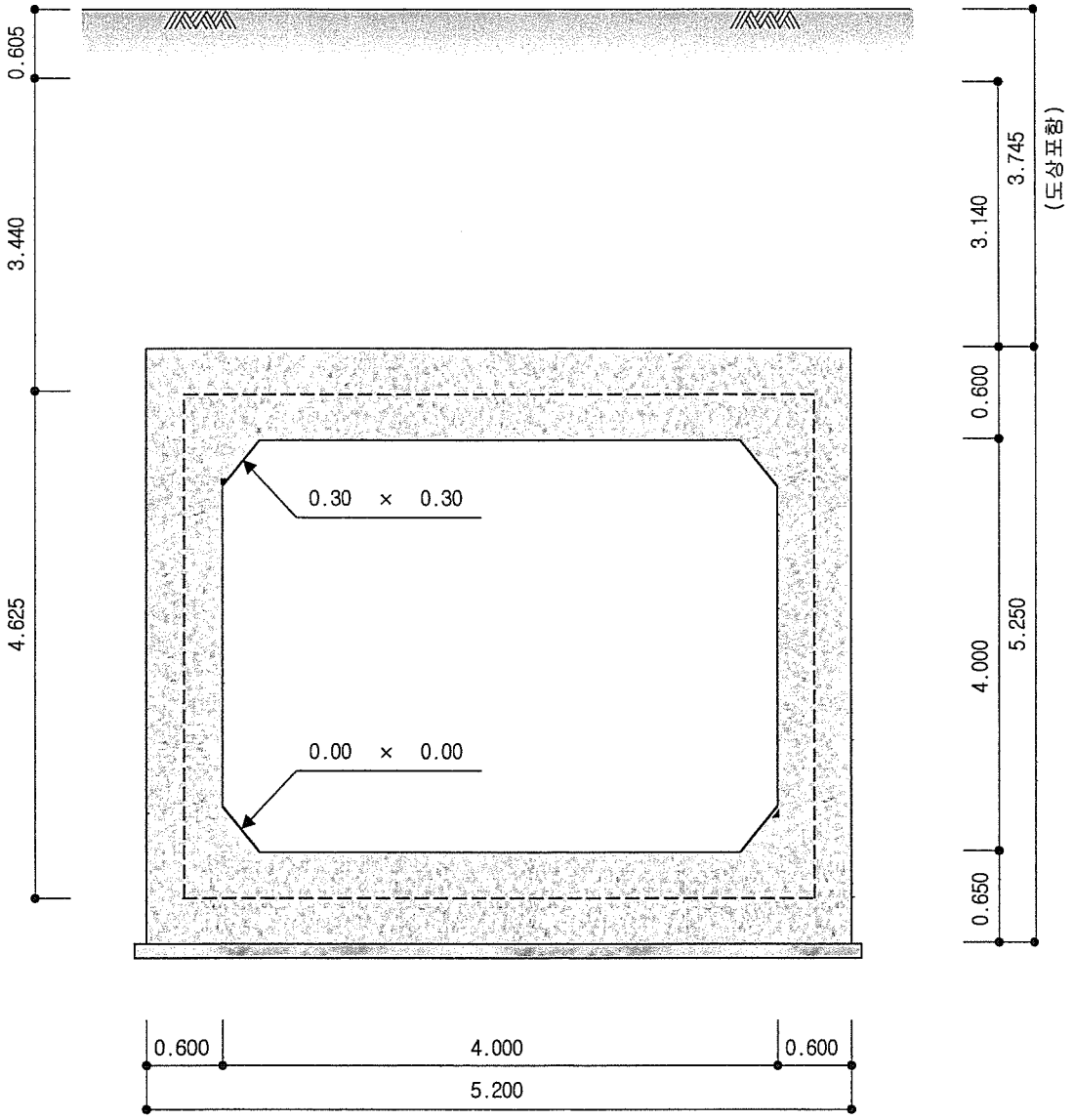
9) 설계방법

- 강도 설계법 : 부재 단면검토(슬래브, 벽체, 보, 기둥 등)
- 허용응력 설계법 : 사용성 검토(처짐, 균열, 우각부 검토)

10) 참고문헌

- 철도설계기준(노반편), 국토해양부, 2013
- 콘크리트 구조설계기준해설, 한국콘크리트 학회, 2012

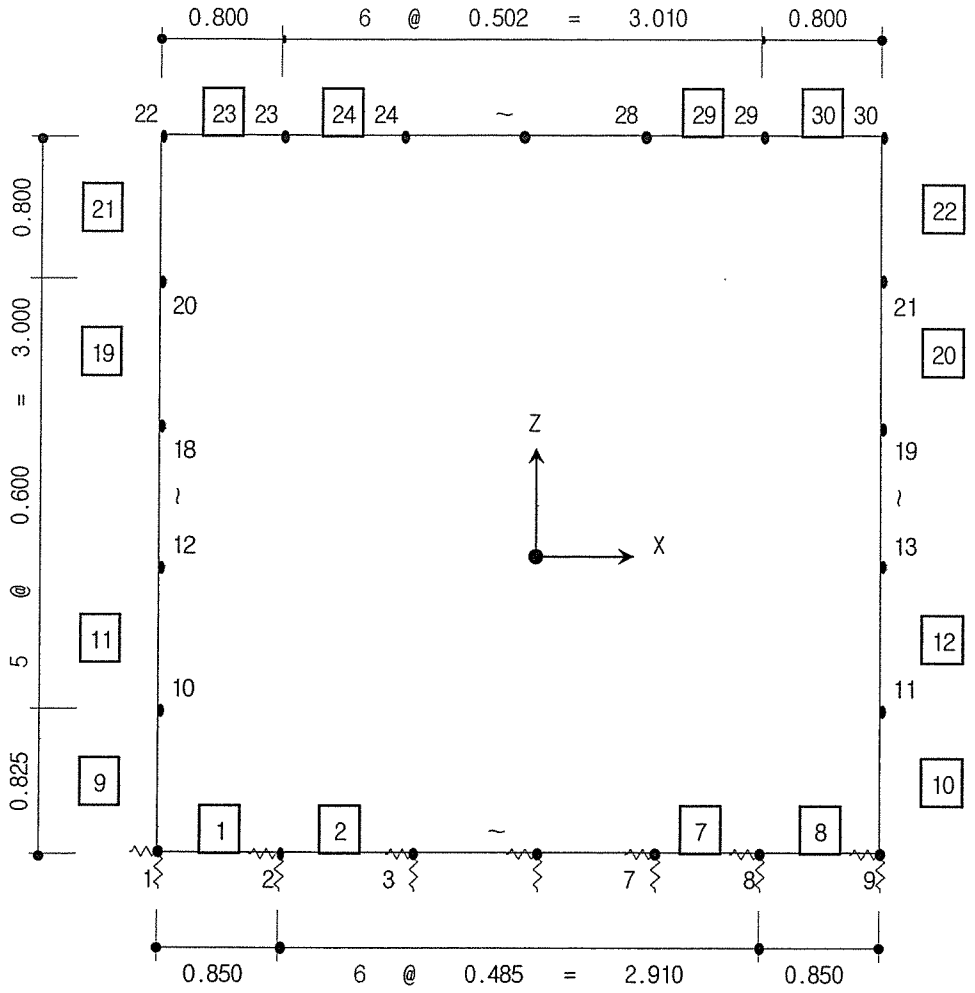
2. 단면 가정



※ 유효경간

Skew =	87.0	°					
Ln =	4.600	m					
Ls =	4.606	m					
Ls/B =	4.606	/	18.000	=	0.256	<	1.500
L =	4.610	m					

3. 해석모델 및 단면제원



1) 절점 좌표

Joint	좌 표			Joint	좌 표		
	X	Y	Z		X	Y	Z
1	0.000	0.000	0.000	13	4.610	0.000	1.425
2	0.850	0.000	0.000	14	0.000	0.000	2.025
3	1.335	0.000	0.000	15	4.610	0.000	2.025
4	1.820	0.000	0.000	16	0.000	0.000	2.625
5	2.305	0.000	0.000	17	4.610	0.000	2.625
6	2.790	0.000	0.000	18	0.000	0.000	3.225
7	3.275	0.000	0.000	19	4.610	0.000	3.225
8	3.760	0.000	0.000	20	0.000	0.000	3.825
9	4.610	0.000	0.000	21	4.610	0.000	3.825
10	0.000	0.000	0.825	22	0.000	0.000	4.625
11	4.610	0.000	0.825	23	0.800	0.000	4.625
12	0.000	0.000	1.425	24	1.302	0.000	4.625

Joint	좌 표			Joint	좌 표		
	X	Y	Z		X	Y	Z
25	1.803	0.000	4.625	28	3.308	0.000	4.625
26	2.305	0.000	4.625	29	3.810	0.000	4.625
27	2.807	0.000	4.625	30	4.610	0.000	4.625

2) 경계 조건

joint	spring계수 (kN/m²)		joint	spring계수 (kN/m²)	
	z방향(수직)	x방향(수평)		z방향(수직)	x방향(수평)
1 . 9	5231		3 ~ 7	3499	
2 . 8	4816				

3) 단면제원

Element	두께	폭	비 고
23 ~ 30	0.600	1.000	상부슬래브
1 ~ 8	0.650	1.000	하부슬래브
9 ~ 22	0.600	1.000	벽 체

4) 강역설정

(1) 강역설정기준(콘크리트구조설계기준 2012)

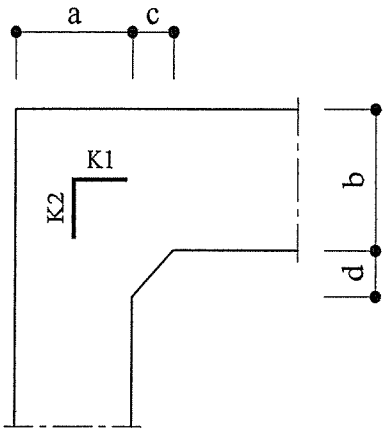
CASE 1 : 부재단부가 다른 부재와 접합할 때는 부재단에서 부재두께의 1/4 안쪽정에서 절점까지

CASE 2 : 부재가 그 축선에 대해 25° 이상 60° 미만인 경사진 헌치를 갖는 경우에는 부재두께가 1.5배가 되는 정에서 부터 절점까지

CASE 3 : 헌치의 경사가 60° 이상의 경우는 헌치의 시점에서 부재두께의 1/4 안쪽 점에서부터 절점까지

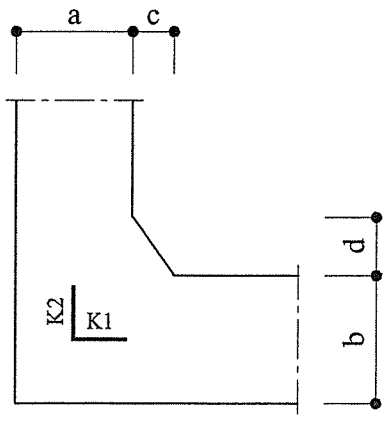
(2) 강역설정

- 절점 22 , 30



a =	600	mm	c =	300	mm
b =	600	mm	d =	300	mm
K1 =	300	mm	K2 =	300	mm

- 절점 1 , 9

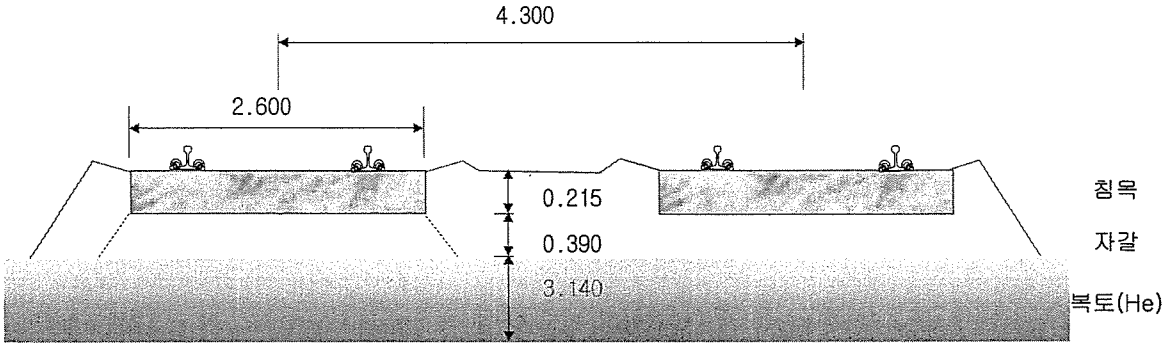


a =	600	mm	c =	0	mm
b =	650	mm	d =	0	mm
K1 =	138	mm	K2 =	175	mm

4. 하중산정

4.1 상시

1) 상부 고정하중(지하수 無)



① 하중 분포폭 산정 (b')

① He < 0.5m 경우 : b + d

b_1 = 2.600 + 0.390 = 2.990 m

② He ≥ 0.5m 경우 : c + b + (d + He)

b_2 = 4.300 + 2.600 + (0.390 + 3.140) = 14.590 m

여기서, He : 시공기면에서의 토파고(m)

a : 동륜간 축간거리(m) c : 복선선로 중심간격(m)

b : 침목길이(m) d : 침목하면의 도상두께(m)

H : 상부슬래브 두께

He ≥ 0.5 m

∴ b' = 14.590 m

② 구조물 자중 : 프로그램 상에서 Self Weight 기능을 이용하여 자동 고려

③ 궤도 중량

- 레일 : 레일당 1.5kN/m를 적용

q_1 = 4 × 1.500 / 14.590 = 0.411 kN/㎡

- 침목 : 고속철도용 5.0kN/m

q_2 = 5.000 × 2 / 14.590 = 0.685 kN/㎡

= 1.096 kN/㎡

④ 도상 (q_2)

TCL = 0.215 × 19.000 × 1.3 = 5.311 kN/㎡

HSB = 0.390 × 19.000 × 1.3 = 9.633 kN/㎡

= 14.944 kN/㎡

⑤ 복토하중 (q_3) = 20.000 × 3.140 = 62.800 kN/㎡

∴ $q_1 + q_2 + q_3$ = 1.096 + 14.944 + 62.800 = 78.840 kN/㎡

2) 활하중

① 활하중 산정 : KRL 2012

$$W_{HL} = \frac{2P}{a \times b'} = \frac{2\times(220+80x3)}{3.000 \times 14.590} = 21.019 \text{ kN/㎡}$$

∴ W = 21.019 kN/㎡

② 충격계수

1) 단선 (i_0) (철도설계기준 노반편(2013) p.5-7)

지 간 L (m)	0	5	10	20	30	40	50	70	100
충격계수 (i)	0.60	0.48	0.43	0.37	0.34	0.32	0.30	0.27	0.24

* 상기표에 없는 지간의 충격 계수는 보간법으로 구한다.

지 간 L (m) = 4.610 m

따라서 i_0 = 0.489 (보간법에 의하여 산정된 충격계수)

2) 구조물 상면의 복토높이에 따른 충격 계수

H ≥ 1.0일 경우 $i = io \cdot \{(2.5 - H)/1.5\}$

여기서, H ≤ 1.0 m 에서는 $i = i_o$

H ≥ 2.5 m 에서는 i = 0

따라서, 본 구조물의 H = 3.745 m i = 0.000

W_L = 21.019 ×(1 + 0.000) = 21.019 kN/㎡

③ 활하중에 의한 측압 (충격비고려)(철도설계기준 노반편(2013) p.5-6)

W_{LH} = 21.019 × 0.4 = 8.408 kN/㎡

3) 토 압

- 지하수가 없는 경우 작용 토압

q_1 = 0.426 ×(16.040 + 20.000 × 3.440) = 36.142 kN/㎡

q_2 = 36.142 + 0.426 ×(20.000 × 0.800) = 42.958 kN/㎡

q_3 = 42.958 + 0.426 ×(20.000 × 0.600) = 48.070 kN/㎡

q_4 = 48.070 + 0.426 ×(20.000 × 0.600) = 53.182 kN/㎡

q_5 = 53.182 + 0.426 ×(20.000 × 0.600) = 58.294 kN/㎡

q_6 = 58.294 + 0.426 ×(20.000 × 0.600) = 63.406 kN/㎡

q_7 = 63.406 + 0.426 ×(20.000 × 0.600) = 68.518 kN/㎡

q_8 = 68.518 + 0.426 ×(20.000 × 0.825) = 75.547 kN/㎡

- 시공중 편토압 산정 (지하수가 없는 경우 작용 토압)

q_1 = 0.426 × (0.000 + 20.000 × 0.300) = 2.556 kN/㎡

q_2 = 2.556 + 0.426 × (20.000 × 0.800) = 9.372 kN/㎡

q_3 = 9.372 + 0.426 × (20.000 × 0.600) = 14.484 kN/㎡

q_4 = 14.484 + 0.426 × (20.000 × 0.600) = 19.596 kN/㎡

q_5 = 19.596 + 0.426 × (20.000 × 0.600) = 24.708 kN/㎡

q_6 = 24.708 + 0.426 × (20.000 × 0.600) = 29.820 kN/㎡

q_7 = 29.820 + 0.426 × (20.000 × 0.600) = 34.932 kN/㎡

q_8 = 34.932 + 0.426 × (20.000 × 0.825) = 41.961 kN/㎡

4) 온도하중

토피가 1.0m 이상일 경우에는 온도변화를 고려치 않으며, 토피가 1.0m 이하일 경우에는 다음식을 따른다.

$t = a \times t_0$ = 0.000 × 15.0 = 0.000 ℃

t : 박스 구조물의 상부 슬래브에 작용하는 온도변화

a : 토피심도(m)에 따른 저감률 $a=1-h_0$ (h_0:토피심도)

t_0 : 지표면에서의 기본온도 변화

상부슬래브의 두께가 700mm 이상인 경우 t_0 = ±10℃

상부슬래브의 두께가 700mm 미만인 경우 t_0 = ±15℃

토피고 H > 1.0m 이므로 온도변화는 고려하지 않는다.

5) 건조수축

$$\Delta Tx = \frac{\varepsilon}{\alpha} = \frac{-0.00015}{0.00001} = -15\,^{\circ}C$$

6) 장대레일 하중

장대레일 종하중은 필요시에 고려하여야 하며, 1궤도당 10 kN/m로 하고 작용위치는 상부슬래브 축선으로 한다. (단, 토피가 1.0m 이상인 경우는 이를 무시한다.)

토피가 3.745 m 이므로 장대레일 하중을 무시한다.

H_r = 0.000 × 4 / 14.590 = 0.000 kN/㎡

7) 상시 지반반력 계수

지지 지반 N치 = 6

Eo = 2800 × N = 2800 × 6 = 16800

Kvo = 1 / 0.3 x α x Eo = 1 / 0.3 × 1 x 16800 = 56000

Bv = √ Av = √ (4.610 × 4.610) = 4.610

Kv = Kvo (Bv/0.3)^-3/4 = 7215 kN/㎡

7215 × (0.600 / 2 + 0.850 / 2) = 5231 kN/㎡ - 저판 단부 스프링

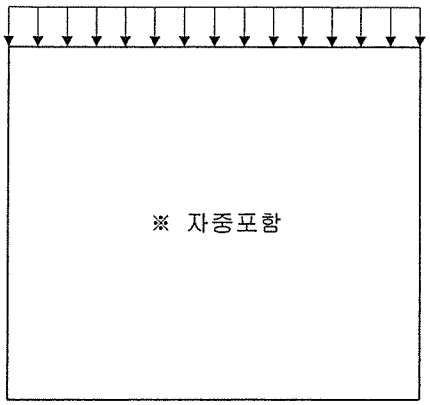
7215 × (0.850 / 2 + 0.485 / 2) = 4816 kN/㎡ - 저판 전단검토위치

7215 × (0.485 / 2 + 0.485 / 2) = 3499 kN/㎡ - 저판 중앙부 스프링

5. 하중재하도

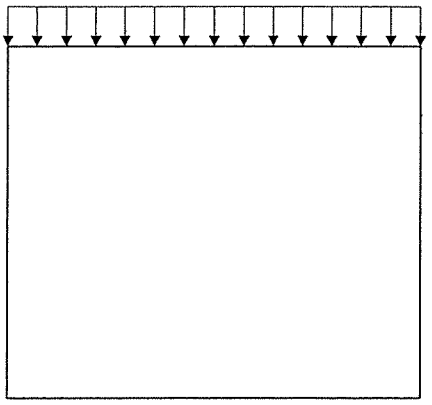
① 고정하중

W_D = 78.840 kN/㎡



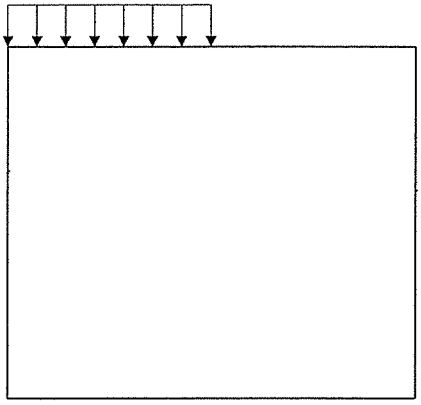
② 활하중(만재하)

W_L = 21.019 kN/㎡



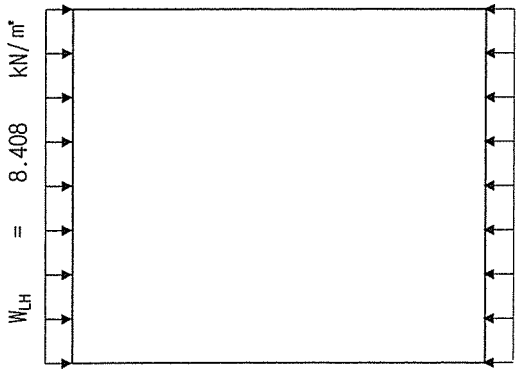
③ 활하중(편재하)

W_L = 21.019 kN/㎡



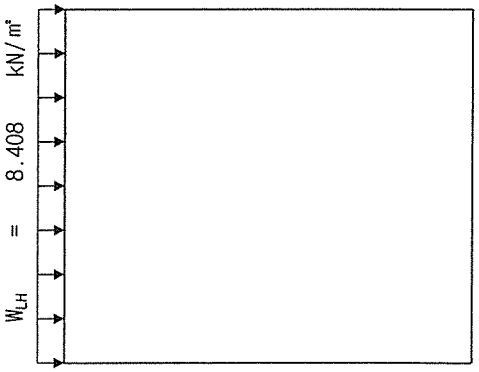
④ 활하중에 의한 측압(만재하)

W_{LH} = 8.408 kN/㎡

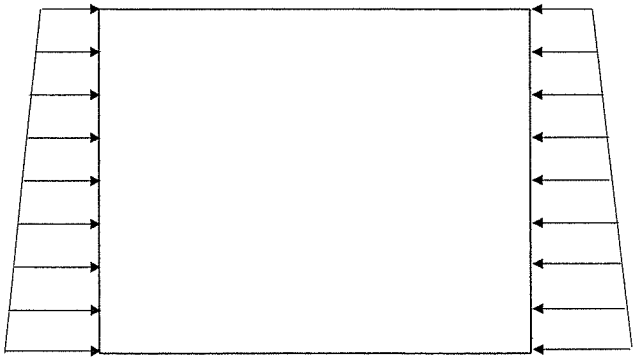


⑤ 활하중에 의한 측압(편재하)

W_{LH} = 8.408 kN/㎡



⑥ 수평토압(지하수 없는 경우)

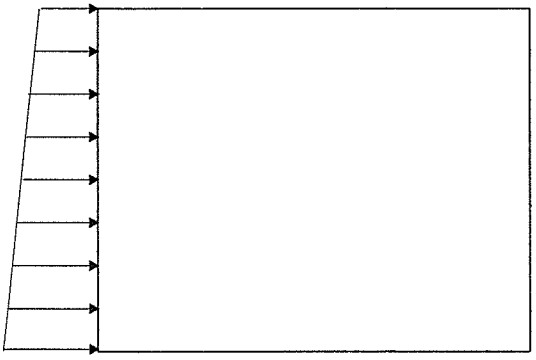


q_1 = 36.142 kN/㎡

q_7 = 75.547 kN/㎡

⑦ 편측토압(지하수 없는 경우)

q_1 = 2.556 kN/㎡



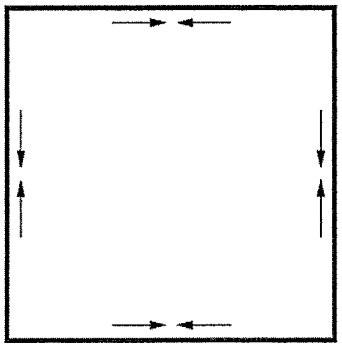
q_7 = 41.961 kN/㎡

⑧ 온도하중

△T = 0 °

⑨ 건조수축

△T = -15 °



⑩ 장대레일 종하중

Hr = 0.000 kN/㎡

6. 하중계수 및 하중조합

1) 극한하중 검토시

구분	고정하중	활하중		활하중 측압		수평토압(지하수無)		온도하중		건조수축	장대레일	비고
				양측재하	편측재하	양측재하	편측재하					
		전경간	1/2	수평	수평	수평	수평	온도상승	온도하강			
	LC1	LC2	LC3	LC4	LC5	LC6	LC7	LC8	LC9	LC10	LC11	
1	1.35	1.85		1.85		1.6						
2	1.35	1.85		1.85		0.6						
3	1.35		1.85		1.85	1.6						
4	1.35		1.85		1.85	0.6						
5	1.6	1.60		1.60		1.6						
6	1.6	1.60		1.60		0.6						
7	1.6		1.6		1.6	1.6						
8	1.6		1.6		1.6	0.6						
9	1.35	1.40		1.40		1.6		1.35		1.35		
10	1.35	1.40		1.40		0.6		1.35		1.35		
11	1.35	1.40		1.40		1.6			1.35	1.35	1.40	
12	1.35	1.40		1.40		0.6			1.35	1.35	1.40	
13	1.35		1.40		1.40	1.6		1.35		1.35		
14	1.35		1.40		1.40	0.6		1.35		1.35		
15	1.35		1.40		1.40	1.6			1.35	1.35	1.4	
16	1.35		1.40		1.40	0.6			1.35	1.35	1.4	
17	1.35		1.85		1.85		1.60					
18	1.35		1.85		1.85		0.60					
19	1.60		1.60		1.60		1.60					
20	1.60		1.60		1.60		0.60					

2) 사용하중 검토시

구분	고정하중	활하중		활하중 측압		수평토압(지하수無)		온도하중		건조수축	장대레일	비고
				양측재하	편측재하	양측재하	편측재하					
		전경간	1/2	수평	수평	수평	수평	온도상승	온도하강			
	LC1	LC2	LC3	LC4	LC5	LC6	LC7	LC8	LC9	LC10	LC11	
21	1.0	1.0		1.0		1.0						
22	1.0	1.0		1.0		0.5						
23	1.0		1.0		1.0	1.0						
24	1.0		1.0		1.0	0.5						
25	1.0	1.0		1.0		1.0		1.0			1.0	
26	1.0	1.0		1.0		0.5		1.0			1.0	
27	1.0	1.0		1.0		1.0			1.0	1.0	1.0	
28	1.0	1.0		1.0		0.5			1.0	1.0	1.0	
29	1.0		1.0		1.0	1.0		1.0			1.0	
30	1.0		1.0		1.0	0.5		1.0			1.0	
31	1.0		1.0		1.0	1.0			1.0	1.0	1.0	
32	1.0		1.0		1.0	0.5			1.0	1.0	1.0	
33	1.0					1.0						
34	1.0		1.0		1.0		1.0					
35	1.0		1.0		1.0		0.5					

7. INPUT DATA

```
*VERSION
   8.3.1

*UNIT    ; Unit System
; FORCE, LENGTH, HEAT, TEMPER
   KN   , M, J, C

*STRUCTYPE    ; Structure Type
; iSTYP, iMASS, iSMAS, bMASSOFFSET, bSELFWEIGHT, GRAV, TEMPER, bALIGNBEAM, bALIGNSLAB, bROTRIGID
     1, 1, 1, NO, YES, 9.806, 0, NO, NO, NO

*REBAR-MATL-CODE    ; Rebar Material Code
; CONC_CODE, CONC_MDB, SRC_CODE, SRC_MDB
 KS01-Civil(RC), SD300, KS01-Civil(RC), SD300

*NODE    ; Nodes
; iNO, X, Y, Z
     1, 0, 0, 0
     2, 0.85, 0, 0
     3, 1.333, 0, 0
     4, 1.817, 0, 0
     5, 2.3, 0, 0
     6, 2.783, 0, 0
     7, 3.267, 0, 0
     8, 3.75, 0, 0
     9, 4.6, 0, 0
    10, 0, 0, 0.825
    11, 4.6, 0, 0.825
    12, 0, 0, 1.425
    13, 4.6, 0, 1.425
    14, 0, 0, 2.025
    15, 4.6, 0, 2.025
    16, 0, 0, 2.625
    17, 4.6, 0, 2.625
    18, 0, 0, 3.225
    19, 4.6, 0, 3.225
    20, 0, 0, 3.825
    21, 4.6, 0, 3.825
    22, 0, 0, 4.625
    23, 0.8, 0, 4.625
    24, 1.3, 0, 4.625
    25, 1.8, 0, 4.625
    26, 2.3, 0, 4.625
    27, 2.8, 0, 4.625
    28, 3.3, 0, 4.625
    29, 3.8, 0, 4.625
    30, 4.6, 0, 4.625

*ELEMENT    ; Elements
; iEL, TYPE, iMAT, iPRO, iN1, iN2, ANGLE, iSUB, EXVAL, iOPT(EXVAL2) ; Frame  Element
; iEL, TYPE, iMAT, iPRO, iN1, iN2, ANGLE, iSUB, EXVAL, EXVAL2, bLMT ; Comp/Tens Truss
; iEL, TYPE, iMAT, iPRO, iN1, iN2, iN3, iN4, iSUB, iWID             ; Planar Element
; iEL, TYPE, iMAT, iPRO, iN1, iN2, iN3, iN4, iN5, iN6, iN7, iN8     ; Solid  Element
; iEL, TYPE, iMAT, iPRO, iN1, iN2, REF, RPX, RPY, RPZ, iSUB, EXVAL  ; Frame(Ref. Point)
     1, BEAM  ,    2,    2,    1,    2,   180
     2, BEAM  ,    2,    2,    2,    3,   180
     3, BEAM  ,    2,    2,    3,    4,   180
     4, BEAM  ,    2,    2,    4,    5,   180
     5, BEAM  ,    2,    2,    5,    6,   180
     6, BEAM  ,    2,    2,    6,    7,   180
     7, BEAM  ,    2,    2,    7,    8,   180
     8, BEAM  ,    2,    2,    8,    9,   180
     9, BEAM  ,    2,    3,    1,   10,   180
    10, BEAM  ,    2,    3,    9,   11,     0
    11, BEAM  ,    2,    3,   10,   12,   180
    12, BEAM  ,    2,    3,   11,   13,     0
    13, BEAM  ,    2,    3,   12,   14,   180
    14, BEAM  ,    2,    3,   13,   15,     0
    15, BEAM  ,    2,    3,   14,   16,   180
    16, BEAM  ,    2,    3,   15,   17,     0
    17, BEAM  ,    2,    3,   16,   18,   180
    18, BEAM  ,    2,    3,   17,   19,     0
    19, BEAM  ,    2,    3,   18,   20,   180
    20, BEAM  ,    2,    3,   19,   21,     0
    21, BEAM  ,    2,    3,   20,   22,   180
    22, BEAM  ,    2,    3,   21,   30,     0
    23, BEAM  ,    2,    1,   22,   23,     0
    24, BEAM  ,    2,    1,   23,   24,     0
    25, BEAM  ,    2,    1,   24,   25,     0
    26, BEAM  ,    2,    1,   25,   26,     0
    27, BEAM  ,    2,    1,   26,   27,     0
    28, BEAM  ,    2,    1,   27,   28,     0
    29, BEAM  ,    2,    1,   28,   29,     0
```

```
    30, BEAM  ,    2,     1,    29,    30,     0

*MATERIAL    ; Material
; iMAT, TYPE, MNAME, SPHEAT, HEATCO, PLAST, TUNIT, bMASS, DAMPRATIO, [DATA1]          ; STEEL, CONC, USER
; iMAT, TYPE, MNAME, SPHEAT, HEATCO, PLAST, TUNIT, bMASS, DAMPRATIO, [DATA2], [DATA2] ; SRC
; [DATA1] : 1, DB, NAME, CODE
; [DATA1] : 2, ELAST, POISN, THERMAL, DEN, MASS
; [DATA1] : 3, Ex, Ey, Ez, Tx, Ty, Tz, Sxy, Sxz, Syz, Pxy, Pxz, Pyz, DEN, MASS   ; Orthotropic
; [DATA2] : 1, DB, NAME, CODE or 2, ELAST, POISN, THERMAL, DEN, MASS
    1, USER , STEEL              , 0, 0, , C, NO, 0, 2, 2.0000e+008,   0.3, 1.1700e-005, 76.8196,     0
    2, USER , CONC               , 0, 0, , C, NO, 0, 2, 2.7537e+007,  0.18, 1.0000e-005,  24.5,     0

*MATL-COLOR
; iMAT, W_R, W_G, W_B, HF_R, HF_G, HF_B, HE_R, HE_G, HE_B, bBLEND, FACT
    1, 255,   0,   0,    0, 255,   0,    0,   0, 255,  NO, 0.5
    2, 255,   0,   0,    0, 255,   0,    0,   0, 255,  NO, 0.5


*SECTION    ; Section
; iSEC, TYPE, SNAME, [OFFSET], bSD, SHAPE, [DATA1], [DATA2]                    ; 1st line - DB/USER
; iSEC, TYPE, SNAME, [OFFSET], bSD, SHAPE, BLT, D1, ..., D8, iCEL              ; 1st line - VALUE
;       AREA, ASy, ASz, Ixx, Iyy, Izz                                         ; 2nd line
;       CyP, CyM, CzP, CzM, QyB, QzB, PERI_OUT, PERI_IN, Cy, Cz               ; 3rd line
;       Y1, Y2, Y3, Y4, Z1, Z2, Z3, Z4, Zyy, Zzz                              ; 4th line
; iSEC, TYPE, SNAME, [OFFSET], bSD, SHAPE, ELAST, DEN, POIS, POIC, SF         ; 1st line - SRC
;       D1, D2, [SRC]                                                         ; 2nd line
; iSEC, TYPE, SNAME, [OFFSET], bSD, SHAPE, 1, DB, NAME1, NAME2, D1, D2        ; 1st line - COMBINED
; iSEC, TYPE, SNAME, [OFFSET], bSD, SHAPE, 2, D11, D12, D13, D14, D15, D21, D22, D23, D24
; iSEC, TYPE, SNAME, [OFFSET2], bSD, SHAPE, iyVAR, izVAR, STYPE               ; 1st line - TAPERED
;       DB, NAME1, NAME2                                                      ; 2nd line(STYPE=DB)
;       [DIM1], [DIM2]                                                        ; 2nd line(STYPE=USER)
;       D11, D12, D13, D14, D15, D16, D17, D18                                ; 2nd line(STYPE=VALUE)
;       AREA1, ASy1, ASz1, Ixx1, Iyy1, Izz1                                   ; 3rd line(STYPE=VALUE)
;       CyP1, CyM1, CzP1, CzM1, QyB1, QzB1, PERI_OUT1, PERI_IN1, Cy1, Cz1     ; 4th line(STYPE=VALUE)
;       Y11, Y12, Y13, Y14, Z11, Z12, Z13, Z14, Zyy1, Zyy2                    ; 5th line(STYPE=VALUE)
;       D21, D22, D23, D24, D25, D26, D27, D28                                ; 6th line(STYPE=VALUE)
;       AREA2, ASy2, ASz2, Ixx2, Iyy2, Izz2                                   ; 7th line(STYPE=VALUE)
;       CyP2, CyM2, CzP2, CzM2, QyB2, QzB2, PERI_OUT2, PERI_IN2, Cy2, Cz2     ; 8th line(STYPE=VALUE)
;       Y21, Y22, Y23, Y24, Z21, Z22, Z23, Z24, Zyy2, Zzz2                    ; 9th line(STYPE=VALUE)
;       OPT1, OPT2, [JOINT]                                                   ; 2nd line(STYPE=PSC)
;       ELAST, DEN, POIS, POIC                                                ; 2nd line(STYPE=PSC-CMPW)
;       bSHEARCHK, [SCHK-I], [SCHK-J], [WT-I], [WT-J], WI, WJ, bSYM, bSIDEHOLE ; 3rd line(STYPE=PSC)
;       bSHEARCHK, bSYM, bHUNCH, [CMPWEB-I], [CMPWEB-J]                       ; 3rd line(STYPE=PSC-CMPW)
;       bUSERDEFMESHSIZE, MESHSIZE, bUSERINPSTIFF, [STIFF-I], [STIFF-J]       ; 4th line(STYPE=PSC)
;       [SIZE-A]-i                                                            ; 5th line(STYPE=PSC)
;       [SIZE-B]-i                                                            ; 6th line(STYPE=PSC)
;       [SIZE-C]-i                                                            ; 7th line(STYPE=PSC)
;       [SIZE-D]-i                                                            ; 8th line(STYPE=PSC)
;       [SIZE-A]-i                                                            ; 9th line(STYPE=PSC)
;       [SIZE-B]-i                                                            ; 10th line(STYPE=PSC)
;       [SIZE-C]-i                                                            ; 11th line(STYPE=PSC)
;       [SIZE-D]-i                                                            ; 12th line(STYPE=PSC)
;       GN, CTC, Bc, Tc, Hh, EsEc, DsDc, Ps, Pc, bMULTI, EsEc-L, EsEc-S       ; 2nd line(STYPE=CMP-B/I)
;       SW_i, Hw_i, tw_i, B_i, Bf1_i, tf1_i, B2_i, Bf2_i, tf2_i               ; 3rd line(STYPE=CMP-B/I)
;       SW_i, Hw_i, tw_i, B_i, Bf1_i, tf1_i, B2_i, Bf2_i, tf2_i               ; 4th line(STYPE=CMP-B/I)
;       N1, N2, Hr, Hr2, tr1, tr2                                             ; 5th line(STYPE=CMP-B)
;       GN, CTC, Bc, Tc, Hh, EqdEsb, DqdDsb, Pqd, Psb, bSYM, SW_i, SW_i       ; 2nd line(STYPE=CMP-CI/CT)
;       OPT1, OPT2, [JOINT]                                                   ; 3rd line(STYPE=CMP-CI/CT)
;       [SIZE-A]-i                                                            ; 4th line(STYPE=CMP-CI/CT)
;       [SIZE-B]-i                                                            ; 5th line(STYPE=CMP-CI/CT)
;       [SIZE-C]-i                                                            ; 6th line(STYPE=CMP-CI/CT)
;       [SIZE-D]-i                                                            ; 7th line(STYPE=CMP-CI/CT)
;       [SIZE-A]-i                                                            ; 8th line(STYPE=CMP-CI/CT)
;       [SIZE-B]-i                                                            ; 9th line(STYPE=CMP-CI/CT)
;       [SIZE-C]-i                                                            ; 10th line(STYPE=CMP-CI/CT)
;       [SIZE-D]-i                                                            ; 11th line(STYPE=CMP-CI/CT)
; iSEC, TYPE, SNAME, [OFFSET], bSD, STYPE1, STYPE2                            ; 1st line - CONSTRUCT
;       SHAPE, ...(same with other type data from shape)                      ; Before (STYPE1)
;       SHAPE, ...(same with other type data from shape)                      ; After  (STYPE2)
; iSEC, TYPE, SNAME, [OFFSET], bSD, SHAPE                                     ; 1st line - COMPOSITE-SB
;       Hw, tw, B, Bf1, tf1, B2, Bf2, tf2                                     ; 2nd line
;       N1, N2, Hr, Hr2, tr1, tr2                                             ; 3rd line
;       SW, GN, CTC, Bc, Tc, Hh, EsEc, DsDc, Ps, Pc, bMulti, Elong, Esh       ; 4th line
; iSEC, TYPE, SNAME, [OFFSET], bSD, SHAPE                                     ; 1st line - COMPOSITE-SI
;       Hw, tw, B, tf1, B2, tf2                                               ; 2nd line
;       SW, GN, CTC, Bc, Tc, Hh, EsEc, DsDc, Ps, Pc, bMulti, Elong, Esh       ; 3rd line
; iSEC, TYPE, SNAME, [OFFSET], bSD, SHAPE                                     ; 1st line - COMPOSITE-CI/CT
;       OPT1, OPT2, [JOINT]                                                   ; 2nd line
;       [SIZE-A]                                                              ; 3rd line
;       [SIZE-B]                                                              ; 4th line
;       [SIZE-C]                                                              ; 5th line
;       [SIZE-D]                                                              ; 6th line
;       SW, GN, CTC, Bc, Tc, Hh, EqdEsb, DqdDsb, Pqd, Psb                     ; 7th line
; iSEC, TYPE, SNAME, [OFFSET], bSD, SHAPE                                     ; 1st line - PSC
;       OPT1, OPT2, [JOINT]                                                   ; 2nd line
;       bSHEARCHK, [SCHK], [WT], WIDTH, bSYM, bSIDEHOLE                       ; 3rd line
;       bUSERDEFMESHSIZE, MESHSIZE, bUSERINPSTIFF, [STIFF]                    ; 4th line
```

```
;       [SIZE-A]                                                        ; 5th line
;       [SIZE-B]                                                        ; 6th line
;       [SIZE-C]                                                        ; 7th line
;       [SIZE-D]                                                        ; 8th line
; [DATA1] : 1, DB, NAME or 2, D1, D2, D3, D4, D5, D6, D7, D8, D9, D10
; [DATA2] : CCSHAPE or iCEL or iN1, iN2
; [SRC]  : 1, DB, NAME1, NAME2 or 2, D1, D2, D3, D4, D5, D6, D7, D8, D9, D10, iN1, iN2
; [DIM1], [DIM2] : D1, D2, D3, D4, D5, D6, D7, D8
; [OFFSET] : OFFSET, iCENT, iREF, iHORZ, HUSER, iVERT, VUSER
; [OFFSET2]: OFFSET, iCENT, iREF, iHORZ, HUSERI, HUSERJ, iVERT, VUSERI, VUSERJ
; [JOINT]  :  8(1CELL, 2CELL), 13(3CELL),  9(PSCM),  8(PSCH), 9(PSCT),  2(PSCB), 0(nCELL),  2(nCEL2)
; [SIZE-A] :  6(1CELL, 2CELL), 10(3CELL), 10(PSCM),  6(PSCH), 8(PSCT), 10(PSCB), 5(nCELL), 11(nCEL2)
; [SIZE-B] :  6(1CELL, 2CELL), 12(3CELL),  6(PSCM),  6(PSCH), 8(PSCT),  6(PSCB), 8(nCELL), 18(nCEL2)
; [SIZE-C] : 10(1CELL, 2CELL), 13(3CELL),  9(PSCM), 10(PSCH), 7(PSCT),  8(PSCB), 0(nCELL), 11(nCEL2)
; [SIZE-D] :  8(1CELL, 2CELL), 13(3CELL),  6(PSCM),  7(PSCH), 8(PSCT),  5(PSCB), 0(nCELL), 18(nCEL2)
; [STIFF]  : AREA, ASy, ASz, Ixx, Iyy, Izz
; [SCHK]   : bAUTO_Z1, Z1, bAUTO_Z3, Z3
; [WT]     : bAUTO_TOR, TOR, bAUTO_SHR1, SHR1, bAUTO_SHR2, SHR2, bAUTO_SHR3, SHR3
; [CMPWEB] : EFD, LRF, A, B, H, T
   1, DBUSER    , TOPSLAB          , CC, 0, 0, 0, 0, 0, 0, YES, SB , 2, 0.6, 1, 0, 0, 0, 0, 0, 0, 0, 0
   2, DBUSER    , BOTSLAB          , CC, 0, 0, 0, 0, 0, 0, YES, SB , 2, 0.65, 1, 0, 0, 0, 0, 0, 0, 0, 0
   3, DBUSER    , WALL             , CC, 0, 0, 0, 0, 0, 0, YES, SB , 2, 0.6, 1, 0, 0, 0, 0, 0, 0, 0, 0

*SECT-COLOR
; iSEC, W_R, W_G, W_B, HF_R, HF_G, HF_B, HE_R, HE_G, HE_B, bBLEND, FACT
   1, 255,   0,   0,    0, 255,   0,    0,   0, 255,  NO, 0.5
   2, 255,   0,   0,    0, 255,   0,    0,   0, 255,  NO, 0.5
   3, 255,   0,   0,    0, 255,   0,    0,   0, 255,  NO, 0.5

*DGN-SECT
; iSEC, TYPE, SNAME, [OFFSET], bSD, SHAPE, [DATA1], [DATA2]                ; 1st line - DB/USER
; iSEC, TYPE, SNAME, [OFFSET], bSD, SHAPE, BLT, D1, ..., D8, iCEL         ; 1st line - VALUE
;       AREA, ASy, ASz, Ixx, Iyy, Izz                                     ; 2nd line
;       CyP, CyM, CzP, CzM, QyB, QzB, PERI_OUT, PERI_IN, Cy, Cz           ; 3rd line
;       Y1, Y2, Y3, Y4, Z1, Z2, Z3, Z4, Zyy, Zzz                          ; 4th line
; iSEC, TYPE, SNAME, [OFFSET], bSD, SHAPE, ELAST, DEN, POIS, POIC, SF     ; 1st line - SRC
;       D1, D2, [SRC]                                                     ; 2nd line
; iSEC, TYPE, SNAME, [OFFSET], bSD, SHAPE, 1, DB, NAME1, NAME2, D1, D2    ; 1st line - COMBINED
; iSEC, TYPE, SNAME, [OFFSET], bSD, SHAPE, 2, D11, D12, D13, D14, D15, D21, D22, D23, D24
; iSEC, TYPE, SNAME, [OFFSET2], bSD, SHAPE, iyVAR, izVAR, STYPE           ; 1st line - TAPERED
;       DB, NAME1, NAME2                                                  ; 2nd line(STYPE=DB)
;       [DIM1], [DIM2]                                                    ; 2nd line(STYPE=USER)
;       D11, D12, D13, D14, D15, D16, D17, D18                            ; 2nd line(STYPE=VALUE)
;       AREA1, ASy1, ASz1, Ixx1, Iyy1, Izz1                               ; 3rd line(STYPE=VALUE)
;       CyP1, CyM1, CzP1, CzM1, QyB1, QzB1, PERI_OUT1, PERI_IN1, Cy1, Cz1 ; 4th line(STYPE=VALUE)
;       Y11, Y12, Y13, Y14, Z11, Z12, Z13, Z14, Zyy1, Zyy2                ; 5th line(STYPE=VALUE)
;       D21, D22, D23, D24, D25, D26, D27, D28                            ; 6th line(STYPE=VALUE)
;       AREA2, ASy2, ASz2, Ixx2, Iyy2, Izz2                               ; 7th line(STYPE=VALUE)
;       CyP2, CyM2, CzP2, CzM2, QyB2, QzB2, PERI_OUT2, PERI_IN2, Cy2, Cz2 ; 8th line(STYPE=VALUE)
;       Y21, Y22, Y23, Y24, Z21, Z22, Z23, Z24, Zyy2, Zzz2                ; 9th line(STYPE=VALUE)
;       OPT1, OPT2, [JOINT]                                               ; 2nd line(STYPE=PSC)
;       ELAST, DEN, POIS, POIC                                            ; 2nd line(STYPE=PSC-CMPW)
;       bSHEARCHK, [SCHK-I], [SCHK-J], [WT-I], [WT-J], WI, WJ, bSYM, bSIDEHOLE ; 3rd line(STYPE=PSC)
;       bSHEARCHK, bSYM, bHUNCH, [CMPWEB-I], [CMPWEB-J]                   ; 3rd line(STYPE=PSC-CMPW)
;       bUSERDEFMESHSIZE, MESHSIZE, bUSERINPSTIFF, [STIFF-I], [STIFF-J]   ; 4th line(STYPE=PSC)
;       [SIZE-A]-i                                                        ; 5th line(STYPE=PSC)
;       [SIZE-B]-i                                                        ; 6th line(STYPE=PSC)
;       [SIZE-C]-i                                                        ; 7th line(STYPE=PSC)
;       [SIZE-D]-i                                                        ; 8th line(STYPE=PSC)
;       [SIZE-A]-i                                                        ; 9th line(STYPE=PSC)
;       [SIZE-B]-i                                                        ; 10th line(STYPE=PSC)
;       [SIZE-C]-i                                                        ; 11th line(STYPE=PSC)
;       [SIZE-D]-i                                                        ; 12th line(STYPE=PSC)
;       GN, CTC, Bc, Tc, Hh, EsEc, DsDc, Ps, Pc, bMULTI, EsEc-L, EsEc-S   ; 2nd line(STYPE=CMP-B/I)
;       SW_i, Hw_i, tw_i, B_i, Bf1_i, tf1_i, B2_i, Bf2_i, tf2_i           ; 3rd line(STYPE=CMP-B/I)
;       SW_i, Hw_i, tw_i, B_i, Bf1_i, tf1_i, B2_i, Bf2_i, tf2_i           ; 4th line(STYPE=CMP-B/I)
;       N1, N2, Hr, Hr2, tr1, tr2                                         ; 5th line(STYPE=CMP-B)
;       GN, CTC, Bc, Tc, Hh, EqdEsb, DqdDsb, Pqd, Psb, bSYM, SW_i, SW_i   ; 2nd line(STYPE=CMP-CI/CT)
;       OPT1, OPT2, [JOINT]                                               ; 3rd line(STYPE=CMP-CI/CT)
;       [SIZE-A]-i                                                        ; 4th line(STYPE=CMP-CI/CT)
;       [SIZE-B]-i                                                        ; 5th line(STYPE=CMP-CI/CT)
;       [SIZE-C]-i                                                        ; 6th line(STYPE=CMP-CI/CT)
;       [SIZE-D]-i                                                        ; 7th line(STYPE=CMP-CI/CT)
;       [SIZE-A]-i                                                        ; 8th line(STYPE=CMP-CI/CT)
;       [SIZE-B]-i                                                        ; 9th line(STYPE=CMP-CI/CT)
;       [SIZE-C]-i                                                        ; 10th line(STYPE=CMP-CI/CT)
;       [SIZE-D]-i                                                        ; 11th line(STYPE=CMP-CI/CT)
; iSEC, TYPE, SNAME, [OFFSET], bSD, STYPE1, STYPE2                        ; 1st line - CONSTRUCT
;       SHAPE, ...(same with other type data from shape)                  ; Before (STYPE1)
;       SHAPE, ...(same with other type data from shape)                  ; After  (STYPE2)
; iSEC, TYPE, SNAME, [OFFSET], bSD, SHAPE                                 ; 1st line - COMPOSITE-SB
;       Hw, tw, B, Bf1, tf1, B2, Bf2, tf2                                 ; 2nd line
;       N1, N2, Hr, Hr2, tr1, tr2                                         ; 3rd line
;       SW, GN, CTC, Bc, Tc, Hh, EsEc, DsDc, Ps, Pc, bMulti, Elong, Esh   ; 4th line
; iSEC, TYPE, SNAME, [OFFSET], bSD, SHAPE                                 ; 1st line - COMPOSITE-SI
;       Hw, tw, B, tf1, B2, tf2                                           ; 2nd line
;       SW, GN, CTC, Bc, Tc, Hh, EsEc, DsDc, Ps, Pc, bMulti, Elong, Esh   ; 3rd line
```

```
; iSEC, TYPE, SNAME, [OFFSET], bSD, SHAPE                                    ; 1st line - COMPOSITE-CI/CT
;       OPT1, OPT2, [JOINT]                                                  ; 2nd line
;       [SIZE-A]                                                             ; 3rd line
;       [SIZE-B]                                                             ; 4th line
;       [SIZE-C]                                                             ; 5th line
;       [SIZE-D]                                                             ; 6th line
;       SW, GN, CTC, Bc, Tc, Hh, EqdEsb, DqdDsb, Pqd, Psb                    ; 7th line
; iSEC, TYPE, SNAME, [OFFSET], bSD, SHAPE                                    ; 1st line - PSC
;       OPT1, OPT2, [JOINT]                                                  ; 2nd line
;       bSHEARCHK, [SCHK], [WT], WIDTH, bSYM, bSIDEHOLE                      ; 3rd line
;       bUSERDEFMESHSIZE, MESHSIZE, bUSERINPSTIFF, [STIFF]                   ; 4th line
;       [SIZE-A]                                                             ; 5th line
;       [SIZE-B]                                                             ; 6th line
;       [SIZE-C]                                                             ; 7th line
;       [SIZE-D]                                                             ; 8th line
; [DATA1] : 1, DB, NAME or 2, D1, D2, D3, D4, D5, D6, D7, D8, D9, D10
; [DATA2] : CCSHAPE or iCEL or iN1, iN2
; [SRC]   : 1, DB, NAME1, NAME2 or 2, D1, D2, D3, D4, D5, D6, D7, D8, D9, D10, iN1, iN2
; [DIM1], [DIM2] : D1, D2, D3, D4, D5, D6, D7, D8
; [OFFSET] : OFFSET, iCENT, iREF, iHORZ, HUSER, iVERT, VUSER
; [OFFSET2]: OFFSET, iCENT, iREF, iHORZ, HUSERI, HUSERJ, iVERT, VUSERI, VUSERJ
; [JOINT]  :  8(1CELL, 2CELL), 13(3CELL),  9(PSCM),  8(PSCH), 9(PSCT),  2(PSCB), 0(nCELL),  2(nCEL2)
; [SIZE-A] :  6(1CELL, 2CELL), 10(3CELL), 10(PSCM),  6(PSCH), 8(PSCT), 10(PSCB), 5(nCELL), 11(nCEL2)
; [SIZE-B] :  6(1CELL, 2CELL), 12(3CELL),  6(PSCM),  6(PSCH), 8(PSCT),  6(PSCB), 8(nCELL), 18(nCEL2)
; [SIZE-C] : 10(1CELL, 2CELL), 13(3CELL),  9(PSCM), 10(PSCH), 7(PSCT),  8(PSCB), 0(nCELL), 11(nCEL2)
; [SIZE-D] :  8(1CELL, 2CELL), 13(3CELL),  6(PSCM),  7(PSCH), 8(PSCT),  5(PSCB), 0(nCELL), 18(nCEL2)
; [STIFF]  : AREA, ASy, ASz, Ixx, Iyy, Izz
; [SCHK]   : bAUTO_Z1, Z1, bAUTO_Z3, Z3
; [WT]     : bAUTO_TOR, TOR, bAUTO_SHR1, SHR1, bAUTO_SHR2, SHR2, bAUTO_SHR3, SHR3
; [CMPWEB] : EFD, LRF, A, B, H, T
   1, DBUSER    , TOPSLAB          , CC, 0, 0, 0, 0, 0, 0, YES, SB , 2, 0.6, 1, 0, 0, 0, 0, 0, 0, 0, 0
   2, DBUSER    , BOTSLAB          , CC, 0, 0, 0, 0, 0, 0, YES, SB , 2, 0.65, 1, 0, 0, 0, 0, 0, 0, 0, 0
   3, DBUSER    , WALL             , CC, 0, 0, 0, 0, 0, 0, YES, SB , 2, 0.6, 1, 0, 0, 0, 0, 0, 0, 0, 0


*STLDCASE    ; Static Load Cases
; LCNAME, LCTYPE, DESC
   LC1  , USER,
   LC2  , USER,
   LC3  , USER,
   LC4  , USER,
   LC5  , USER,
   LC6  , USER,
   LC7  , USER,
   LC8  , USER,
   LC9  , USER,
   LC10 , USER,
   LC11 , USER,
   NCOMB1, USER,
   NCOMB2, USER,
   NCOMB3, USER,
   NCOMB4, USER,
   NCOMB5, USER,
   NCOMB6, USER,
   NCOMB7, USER,
   NCOMB8, USER,
   NCOMB9, USER,
   NCOMB10, USER,
   NCOMB11, USER,
   NCOMB12, USER,
   NCOMB13, USER,
   NCOMB14, USER,
   NCOMB15, USER,
   NCOMB16, USER,
   NCOMB17, USER,
   NCOMB18, USER,
   NCOMB19, USER,
   NCOMB20, USER,
   NCOMB21, USER,
   NCOMB22, USER,
   NCOMB23, USER,
   NCOMB24, USER,
   NCOMB25, USER,
   NCOMB26, USER,
   NCOMB27, USER,
   NCOMB28, USER,
   NCOMB29, USER,
   NCOMB30, USER,
   NCOMB31, USER,
   NCOMB32, USER,
   NCOMB33, USER,
   NCOMB34, USER,
   NCOMB35, USER,


*SPRING    ; Point Spring Supports
; NODE_LIST, Type, SDx, SDy, SDz, SRx, SRy, SRz, GROUP, FROMTYPE, EFFAREA, Kx, Ky, Kz
```

```
; NODE_LIST, Type, Direction, Vx, Vy, Vz, Stiffness, GROUP, FROMTYPE, EFFAREA
; NODE_LIST, Type, Multi-Linear Type, Direction, Vx, Vy, Vz, ax, ay, bx, by, cx, cy, dx, dy, ex, ey, fx, fy, GROUP, FROMTYPE, EFFAREA
   1, LINEAR, 1e+014, 0, 0, 0, 0, 0, NO, 0, 0, 0, 0, 0, 0, 0, , 0, 0, 0, 0, 0
   3to7, COMP  ,  5, 0, 0, 0, 12226, , 0, 0, 0, 0, 0, 0
   1 9, COMP  ,  5, 0, 0, 0, 18339, , 0, 0, 0, 0, 0, 0
   2 8, COMP  ,  5, 0, 0, 0, 16863, , 0, 0, 0, 0, 0, 0

*OFFSET    ; Beam End Offsets
; ELEM_LIST, TYPE, RGDXi, RGDYi, RGDZi, RGDXj, RGDYj, RGDZj, GROUP  ; TYPE=GLOBAL
; ELEM_LIST, TYPE, RGDi, RGDj, GROUP                                ; TYPE=ELEMENT
     1, ELEMENT, 0.1375, 0,
     8, ELEMENT, 0, 0.1375,
     9, ELEMENT, 0.175, 0,
    10, ELEMENT, 0.175, 0,
    21, ELEMENT, 0, 0.3,
    22, ELEMENT, 0, 0.3,
    23, ELEMENT, 0.3, 0,
    30, ELEMENT, 0, 0.3,

*USE-STLD, LC1

; *SELFWEIGHT, X, Y, Z, GROUP
*SELFWEIGHT, 0, 0, -1,

*BEAMLOAD    ; Element Beam Loads
; ELEM_LIST, CMD, TYPE, DIR, bPROJ, [ECCEN], [VALUE], GROUP
; ELEM_LIST, CMD, TYPE, TYPE, DIR, VX, VY, VZ, bPROJ, [ECCEN], [VALUE], GROUP
; [VALUE]       : D1, P1, D2, P2, D3, P3, D4, P4
; [ECCEN]       : bECCEN, ECCDIR, I-END, J-END, bJ-END
; [ADDITIONAL]  : bADDITIONAL, ADDITIONAL_I-END, ADDITIONAL_J-END, bADDITIONAL_J-END
    23, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -33.48, 1, -33.48, 0, 0, 0, 0, , NO, 0, 0, NO
    24, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -33.48, 1, -33.48, 0, 0, 0, 0, , NO, 0, 0, NO
    25, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -33.48, 1, -33.48, 0, 0, 0, 0, , NO, 0, 0, NO
    26, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -33.48, 1, -33.48, 0, 0, 0, 0, , NO, 0, 0, NO
    27, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -33.48, 1, -33.48, 0, 0, 0, 0, , NO, 0, 0, NO
    28, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -33.48, 1, -33.48, 0, 0, 0, 0, , NO, 0, 0, NO
    29, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -33.48, 1, -33.48, 0, 0, 0, 0, , NO, 0, 0, NO
    30, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -33.48, 1, -33.48, 0, 0, 0, 0, , NO, 0, 0, NO

; End of data for load case [LC1] ------------------------

*USE-STLD, LC2

*BEAMLOAD    ; Element Beam Loads
; ELEM_LIST, CMD, TYPE, DIR, bPROJ, [ECCEN], [VALUE], GROUP
; ELEM_LIST, CMD, TYPE, TYPE, DIR, VX, VY, VZ, bPROJ, [ECCEN], [VALUE], GROUP
; [VALUE]       : D1, P1, D2, P2, D3, P3, D4, P4
; [ECCEN]       : bECCEN, ECCDIR, I-END, J-END, bJ-END
; [ADDITIONAL]  : bADDITIONAL, ADDITIONAL_I-END, ADDITIONAL_J-END, bADDITIONAL_J-END
    23, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -28.043, 1, -28.043, 0, 0, 0, 0, , NO, 0, 0, NO
    24, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -28.043, 1, -28.043, 0, 0, 0, 0, , NO, 0, 0, NO
    25, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -28.043, 1, -28.043, 0, 0, 0, 0, , NO, 0, 0, NO
    26, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -28.043, 1, -28.043, 0, 0, 0, 0, , NO, 0, 0, NO
    27, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -28.043, 1, -28.043, 0, 0, 0, 0, , NO, 0, 0, NO
    28, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -28.043, 1, -28.043, 0, 0, 0, 0, , NO, 0, 0, NO
    29, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -28.043, 1, -28.043, 0, 0, 0, 0, , NO, 0, 0, NO
    30, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -28.043, 1, -28.043, 0, 0, 0, 0, , NO, 0, 0, NO

; End of data for load case [LC2] ------------------------

*USE-STLD, LC3

*BEAMLOAD    ; Element Beam Loads
; ELEM_LIST, CMD, TYPE, DIR, bPROJ, [ECCEN], [VALUE], GROUP
; ELEM_LIST, CMD, TYPE, TYPE, DIR, VX, VY, VZ, bPROJ, [ECCEN], [VALUE], GROUP
; [VALUE]       : D1, P1, D2, P2, D3, P3, D4, P4
; [ECCEN]       : bECCEN, ECCDIR, I-END, J-END, bJ-END
; [ADDITIONAL]  : bADDITIONAL, ADDITIONAL_I-END, ADDITIONAL_J-END, bADDITIONAL_J-END
    23, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -28.043, 1, -28.043, 0, 0, 0, 0, , NO, 0, 0, NO
    24, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -28.043, 1, -28.043, 0, 0, 0, 0, , NO, 0, 0, NO
    25, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -28.043, 1, -28.043, 0, 0, 0, 0, , NO, 0, 0, NO
    26, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -28.043, 1, -28.043, 0, 0, 0, 0, , NO, 0, 0, NO

; End of data for load case [LC3] ------------------------

*USE-STLD, LC4

*BEAMLOAD    ; Element Beam Loads
; ELEM_LIST, CMD, TYPE, DIR, bPROJ, [ECCEN], [VALUE], GROUP
; ELEM_LIST, CMD, TYPE, TYPE, DIR, VX, VY, VZ, bPROJ, [ECCEN], [VALUE], GROUP
; [VALUE]       : D1, P1, D2, P2, D3, P3, D4, P4
; [ECCEN]       : bECCEN, ECCDIR, I-END, J-END, bJ-END
; [ADDITIONAL]  : bADDITIONAL, ADDITIONAL_I-END, ADDITIONAL_J-END, bADDITIONAL_J-END
     9, BEAM   , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 8.408, 1, 8.408, 0, 0, 0, 0, , NO, 0, 0, NO
    10, BEAM   , UNILOAD, GX, NO , NO, aDir[1], , , , 0, -8.408, 1, -8.408, 0, 0, 0, 0, , NO, 0, 0, NO
    11, BEAM   , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 8.408, 1, 8.408, 0, 0, 0, 0, , NO, 0, 0, NO
    12, BEAM   , UNILOAD, GX, NO , NO, aDir[1], , , , 0, -8.408, 1, -8.408, 0, 0, 0, 0, , NO, 0, 0, NO
```

```
    13, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 8.408, 1, 8.408, 0, 0, 0, 0, , NO, 0, 0, NO
    14, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, -8.408, 1, -8.408, 0, 0, 0, 0, , NO, 0, 0, NO
    15, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 8.408, 1, 8.408, 0, 0, 0, 0, , NO, 0, 0, NO
    16, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, -8.408, 1, -8.408, 0, 0, 0, 0, , NO, 0, 0, NO
    17, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 8.408, 1, 8.408, 0, 0, 0, 0, , NO, 0, 0, NO
    18, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, -8.408, 1, -8.408, 0, 0, 0, 0, , NO, 0, 0, NO
    19, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 8.408, 1, 8.408, 0, 0, 0, 0, , NO, 0, 0, NO
    20, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, -8.408, 1, -8.408, 0, 0, 0, 0, , NO, 0, 0, NO
    21, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 8.408, 1, 8.408, 0, 0, 0, 0, , NO, 0, 0, NO
    22, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, -8.408, 1, -8.408, 0, 0, 0, 0, , NO, 0, 0, NO

; End of data for load case [LC4] ----------

*USE-STLD, LC5

*BEAMLOAD    ; Element Beam Loads
; ELEM_LIST, CMD, TYPE, DIR, bPROJ, [ECCEN], [VALUE], GROUP
; ELEM_LIST, CMD, TYPE, TYPE, DIR, VX, VY, VZ, bPROJ, [ECCEN], [VALUE], GROUP
; [VALUE]       : D1, P1, D2, P2, D3, P3, D4, P4
; [ECCEN]       : bECCEN, ECCDIR, I-END, J-END, bJ-END
; [ADDITIONAL]  : bADDITIONAL, ADDITIONAL_I-END, ADDITIONAL_J-END, bADDITIONAL_J-END
     9, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 8.408, 1, 8.408, 0, 0, 0, 0, , NO, 0, 0, NO
    11, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 8.408, 1, 8.408, 0, 0, 0, 0, , NO, 0, 0, NO
    13, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 8.408, 1, 8.408, 0, 0, 0, 0, , NO, 0, 0, NO
    15, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 8.408, 1, 8.408, 0, 0, 0, 0, , NO, 0, 0, NO
    17, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 8.408, 1, 8.408, 0, 0, 0, 0, , NO, 0, 0, NO
    19, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 8.408, 1, 8.408, 0, 0, 0, 0, , NO, 0, 0, NO
    21, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 8.408, 1, 8.408, 0, 0, 0, 0, , NO, 0, 0, NO

; End of data for load case [LC5] ----------

*USE-STLD, LC6

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST, CMD, TYPE, DIR, bPROJ, [ECCEN], [VALUE], GROUP
; ELEM LIST, CMD, TYPE, TYPE, DIR, VX, VY, VZ, bPROJ, [ECCEN], [VALUE], GROUP
; [VALUE]       : D1, P1, D2, P2, D3, P3, D4, P4
; [ECCEN]       : bECCEN, ECCDIR, I-END, J-END, bJ-END
; [ADDITIONAL]  : bADDITIONAL, ADDITIONAL I-END, ADDITIONAL J-END, bADDITIONAL J-END
     9, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 56.223, 1, 49.194, 0, 0, 0, 0, , NO, 0, 0, NO
    10, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, -56.223, 1, -49.194, 0, 0, 0, 0, , NO, 0, 0, NO
    11, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 49.194, 1, 44.082, 0, 0, 0, 0, , NO, 0, 0, NO
    12, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, -49.194, 1, -44.082, 0, 0, 0, 0, , NO, 0, 0, NO
    13, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 44.082, 1, 38.97, 0, 0, 0, 0, , NO, 0, 0, NO
    14, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, -44.082, 1, -38.97, 0, 0, 0, 0, , NO, 0, 0, NO
    15, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 38.97, 1, 33.858, 0, 0, 0, 0, , NO, 0, 0, NO
    16, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, -38.97, 1, -33.858, 0, 0, 0, 0, , NO, 0, 0, NO
    17, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 33.858, 1, 28.746, 0, 0, 0, 0, , NO, 0, 0, NO
    18, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, -33.858, 1, -28.746, 0, 0, 0, 0, , NO, 0, 0, NO
    19, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 28.746, 1, 23.634, 0, 0, 0, 0, , NO, 0, 0, NO
    20, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, -28.746, 1, -23.634, 0, 0, 0, 0, , NO, 0, 0, NO
    21, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 23.634, 1, 16.818, 0, 0, 0, 0, , NO, 0, 0, NO
    22, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, -23.634, 1, -16.818, 0, 0, 0, 0, , NO, 0, 0, NO

; End of data for load case [LC6] ----------

*USE-STLD, LC7

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST, CMD, TYPE, DIR, bPROJ, [ECCEN], [VALUE], GROUP
; ELEM LIST, CMD, TYPE, TYPE, DIR, VX, VY, VZ, bPROJ, [ECCEN], [VALUE], GROUP
; [VALUE]       : D1, P1, D2, P2, D3, P3, D4, P4
; [ECCEN]       : bECCEN, ECCDIR, I-END, J-END, bJ-END
; [ADDITIONAL]  : bADDITIONAL, ADDITIONAL I-END, ADDITIONAL J-END, bADDITIONAL J-END
     9, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 41.961, 1, 34.932, 0, 0, 0, 0, , NO, 0, 0, NO
    11, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 34.932, 1, 29.82, 0, 0, 0, 0, , NO, 0, 0, NO
    13, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 29.82, 1, 24.708, 0, 0, 0, 0, , NO, 0, 0, NO
    15, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 24.708, 1, 19.596, 0, 0, 0, 0, , NO, 0, 0, NO
    17, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 19.596, 1, 14.484, 0, 0, 0, 0, , NO, 0, 0, NO
    19, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 14.484, 1, 9.372, 0, 0, 0, 0, , NO, 0, 0, NO
    21, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 9.372, 1, 2.556, 0, 0, 0, 0, , NO, 0, 0, NO

; End of data for load case [LC7] ----------

*USE-STLD, LC8

*ELTEMPER    ; Element Temperatures
; ELEM LIST, TEMPER, GROUP
    23, 1.92,
    24, 1.92,
    25, 1.92,
    26, 1.92,
    27, 1.92,
    28, 1.92,
    29, 1.92,
    30, 1.92,
```

```
; End of data for load case [LC8] ------------------------

*USE-STLD. LC9

*ELTEMPER    ; Element Temperatures
; ELEM LIST. TEMPER. GROUP
    23. -1.92.
    24. -1.92.
    25. -1.92.
    26. -1.92.
    27. -1.92.
    28. -1.92.
    29. -1.92.
    30. -1.92.

; End of data for load case [LC9] ------------------------

*USE-STLD. LC10

*ELTEMPER    ; Element Temperatures
; ELEM LIST. TEMPER. GROUP
     1. -15.
     2. -15.
     3. -15.
     4. -15.
     5. -15.
     6. -15.
     7. -15.
     8. -15.
     9. -15.
    10. -15.
    11. -15.
    12. -15.
    13. -15.
    14. -15.
    15. -15.
    16. -15.
    17. -15.
    18. -15.
    19. -15.
    20. -15.
    21. -15.
    22. -15.
    23. -15.
    24. -15.
    25. -15.
    26. -15.
    27. -15.
    28. -15.
    29. -15.
    30. -15.

; End of data for load case [LC10] ------------------------

*USE-STLD. NCOMB1

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.35.

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. [ECCEN]. [VALUE]. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. [ECCEN]. [VALUE]. GROUP
; [VALUE]       : D1. P1. D2. P2. D3. P3. D4. P4
; [ECCEN]       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; [ADDITIONAL]  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 89.9568. 1. 78.7104. 0. 0. 0. 0. . NO. 0. 0. NO
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -15.5548. 1. -15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -89.9568. 1. -78.7104. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 78.7104. 1. 70.5312. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -78.7104. 1. -70.5312. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -15.5548. 1. -15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 70.5312. 1. 62.352. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -70.5312. 1. -62.352. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -15.5548. 1. -15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 62.352. 1. 54.1728. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -15.5548. 1. -15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -62.352. 1. -54.1728. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 54.1728. 1. 45.9936. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -54.1728. 1. -45.9936. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -15.5548. 1. -15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 45.9936. 1. 37.8144. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
```

```
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -45.9936. 1. -37.8144. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -15.5548. 1. -15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 37.8144. 1. 26.9088. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -37.8144. 1. -26.9088. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -15.5548. 1. -15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -51.8796. 1. -51.8796. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.198. 1. -45.198. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -51.8796. 1. -51.8796. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.198. 1. -45.198. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -51.8796. 1. -51.8796. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.198. 1. -45.198. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -51.8796. 1. -51.8796. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.198. 1. -45.198. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -51.8796. 1. -51.8796. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.198. 1. -45.198. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -51.8796. 1. -51.8796. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.198. 1. -45.198. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -51.8796. 1. -51.8796. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.198. 1. -45.198. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -51.8796. 1. -51.8796. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.198. 1. -45.198. 0. 0. 0. 0. . NO. 0. 0. NO

; End of data for load case [NCOMB1] ------------------------

*USE-STLD. NCOMB2

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.35.

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. [ECCEN]. [VALUE]. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. [ECCEN]. [VALUE]. GROUP
; [VALUE]       : D1. P1. D2. P2. D3. P3. D4. P4
; [ECCEN]       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; [ADDITIONAL]  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 33.7338. 1. 29.5164. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -15.5548. 1. -15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -33.7338. 1. -29.5164. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 29.5164. 1. 26.4492. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -29.5164. 1. -26.4492. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -15.5548. 1. -15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 26.4492. 1. 23.382. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -15.5548. 1. -15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -26.4492. 1. -23.382. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 23.382. 1. 20.3148. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -23.382. 1. -20.3148. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -15.5548. 1. -15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 20.3148. 1. 17.2476. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -20.3148. 1. -17.2476. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -15.5548. 1. -15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 17.2476. 1. 14.1804. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -17.2476. 1. -14.1804. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -15.5548. 1. -15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 14.1804. 1. 10.0908. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -15.5548. 1. -15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -14.1804. 1. -10.0908. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.198. 1. -45.198. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -51.8796. 1. -51.8796. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -51.8796. 1. -51.8796. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.198. 1. -45.198. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -51.8796. 1. -51.8796. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.198. 1. -45.198. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -51.8796. 1. -51.8796. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.198. 1. -45.198. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -51.8796. 1. -51.8796. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.198. 1. -45.198. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -51.8796. 1. -51.8796. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.198. 1. -45.198. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.198. 1. -45.198. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -51.8796. 1. -51.8796. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.198. 1. -45.198. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -51.8796. 1. -51.8796. 0. 0. 0. 0. . NO. 0. 0. NO

; End of data for load case [NCOMB2] ------------------------

*USE-STLD. NCOMB3

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.35.
```

```
*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. [ECCEN]. [VALUE]. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. [ECCEN]. [VALUE]. GROUP
; [VALUE]       : D1. P1. D2. P2. D3. P3. D4. P4
; [ECCEN]       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; [ADDITIONAL]  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 89.9568. 1. 78.7104. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -89.9568. 1. -78.7104. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 78.7104. 1. 70.5312. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -78.7104. 1. -70.5312. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 70.5312. 1. 62.352. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -70.5312. 1. -62.352. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 62.352. 1. 54.1728. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -62.352. 1. -54.1728. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 54.1728. 1. 45.9936. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -54.1728. 1. -45.9936. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 45.9936. 1. 37.8144. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -45.9936. 1. -37.8144. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 37.8144. 1. 26.9088. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -37.8144. 1. -26.9088. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.198. 1. -45.198. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -51.8796. 1. -51.8796. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.198. 1. -45.198. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -51.8796. 1. -51.8796. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -51.8796. 1. -51.8796. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.198. 1. -45.198. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.198. 1. -45.198. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -51.8796. 1. -51.8796. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.198. 1. -45.198. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.198. 1. -45.198. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.198. 1. -45.198. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.198. 1. -45.198. 0. 0. 0. 0. . NO. 0. 0. NO

; End of data for load case [NCOMB3] ----------------------------

*USE-STLD. NCOMB4

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.35.

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. [ECCEN]. [VALUE]. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. [ECCEN]. [VALUE]. GROUP
; [VALUE]       : D1. P1. D2. P2. D3. P3. D4. P4
; [ECCEN]       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; [ADDITIONAL]  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 33.7338. 1. 29.5164. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -33.7338. 1. -29.5164. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 29.5164. 1. 26.4492. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -29.5164. 1. -26.4492. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 26.4492. 1. 23.382. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -26.4492. 1. -23.382. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 23.382. 1. 20.3148. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -23.382. 1. -20.3148. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 20.3148. 1. 17.2476. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -20.3148. 1. -17.2476. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 17.2476. 1. 14.1804. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -17.2476. 1. -14.1804. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 14.1804. 1. 10.0908. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -14.1804. 1. -10.0908. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.198. 1. -45.198. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -51.8796. 1. -51.8796. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -51.8796. 1. -51.8796. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.198. 1. -45.198. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -51.8796. 1. -51.8796. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.198. 1. -45.198. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -51.8796. 1. -51.8796. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.198. 1. -45.198. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.198. 1. -45.198. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.198. 1. -45.198. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.198. 1. -45.198. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.198. 1. -45.198. 0. 0. 0. 0. . NO. 0. 0. NO
```

```
; End of data for load case [NCOMB4] ------------------------

*USE-STLD. NCOMB5

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.6.

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. [ECCEN]. [VALUE]. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. [ECCEN]. [VALUE]. GROUP
; [VALUE]       : D1. P1. D2. P2. D3. P3. D4. P4
; [ECCEN]       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; [ADDITIONAL]  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 89.9568. 1. 78.7104. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -89.9568. 1. -78.7104. 0. 0. 0. 0. . NO. 0. 0. N(
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -13.4528. 1. -13.4528. 0. 0. 0. 0. . NO. 0. 0. N(
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 78.7104. 1. 70.5312. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -13.4528. 1. -13.4528. 0. 0. 0. 0. . NO. 0. 0. N(
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -78.7104. 1. -70.5312. 0. 0. 0. 0. . NO. 0. 0. N(
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 70.5312. 1. 62.352. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -70.5312. 1. -62.352. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -13.4528. 1. -13.4528. 0. 0. 0. 0. . NO. 0. 0. N(
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 62.352. 1. 54.1728. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -62.352. 1. -54.1728. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -13.4528. 1. -13.4528. 0. 0. 0. 0. . NO. 0. 0. N(
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 54.1728. 1. 45.9936. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -54.1728. 1. -45.9936. 0. 0. 0. 0. . NO. 0. 0. N(
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -13.4528. 1. -13.4528. 0. 0. 0. 0. . NO. 0. 0. N(
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 45.9936. 1. 37.8144. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -45.9936. 1. -37.8144. 0. 0. 0. 0. . NO. 0. 0. N(
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -13.4528. 1. -13.4528. 0. 0. 0. 0. . NO. 0. 0. N(
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 37.8144. 1. 26.9088. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -37.8144. 1. -26.9088. 0. 0. 0. 0. . NO. 0. 0. N(
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -13.4528. 1. -13.4528. 0. 0. 0. 0. . NO. 0. 0. N(
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -53.568. 1. -53.568. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -44.8688. 1. -44.8688. 0. 0. 0. 0. . NO. 0. 0. N(
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -44.8688. 1. -44.8688. 0. 0. 0. 0. . NO. 0. 0. N(
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -53.568. 1. -53.568. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -44.8688. 1. -44.8688. 0. 0. 0. 0. . NO. 0. 0. N(
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -53.568. 1. -53.568. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -44.8688. 1. -44.8688. 0. 0. 0. 0. . NO. 0. 0. N(
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -53.568. 1. -53.568. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -53.568. 1. -53.568. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -44.8688. 1. -44.8688. 0. 0. 0. 0. . NO. 0. 0. N(
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -53.568. 1. -53.568. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -44.8688. 1. -44.8688. 0. 0. 0. 0. . NO. 0. 0. N(
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -53.568. 1. -53.568. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -44.8688. 1. -44.8688. 0. 0. 0. 0. . NO. 0. 0. N(
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -53.568. 1. -53.568. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -44.8688. 1. -44.8688. 0. 0. 0. 0. . NO. 0. 0. N(

; End of data for load case [NCOMB5] ------------------------

*USE-STLD. NCOMB6

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.6.

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. [ECCEN]. [VALUE]. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. [ECCEN]. [VALUE]. GROUP
; [VALUE]       : D1. P1. D2. P2. D3. P3. D4. P4
; [ECCEN]       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; [ADDITIONAL]  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 33.7338. 1. 29.5164. 0. 0. 0. 0. . NO. 0. 0. NO
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -33.7338. 1. -29.5164. 0. 0. 0. 0. . NO. 0. 0. N(
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -13.4528. 1. -13.4528. 0. 0. 0. 0. . NO. 0. 0. N(
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 29.5164. 1. 26.4492. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -13.4528. 1. -13.4528. 0. 0. 0. 0. . NO. 0. 0. N(
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -29.5164. 1. -26.4492. 0. 0. 0. 0. . NO. 0. 0. N(
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 26.4492. 1. 23.382. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -26.4492. 1. -23.382. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -13.4528. 1. -13.4528. 0. 0. 0. 0. . NO. 0. 0. N(
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 23.382. 1. 20.3148. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -13.4528. 1. -13.4528. 0. 0. 0. 0. . NO. 0. 0. N(
```

```
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -23.382. 1. -20.3148. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 20.3148. 1. 17.2476. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -20.3148. 1. -17.2476. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -13.4528. 1. -13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 17.2476. 1. 14.1804. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -13.4528. 1. -13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -17.2476. 1. -14.1804. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 14.1804. 1. 10.0908. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -14.1804. 1. -10.0908. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -13.4528. 1. -13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -44.8688. 1. -44.8688. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -53.568. 1. -53.568. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -44.8688. 1. -44.8688. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -53.568. 1. -53.568. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -53.568. 1. -53.568. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -44.8688. 1. -44.8688. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -53.568. 1. -53.568. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -44.8688. 1. -44.8688. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -44.8688. 1. -44.8688. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -53.568. 1. -53.568. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -44.8688. 1. -44.8688. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -53.568. 1. -53.568. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -44.8688. 1. -44.8688. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -53.568. 1. -53.568. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -44.8688. 1. -44.8688. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -53.568. 1. -53.568. 0. 0. 0. 0. . NO. 0. 0. NO

; End of data for load case [NCOMB6] ------------------------

*USE-STLD. NCOMB7

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.6.

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. [ECCEN]. [VALUE]. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. [ECCEN]. [VALUE]. GROUP
; [VALUE]       : D1. P1. D2. P2. D3. P3. D4. P4
; [ECCEN]       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; [ADDITIONAL]  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 89.9568. 1. 78.7104. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -89.9568. 1. -78.7104. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 78.7104. 1. 70.5312. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -78.7104. 1. -70.5312. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 70.5312. 1. 62.352. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -70.5312. 1. -62.352. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 62.352. 1. 54.1728. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -62.352. 1. -54.1728. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 54.1728. 1. 45.9936. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -54.1728. 1. -45.9936. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 45.9936. 1. 37.8144. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -45.9936. 1. -37.8144. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 37.8144. 1. 26.9088. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -37.8144. 1. -26.9088. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -44.8688. 1. -44.8688. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -53.568. 1. -53.568. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -44.8688. 1. -44.8688. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -53.568. 1. -53.568. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -53.568. 1. -53.568. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -44.8688. 1. -44.8688. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -44.8688. 1. -44.8688. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -53.568. 1. -53.568. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -53.568. 1. -53.568. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -53.568. 1. -53.568. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -53.568. 1. -53.568. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -53.568. 1. -53.568. 0. 0. 0. 0. . NO. 0. 0. NO

; End of data for load case [NCOMB7] ------------------------

*USE-STLD. NCOMB8

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.6.

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. [ECCEN]. [VALUE]. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. [ECCEN]. [VALUE]. GROUP
```

```
; [VALUE]       : D1. P1. D2. P2. D3. P3. D4. P4
; [ECCEN]       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; [ADDITIONAL]  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 33.7338. 1. 29.5164. 0. 0. 0. 0. . NO. 0. 0. NO
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -33.7338. 1. -29.5164. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 29.5164. 1. 26.4492. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -29.5164. 1. -26.4492. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 26.4492. 1. 23.382. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -26.4492. 1. -23.382. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 23.382. 1. 20.3148. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -23.382. 1. -20.3148. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 20.3148. 1. 17.2476. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -20.3148. 1. -17.2476. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 17.2476. 1. 14.1804. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -17.2476. 1. -14.1804. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 14.1804. 1. 10.0908. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -14.1804. 1. -10.0908. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -53.568. 1. -53.568. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -44.8688. 1. -44.8688. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -44.8688. 1. -44.8688. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -53.568. 1. -53.568. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -44.8688. 1. -44.8688. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -53.568. 1. -53.568. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -53.568. 1. -53.568. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -44.8688. 1. -44.8688. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -53.568. 1. -53.568. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -53.568. 1. -53.568. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -53.568. 1. -53.568. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -53.568. 1. -53.568. 0. 0. 0. 0. . NO. 0. 0. NO

; End of data for load case [NCOMB8] ------------------------

*USE-STLD. NCOMB9

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.35.

*BEAMLOAD     ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. [ECCEN]. [VALUE]. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. [ECCEN]. [VALUE]. GROUP
; [VALUE]       : D1. P1. D2. P2. D3. P3. D4. P4
; [ECCEN]       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; [ADDITIONAL]  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 89.9568. 1. 78.7104. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -89.9568. 1. -78.7104. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -11.7712. 1. -11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 78.7104. 1. 70.5312. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -78.7104. 1. -70.5312. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -11.7712. 1. -11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 70.5312. 1. 62.352. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -70.5312. 1. -62.352. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -11.7712. 1. -11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 62.352. 1. 54.1728. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -11.7712. 1. -11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -62.352. 1. -54.1728. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 54.1728. 1. 45.9936. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -11.7712. 1. -11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -54.1728. 1. -45.9936. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 45.9936. 1. 37.8144. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -45.9936. 1. -37.8144. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -11.7712. 1. -11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 37.8144. 1. 26.9088. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -37.8144. 1. -26.9088. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -11.7712. 1. -11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -39.2602. 1. -39.2602. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.198. 1. -45.198. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -39.2602. 1. -39.2602. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.198. 1. -45.198. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.198. 1. -45.198. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -39.2602. 1. -39.2602. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -39.2602. 1. -39.2602. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.198. 1. -45.198. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -39.2602. 1. -39.2602. 0. 0. 0. 0. . NO. 0. 0. NO
```

```
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.198. 1. -45.198. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -39.2602. 1. -39.2602. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.198. 1. -45.198. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.198. 1. -45.198. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -39.2602. 1. -39.2602. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.198. 1. -45.198. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -39.2602. 1. -39.2602. 0. 0. 0. 0. . NO. 0. 0. NO

*ELTEMPER    ; Element Temperatures
; ELEM LIST. TEMPER. GROUP
    23. 2.592.
    24. 2.592.
    25. 2.592.
    26. 2.592.
    27. 2.592.
    28. 2.592.
    29. 2.592.
    30. 2.592.

; End of data for load case [NCOMB9] ---------------------------

*USE-STLD. NCOMB10

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.35.

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. [ECCEN]. [VALUE]. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. [ECCEN]. [VALUE]. GROUP
; [VALUE]       : D1. P1. D2. P2. D3. P3. D4. P4
; [ECCEN]       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; [ADDITIONAL]  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 33.7338. 1. 29.5164. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -33.7338. 1. -29.5164. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -11.7712. 1. -11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 29.5164. 1. 26.4492. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -11.7712. 1. -11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -29.5164. 1. -26.4492. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 26.4492. 1. 23.382. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -11.7712. 1. -11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -26.4492. 1. -23.382. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 23.382. 1. 20.3148. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -11.7712. 1. -11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -23.382. 1. -20.3148. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 20.3148. 1. 17.2476. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -11.7712. 1. -11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -20.3148. 1. -17.2476. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 17.2476. 1. 14.1804. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -17.2476. 1. -14.1804. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -11.7712. 1. -11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 14.1804. 1. 10.0908. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -14.1804. 1. -10.0908. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -11.7712. 1. -11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.198. 1. -45.198. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -39.2602. 1. -39.2602. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.198. 1. -45.198. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -39.2602. 1. -39.2602. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.198. 1. -45.198. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -39.2602. 1. -39.2602. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.198. 1. -45.198. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -39.2602. 1. -39.2602. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -39.2602. 1. -39.2602. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.198. 1. -45.198. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -39.2602. 1. -39.2602. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.198. 1. -45.198. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -39.2602. 1. -39.2602. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.198. 1. -45.198. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -39.2602. 1. -39.2602. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.198. 1. -45.198. 0. 0. 0. 0. . NO. 0. 0. NO

*ELTEMPER    ; Element Temperatures
; ELEM LIST. TEMPER. GROUP
    23. 2.592.
    24. 2.592.
    25. 2.592.
    26. 2.592.
    27. 2.592.
    28. 2.592.
    29. 2.592.
    30. 2.592.
```

```
; End of data for load case [NCOMB10] ------------------------

*USE-STLD. NCOMB11

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.35.

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. [ECCEN]. [VALUE]. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. [ECCEN]. [VALUE]. GROUP
; [VALUE]       : D1. P1. D2. P2. D3. P3. D4. P4
; [ECCEN]       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; [ADDITIONAL]  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 89.9568. 1. 78.7104. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -89.9568. 1. -78.7104. 0. 0. 0. 0. . NO. 0. 0. N(
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -11.7712. 1. -11.7712. 0. 0. 0. 0. . NO. 0. 0. N(
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 78.7104. 1. 70.5312. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -78.7104. 1. -70.5312. 0. 0. 0. 0. . NO. 0. 0. N(
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -11.7712. 1. -11.7712. 0. 0. 0. 0. . NO. 0. 0. N(
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 70.5312. 1. 62.352. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -70.5312. 1. -62.352. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -11.7712. 1. -11.7712. 0. 0. 0. 0. . NO. 0. 0. N(
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 62.352. 1. 54.1728. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -11.7712. 1. -11.7712. 0. 0. 0. 0. . NO. 0. 0. N(
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -62.352. 1. -54.1728. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 54.1728. 1. 45.9936. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -11.7712. 1. -11.7712. 0. 0. 0. 0. . NO. 0. 0. N(
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -54.1728. 1. -45.9936. 0. 0. 0. 0. . NO. 0. 0. N(
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 45.9936. 1. 37.8144. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -45.9936. 1. -37.8144. 0. 0. 0. 0. . NO. 0. 0. N(
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -11.7712. 1. -11.7712. 0. 0. 0. 0. . NO. 0. 0. N(
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 37.8144. 1. 26.9088. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -37.8144. 1. -26.9088. 0. 0. 0. 0. . NO. 0. 0. N(
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -11.7712. 1. -11.7712. 0. 0. 0. 0. . NO. 0. 0. N(
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -39.2602. 1. -39.2602. 0. 0. 0. 0. . NO. 0. 0. N(
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.198. 1. -45.198. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -39.2602. 1. -39.2602. 0. 0. 0. 0. . NO. 0. 0. N(
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.198. 1. -45.198. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.198. 1. -45.198. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -39.2602. 1. -39.2602. 0. 0. 0. 0. . NO. 0. 0. N(
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -39.2602. 1. -39.2602. 0. 0. 0. 0. . NO. 0. 0. N(
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.198. 1. -45.198. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -39.2602. 1. -39.2602. 0. 0. 0. 0. . NO. 0. 0. N(
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.198. 1. -45.198. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -39.2602. 1. -39.2602. 0. 0. 0. 0. . NO. 0. 0. N(
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.198. 1. -45.198. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.198. 1. -45.198. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -39.2602. 1. -39.2602. 0. 0. 0. 0. . NO. 0. 0. N(
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.198. 1. -45.198. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -39.2602. 1. -39.2602. 0. 0. 0. 0. . NO. 0. 0. N(

*ELTEMPER    ; Element Temperatures
; ELEM LIST. TEMPER. GROUP
     1. -20.25.
     2. -20.25.
     3. -20.25.
     4. -20.25.
     5. -20.25.
     6. -20.25.
     7. -20.25.
     8. -20.25.
     9. -20.25.
    10. -20.25.
    11. -20.25.
    12. -20.25.
    13. -20.25.
    14. -20.25.
    15. -20.25.
    16. -20.25.
    17. -20.25.
    18. -20.25.
    19. -20.25.
    20. -20.25.
    21. -20.25.
    22. -20.25.
    23. -22.842.
    24. -22.842.
    25. -22.842.
    26. -22.842.
```

```
    27. -22.842.
    28. -22.842.
    29. -22.842.
    30. -22.842.

; End of data for load case [NCOMB11] ------------------------

*USE-STLD. NCOMB12

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.35.

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. [ECCEN]. [VALUE]. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. [ECCEN]. [VALUE]. GROUP
; [VALUE]       : D1. P1. D2. P2. D3. P3. D4. P4
; [ECCEN]       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; [ADDITIONAL]  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 33.7338. 1. 29.5164. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -33.7338. 1. -29.5164. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -11.7712. 1. -11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 29.5164. 1. 26.4492. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -11.7712. 1. -11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -29.5164. 1. -26.4492. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 26.4492. 1. 23.382. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -11.7712. 1. -11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -26.4492. 1. -23.382. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 23.382. 1. 20.3148. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -11.7712. 1. -11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -23.382. 1. -20.3148. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 20.3148. 1. 17.2476. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -11.7712. 1. -11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -20.3148. 1. -17.2476. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 17.2476. 1. 14.1804. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -17.2476. 1. -14.1804. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -11.7712. 1. -11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 14.1804. 1. 10.0908. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -14.1804. 1. -10.0908. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -11.7712. 1. -11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.198. 1. -45.198. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -39.2602. 1. -39.2602. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.198. 1. -45.198. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -39.2602. 1. -39.2602. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.198. 1. -45.198. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -39.2602. 1. -39.2602. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.198. 1. -45.198. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -39.2602. 1. -39.2602. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -39.2602. 1. -39.2602. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.198. 1. -45.198. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -39.2602. 1. -39.2602. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.198. 1. -45.198. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -39.2602. 1. -39.2602. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.198. 1. -45.198. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -39.2602. 1. -39.2602. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.198. 1. -45.198. 0. 0. 0. 0. . NO. 0. 0. NO

*ELTEMPER    ; Element Temperatures
; ELEM LIST. TEMPER. GROUP
     1. -20.25.
     2. -20.25.
     3. -20.25.
     4. -20.25.
     5. -20.25.
     6. -20.25.
     7. -20.25.
     8. -20.25.
     9. -20.25.
    10. -20.25.
    11. -20.25.
    12. -20.25.
    13. -20.25.
    14. -20.25.
    15. -20.25.
    16. -20.25.
    17. -20.25.
    18. -20.25.
    19. -20.25.
    20. -20.25.
    21. -20.25.
    22. -20.25.
```

```
    23. -22.842.
    24. -22.842.
    25. -22.842.
    26. -22.842.
    27. -22.842.
    28. -22.842.
    29. -22.842.
    30. -22.842.

; End of data for load case [NCOMB12] ------------------------

*USE-STLD. NCOMB13

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.35.

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. [ECCEN]. [VALUE]. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. [ECCEN]. [VALUE]. GROUP
; [VALUE]       : D1. P1. D2. P2. D3. P3. D4. P4
; [ECCEN]       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; [ADDITIONAL]  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 89.9568. 1. 78.7104. 0. 0. 0. 0. . NO. 0. 0. NO
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -89.9568. 1. -78.7104. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 78.7104. 1. 70.5312. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -78.7104. 1. -70.5312. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 70.5312. 1. 62.352. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -70.5312. 1. -62.352. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 62.352. 1. 54.1728. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -62.352. 1. -54.1728. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 54.1728. 1. 45.9936. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -54.1728. 1. -45.9936. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 45.9936. 1. 37.8144. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -45.9936. 1. -37.8144. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 37.8144. 1. 26.9088. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -37.8144. 1. -26.9088. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.198. 1. -45.198. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -39.2602. 1. -39.2602. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.198. 1. -45.198. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -39.2602. 1. -39.2602. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -39.2602. 1. -39.2602. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.198. 1. -45.198. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -39.2602. 1. -39.2602. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.198. 1. -45.198. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.198. 1. -45.198. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.198. 1. -45.198. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.198. 1. -45.198. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.198. 1. -45.198. 0. 0. 0. 0. . NO. 0. 0. NO

*ELTEMPER    ; Element Temperatures
; ELEM LIST. TEMPER. GROUP
    23. 2.592.
    24. 2.592.
    25. 2.592.
    26. 2.592.
    27. 2.592.
    28. 2.592.
    29. 2.592.
    30. 2.592.

; End of data for load case [NCOMB13] ------------------------

*USE-STLD. NCOMB14

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.35.

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. [ECCEN]. [VALUE]. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. [ECCEN]. [VALUE]. GROUP
; [VALUE]       : D1. P1. D2. P2. D3. P3. D4. P4
; [ECCEN]       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; [ADDITIONAL]  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 33.7338. 1. 29.5164. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -33.7338. 1. -29.5164. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 29.5164. 1. 26.4492. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -29.5164. 1. -26.4492. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
```

```
    13 BEAM    UNILOAD GX NO  NO aDir[1]          0 26.4492 1 23.382 0 0 0 0   NO 0 0 NO
    14 BEAM    UNILOAD GX NO  NO aDir[1]          0 -26.4492 1 -23.382 0 0 0 0   NO 0 0 NO
    15 BEAM    UNILOAD GX NO  NO aDir[1]          0 11.7712 1 11.7712 0 0 0 0   NO 0 0 NO
    15 BEAM    UNILOAD GX NO  NO aDir[1]          0 23.382 1 20.3148 0 0 0 0   NO 0 0 NO
    16 BEAM    UNILOAD GX NO  NO aDir[1]          0 -23.382 1 -20.3148 0 0 0 0   NO 0 0 NO
    17 BEAM    UNILOAD GX NO  NO aDir[1]          0 20.3148 1 17.2476 0 0 0 0   NO 0 0 NO
    17 BEAM    UNILOAD GX NO  NO aDir[1]          0 11.7712 1 11.7712 0 0 0 0   NO 0 0 NO
    18 BEAM    UNILOAD GX NO  NO aDir[1]          0 -20.3148 1 -17.2476 0 0 0 0   NO 0 0 NO
    19 BEAM    UNILOAD GX NO  NO aDir[1]          0 17.2476 1 14.1804 0 0 0 0   NO 0 0 NO
    19 BEAM    UNILOAD GX NO  NO aDir[1]          0 11.7712 1 11.7712 0 0 0 0   NO 0 0 NO
    20 BEAM    UNILOAD GX NO  NO aDir[1]          0 -17.2476 1 -14.1804 0 0 0 0   NO 0 0 NO
    21 BEAM    UNILOAD GX NO  NO aDir[1]          0 11.7712 1 11.7712 0 0 0 0   NO 0 0 NO
    21 BEAM    UNILOAD GX NO  NO aDir[1]          0 14.1804 1 10.0908 0 0 0 0   NO 0 0 NO
    22 BEAM    UNILOAD GX NO  NO aDir[1]          0 -14.1804 1 -10.0908 0 0 0 0   NO 0 0 NO
    23 BEAM    UNILOAD GZ NO  NO aDir[1]          0 -39.2602 1 -39.2602 0 0 0 0   NO 0 0 NO
    23 BEAM    UNILOAD GZ NO  NO aDir[1]          0 -45.198 1 -45.198 0 0 0 0   NO 0 0 NO
    24 BEAM    UNILOAD GZ NO  NO aDir[1]          0 -39.2602 1 -39.2602 0 0 0 0   NO 0 0 NO
    24 BEAM    UNILOAD GZ NO  NO aDir[1]          0 -45.198 1 -45.198 0 0 0 0   NO 0 0 NO
    25 BEAM    UNILOAD GZ NO  NO aDir[1]          0 -39.2602 1 -39.2602 0 0 0 0   NO 0 0 NO
    25 BEAM    UNILOAD GZ NO  NO aDir[1]          0 -45.198 1 -45.198 0 0 0 0   NO 0 0 NO
    26 BEAM    UNILOAD GZ NO  NO aDir[1]          0 -39.2602 1 -39.2602 0 0 0 0   NO 0 0 NO
    26 BEAM    UNILOAD GZ NO  NO aDir[1]          0 -45.198 1 -45.198 0 0 0 0   NO 0 0 NO
    27 BEAM    UNILOAD GZ NO  NO aDir[1]          0 -45.198 1 -45.198 0 0 0 0   NO 0 0 NO
    28 BEAM    UNILOAD GZ NO  NO aDir[1]          0 -45.198 1 -45.198 0 0 0 0   NO 0 0 NO
    29 BEAM    UNILOAD GZ NO  NO aDir[1]          0 -45.198 1 -45.198 0 0 0 0   NO 0 0 NO
    30 BEAM    UNILOAD GZ NO  NO aDir[1]          0 -45.198 1 -45.198 0 0 0 0   NO 0 0 NO

*ELTEMPER    ; Element Temperatures
; ELEM LIST, TEMPER, GROUP
    23 2.592
    24 2.592
    25 2.592
    26 2.592
    27 2.592
    28 2.592
    29 2.592
    30 2.592

; End of data for load case [NCOMB14] ------------------------

*USE-STLD, NCOMB15

; *SELFWEIGHT, X, Y, Z, GROUP
*SELFWEIGHT, 0, 0, -1.35

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST, CMD, TYPE, DIR, bPROJ, [ECCEN], [VALUE], GROUP
; ELEM LIST, CMD, TYPE, TYPE, DIR, VX, VY, VZ, bPROJ, [ECCEN], [VALUE], GROUP
; [VALUE]       : D1, P1, D2, P2, D3, P3, D4, P4
; [ECCEN]       : bECCEN, ECCDIR, I-END, J-END, bJ-END
; [ADDITIONAL]  : bADDITIONAL, ADDITIONAL I-END, ADDITIONAL J-END, bADDITIONAL J-END
     9 BEAM    UNILOAD GX NO  NO aDir[1]          0 11.7712 1 11.7712 0 0 0 0   NO 0 0 NO
     9 BEAM    UNILOAD GX NO  NO aDir[1]          0 89.9568 1 78.7104 0 0 0 0   NO 0 0 NO
    10 BEAM    UNILOAD GX NO  NO aDir[1]          0 -89.9568 1 -78.7104 0 0 0 0   NO 0 0 NO
    11 BEAM    UNILOAD GX NO  NO aDir[1]          0 78.7104 1 70.5312 0 0 0 0   NO 0 0 NO
    11 BEAM    UNILOAD GX NO  NO aDir[1]          0 11.7712 1 11.7712 0 0 0 0   NO 0 0 NO
    12 BEAM    UNILOAD GX NO  NO aDir[1]          0 -78.7104 1 -70.5312 0 0 0 0   NO 0 0 NO
    13 BEAM    UNILOAD GX NO  NO aDir[1]          0 11.7712 1 11.7712 0 0 0 0   NO 0 0 NO
    13 BEAM    UNILOAD GX NO  NO aDir[1]          0 70.5312 1 62.352 0 0 0 0   NO 0 0 NO
    14 BEAM    UNILOAD GX NO  NO aDir[1]          0 -70.5312 1 -62.352 0 0 0 0   NO 0 0 NO
    15 BEAM    UNILOAD GX NO  NO aDir[1]          0 11.7712 1 11.7712 0 0 0 0   NO 0 0 NO
    15 BEAM    UNILOAD GX NO  NO aDir[1]          0 62.352 1 54.1728 0 0 0 0   NO 0 0 NO
    16 BEAM    UNILOAD GX NO  NO aDir[1]          0 -62.352 1 -54.1728 0 0 0 0   NO 0 0 NO
    17 BEAM    UNILOAD GX NO  NO aDir[1]          0 11.7712 1 11.7712 0 0 0 0   NO 0 0 NO
    17 BEAM    UNILOAD GX NO  NO aDir[1]          0 54.1728 1 45.9936 0 0 0 0   NO 0 0 NO
    18 BEAM    UNILOAD GX NO  NO aDir[1]          0 -54.1728 1 -45.9936 0 0 0 0   NO 0 0 NO
    19 BEAM    UNILOAD GX NO  NO aDir[1]          0 45.9936 1 37.8144 0 0 0 0   NO 0 0 NO
    19 BEAM    UNILOAD GX NO  NO aDir[1]          0 11.7712 1 11.7712 0 0 0 0   NO 0 0 NO
    20 BEAM    UNILOAD GX NO  NO aDir[1]          0 -45.9936 1 -37.8144 0 0 0 0   NO 0 0 NO
    21 BEAM    UNILOAD GX NO  NO aDir[1]          0 11.7712 1 11.7712 0 0 0 0   NO 0 0 NO
    21 BEAM    UNILOAD GX NO  NO aDir[1]          0 37.8144 1 26.9088 0 0 0 0   NO 0 0 NO
    22 BEAM    UNILOAD GX NO  NO aDir[1]          0 -37.8144 1 -26.9088 0 0 0 0   NO 0 0 NO
    23 BEAM    UNILOAD GZ NO  NO aDir[1]          0 -39.2602 1 -39.2602 0 0 0 0   NO 0 0 NO
    23 BEAM    UNILOAD GZ NO  NO aDir[1]          0 -45.198 1 -45.198 0 0 0 0   NO 0 0 NO
    24 BEAM    UNILOAD GZ NO  NO aDir[1]          0 -45.198 1 -45.198 0 0 0 0   NO 0 0 NO
    24 BEAM    UNILOAD GZ NO  NO aDir[1]          0 -39.2602 1 -39.2602 0 0 0 0   NO 0 0 NO
    25 BEAM    UNILOAD GZ NO  NO aDir[1]          0 -45.198 1 -45.198 0 0 0 0   NO 0 0 NO
    25 BEAM    UNILOAD GZ NO  NO aDir[1]          0 -39.2602 1 -39.2602 0 0 0 0   NO 0 0 NO
    26 BEAM    UNILOAD GZ NO  NO aDir[1]          0 -45.198 1 -45.198 0 0 0 0   NO 0 0 NO
    26 BEAM    UNILOAD GZ NO  NO aDir[1]          0 -39.2602 1 -39.2602 0 0 0 0   NO 0 0 NO
    27 BEAM    UNILOAD GZ NO  NO aDir[1]          0 -45.198 1 -45.198 0 0 0 0   NO 0 0 NO
    28 BEAM    UNILOAD GZ NO  NO aDir[1]          0 -45.198 1 -45.198 0 0 0 0   NO 0 0 NO
    29 BEAM    UNILOAD GZ NO  NO aDir[1]          0 -45.198 1 -45.198 0 0 0 0   NO 0 0 NO
    30 BEAM    UNILOAD GZ NO  NO aDir[1]          0 -45.198 1 -45.198 0 0 0 0   NO 0 0 NO

*ELTEMPER    ; Element Temperatures
; ELEM LIST, TEMPER, GROUP
```

```
     1. -20.25.
     2. -20.25.
     3. -20.25.
     4. -20.25.
     5. -20.25.
     6. -20.25.
     7. -20.25.
     8. -20.25.
     9. -20.25.
    10. -20.25.
    11. -20.25.
    12. -20.25.
    13. -20.25.
    14. -20.25.
    15. -20.25.
    16. -20.25.
    17. -20.25.
    18. -20.25.
    19. -20.25.
    20. -20.25.
    21. -20.25.
    22. -20.25.
    23. -22.842.
    24. -22.842.
    25. -22.842.
    26. -22.842.
    27. -22.842.
    28. -22.842.
    29. -22.842.
    30. -22.842.

; End of data for load case [NCOMB15] ------------------------

*USE-STLD. NCOMB16

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.35.

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. [ECCEN]. [VALUE]. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. [ECCEN]. [VALUE]. GROUP
; [VALUE]       : D1. P1. D2. P2. D3. P3. D4. P4
; [ECCEN]       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; [ADDITIONAL]  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 33.7338. 1. 29.5164. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -33.7338. 1. -29.5164. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 29.5164. 1. 26.4492. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -29.5164. 1. -26.4492. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 26.4492. 1. 23.382. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -26.4492. 1. -23.382. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 23.382. 1. 20.3148. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -23.382. 1. -20.3148. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 20.3148. 1. 17.2476. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -20.3148. 1. -17.2476. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 17.2476. 1. 14.1804. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -17.2476. 1. -14.1804. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 14.1804. 1. 10.0908. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -14.1804. 1. -10.0908. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.198. 1. -45.198. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -39.2602. 1. -39.2602. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.198. 1. -45.198. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -39.2602. 1. -39.2602. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -39.2602. 1. -39.2602. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.198. 1. -45.198. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.198. 1. -45.198. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -39.2602. 1. -39.2602. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.198. 1. -45.198. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.198. 1. -45.198. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.198. 1. -45.198. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.198. 1. -45.198. 0. 0. 0. 0. . NO. 0. 0. NO

*ELTEMPER    ; Element Temperatures
; ELEM LIST. TEMPER. GROUP
     1. -20.25.
     2. -20.25.
     3. -20.25.
     4. -20.25.
     5. -20.25.
     6. -20.25.
     7. -20.25.
```

```
     8. -20.25.
     9. -20.25.
    10. -20.25.
    11. -20.25.
    12. -20.25.
    13. -20.25.
    14. -20.25.
    15. -20.25.
    16. -20.25.
    17. -20.25.
    18. -20.25.
    19. -20.25.
    20. -20.25.
    21. -20.25.
    22. -20.25.
    23. -22.842.
    24. -22.842.
    25. -22.842.
    26. -22.842.
    27. -22.842.
    28. -22.842.
    29. -22.842.
    30. -22.842.

; End of data for load case 'NCOMB16' ------------------------

*USE-STLD. NCOMB17

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.35.

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. 'ECCEN'. 'VALUE'. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. 'ECCEN'. 'VALUE'. GROUP
; 'VALUE'       : D1. P1. D2. P2. D3. P3. D4. P4
; 'ECCEN'       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; 'ADDITIONAL'  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 67.1376. 1. 55.8912. 0. 0. 0. 0. . NO. 0. 0. NO
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 55.8912. 1. 47.712. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 47.712. 1. 39.5328. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 39.5328. 1. 31.3536. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 31.3536. 1. 23.1744. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 23.1744. 1. 14.9952. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 14.9952. 1. 4.0896. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.198. 1. -45.198. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -51.8796. 1. -51.8796. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.198. 1. -45.198. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -51.8796. 1. -51.8796. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -51.8796. 1. -51.8796. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.198. 1. -45.198. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -51.8796. 1. -51.8796. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.198. 1. -45.198. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.198. 1. -45.198. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.198. 1. -45.198. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.198. 1. -45.198. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.198. 1. -45.198. 0. 0. 0. 0. . NO. 0. 0. NO

; End of data for load case 'NCOMB17' ------------------------

*USE-STLD. NCOMB18

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.35.

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. 'ECCEN'. 'VALUE'. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. 'ECCEN'. 'VALUE'. GROUP
; 'VALUE'       : D1. P1. D2. P2. D3. P3. D4. P4
; 'ECCEN'       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; 'ADDITIONAL'  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 25.1766. 1. 20.9592. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 20.9592. 1. 17.892. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 17.892. 1. 14.8248. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 14.8248. 1. 11.7576. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7576. 1. 8.6904. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
```

```
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.6904. 1. 5.6232. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 5.6232. 1. 1.5336. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -51.8796. 1. -51.8796. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.198. 1. -45.198. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -51.8796. 1. -51.8796. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.198. 1. -45.198. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -51.8796. 1. -51.8796. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.198. 1. -45.198. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.198. 1. -45.198. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -51.8796. 1. -51.8796. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.198. 1. -45.198. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.198. 1. -45.198. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.198. 1. -45.198. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.198. 1. -45.198. 0. 0. 0. 0. . NO. 0. 0. NO

; End of data for load case [NCOMB18] ------------------------

*USE-STLD. NCOMB19

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.6.

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. [ECCEN]. [VALUE]. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. [ECCEN]. [VALUE]. GROUP
; [VALUE]       : D1. P1. D2. P2. D3. P3. D4. P4
; [ECCEN]       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; [ADDITIONAL]  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 67.1376. 1. 55.8912. 0. 0. 0. 0. . NO. 0. 0. NO
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 55.8912. 1. 47.712. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 47.712. 1. 39.5328. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 39.5328. 1. 31.3536. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 31.3536. 1. 23.1744. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 23.1744. 1. 14.9952. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 14.9952. 1. 4.0896. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -44.8688. 1. -44.8688. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -53.568. 1. -53.568. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -44.8688. 1. -44.8688. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -53.568. 1. -53.568. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -53.568. 1. -53.568. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -44.8688. 1. -44.8688. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -53.568. 1. -53.568. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -44.8688. 1. -44.8688. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -53.568. 1. -53.568. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -53.568. 1. -53.568. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -53.568. 1. -53.568. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -53.568. 1. -53.568. 0. 0. 0. 0. . NO. 0. 0. NO

; End of data for load case [NCOMB19] ------------------------

*USE-STLD. NCOMB20

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.6.

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. [ECCEN]. [VALUE]. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. [ECCEN]. [VALUE]. GROUP
; [VALUE]       : D1. P1. D2. P2. D3. P3. D4. P4
; [ECCEN]       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; [ADDITIONAL]  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 25.1766. 1. 20.9592. 0. 0. 0. 0. . NO. 0. 0. NO
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 20.9592. 1. 17.892. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 17.892. 1. 14.8248. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 14.8248. 1. 11.7576. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7576. 1. 8.6904. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.6904. 1. 5.6232. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 5.6232. 1. 1.5336. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -44.8688. 1. -44.8688. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -53.568. 1. -53.568. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -44.8688. 1. -44.8688. 0. 0. 0. 0. . NO. 0. 0. NO
```

```
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -53.568. 1. -53.568. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -44.8688. 1. -44.8688. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -53.568. 1. -53.568. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -44.8688. 1. -44.8688. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -53.568. 1. -53.568. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -53.568. 1. -53.568. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -53.568. 1. -53.568. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -53.568. 1. -53.568. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -53.568. 1. -53.568. 0. 0. 0. 0. . NO. 0. 0. NO

; End of data for load case [NCOMB20] ------------------------

*USE-STLD. NCOMB21

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. [ECCEN]. [VALUE]. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. [ECCEN]. [VALUE]. GROUP
; [VALUE]       : D1. P1. D2. P2. D3. P3. D4. P4
; [ECCEN]       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; [ADDITIONAL]  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 56.223. 1. 49.194. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -56.223. 1. -49.194. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 49.194. 1. 44.082. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -49.194. 1. -44.082. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 44.082. 1. 38.97. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -44.082. 1. -38.97. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 38.97. 1. 33.858. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -38.97. 1. -33.858. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 33.858. 1. 28.746. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -33.858. 1. -28.746. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 28.746. 1. 23.634. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -28.746. 1. -23.634. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 23.634. 1. 16.818. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -23.634. 1. -16.818. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.043. 1. -28.043. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.48. 1. -33.48. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.043. 1. -28.043. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.48. 1. -33.48. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.48. 1. -33.48. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.043. 1. -28.043. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.48. 1. -33.48. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.043. 1. -28.043. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.48. 1. -33.48. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.043. 1. -28.043. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.043. 1. -28.043. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.48. 1. -33.48. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.043. 1. -28.043. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.48. 1. -33.48. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.043. 1. -28.043. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.48. 1. -33.48. 0. 0. 0. 0. . NO. 0. 0. NO

; End of data for load case [NCOMB21] ------------------------

*USE-STLD. NCOMB22

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. [ECCEN]. [VALUE]. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. [ECCEN]. [VALUE]. GROUP
; [VALUE]       : D1. P1. D2. P2. D3. P3. D4. P4
; [ECCEN]       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; [ADDITIONAL]  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 28.1115. 1. 24.597. 0. 0. 0. 0. . NO. 0. 0. NO
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -28.1115. 1. -24.597. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 24.597. 1. 22.041. 0. 0. 0. 0. . NO. 0. 0. NO
```

```
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -24.597. 1. -22.041. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 22.041. 1. 19.485. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -22.041. 1. -19.485. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 19.485. 1. 16.929. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -19.485. 1. -16.929. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 16.929. 1. 14.373. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -16.929. 1. -14.373. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 14.373. 1. 11.817. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -14.373. 1. -11.817. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.817. 1. 8.409. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -11.817. 1. -8.409. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.48. 1. -33.48. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.043. 1. -28.043. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.48. 1. -33.48. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.043. 1. -28.043. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.043. 1. -28.043. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.48. 1. -33.48. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.043. 1. -28.043. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.48. 1. -33.48. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.043. 1. -28.043. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.48. 1. -33.48. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.043. 1. -28.043. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.48. 1. -33.48. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.043. 1. -28.043. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.48. 1. -33.48. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.043. 1. -28.043. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.48. 1. -33.48. 0. 0. 0. 0. . NO. 0. 0. NO

; End of data for load case [NCOMB22] ------------------------

*USE-STLD. NCOMB23

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. [ECCEN]. [VALUE]. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. [ECCEN]. [VALUE]. GROUP
; [VALUE]       : D1. P1. D2. P2. D3. P3. D4. P4
; [ECCEN]       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; [ADDITIONAL]  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 56.223. 1. 49.194. 0. 0. 0. 0. . NO. 0. 0. NO
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -56.223. 1. -49.194. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 49.194. 1. 44.082. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -49.194. 1. -44.082. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 44.082. 1. 38.97. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -44.082. 1. -38.97. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 38.97. 1. 33.858. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -38.97. 1. -33.858. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 33.858. 1. 28.746. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -33.858. 1. -28.746. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 28.746. 1. 23.634. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -28.746. 1. -23.634. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 23.634. 1. 16.818. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -23.634. 1. -16.818. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.043. 1. -28.043. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.48. 1. -33.48. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.043. 1. -28.043. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.48. 1. -33.48. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.043. 1. -28.043. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.48. 1. -33.48. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.48. 1. -33.48. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.043. 1. -28.043. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.48. 1. -33.48. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.48. 1. -33.48. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.48. 1. -33.48. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.48. 1. -33.48. 0. 0. 0. 0. . NO. 0. 0. NO

; End of data for load case [NCOMB23] ------------------------
```

```
*USE-STLD. NCOMB24

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. [ECCEN]. [VALUE]. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. [ECCEN]. [VALUE]. GROUP
; [VALUE]       : D1. P1. D2. P2. D3. P3. D4. P4
; [ECCEN]       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; [ADDITIONAL]  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 28.1115. 1. 24.597. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -28.1115. 1. -24.597. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 24.597. 1. 22.041. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -24.597. 1. -22.041. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 22.041. 1. 19.485. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -22.041. 1. -19.485. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 19.485. 1. 16.929. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -19.485. 1. -16.929. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 16.929. 1. 14.373. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -16.929. 1. -14.373. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 14.373. 1. 11.817. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -14.373. 1. -11.817. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.817. 1. 8.409. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -11.817. 1. -8.409. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.043. 1. -28.043. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.48. 1. -33.48. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.48. 1. -33.48. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.043. 1. -28.043. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.043. 1. -28.043. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.48. 1. -33.48. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.043. 1. -28.043. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.48. 1. -33.48. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.48. 1. -33.48. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.48. 1. -33.48. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.48. 1. -33.48. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.48. 1. -33.48. 0. 0. 0. 0. . NO. 0. 0. NO

; End of data for load case [NCOMB24] ------------------------

*USE-STLD. NCOMB25

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. [ECCEN]. [VALUE]. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. [ECCEN]. [VALUE]. GROUP
; [VALUE]       : D1. P1. D2. P2. D3. P3. D4. P4
; [ECCEN]       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; [ADDITIONAL]  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 56.223. 1. 49.194. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -56.223. 1. -49.194. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 49.194. 1. 44.082. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -49.194. 1. -44.082. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 44.082. 1. 38.97. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -44.082. 1. -38.97. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 38.97. 1. 33.858. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -38.97. 1. -33.858. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 33.858. 1. 28.746. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -33.858. 1. -28.746. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 28.746. 1. 23.634. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -28.746. 1. -23.634. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 23.634. 1. 16.818. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -23.634. 1. -16.818. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
```

```
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.48. 1. -33.48. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.043. 1. -28.043. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.48. 1. -33.48. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.043. 1. -28.043. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.043. 1. -28.043. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.48. 1. -33.48. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.48. 1. -33.48. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.043. 1. -28.043. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.48. 1. -33.48. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.043. 1. -28.043. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.48. 1. -33.48. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.043. 1. -28.043. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.043. 1. -28.043. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.48. 1. -33.48. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.043. 1. -28.043. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.48. 1. -33.48. 0. 0. 0. 0. . NO. 0. 0. NO

*ELTEMPER    ; Element Temperatures
; ELEM LIST. TEMPER. GROUP
    23. 1.92.
    24. 1.92.
    25. 1.92.
    26. 1.92.
    27. 1.92.
    28. 1.92.
    29. 1.92.
    30. 1.92.

; End of data for load case [NCOMB25] ------------------------

*USE-STLD. NCOMB26

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. [ECCEN]. [VALUE]. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. [ECCEN]. [VALUE]. GROUP
; [VALUE]       : D1. P1. D2. P2. D3. P3. D4. P4
; [ECCEN]       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; [ADDITIONAL]  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 28.1115. 1. 24.597. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -28.1115. 1. -24.597. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 24.597. 1. 22.041. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -24.597. 1. -22.041. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 22.041. 1. 19.485. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -22.041. 1. -19.485. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 19.485. 1. 16.929. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -19.485. 1. -16.929. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 16.929. 1. 14.373. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -16.929. 1. -14.373. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 14.373. 1. 11.817. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -14.373. 1. -11.817. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.817. 1. 8.409. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -11.817. 1. -8.409. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.48. 1. -33.48. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.043. 1. -28.043. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.043. 1. -28.043. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.48. 1. -33.48. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.043. 1. -28.043. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.48. 1. -33.48. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.043. 1. -28.043. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.48. 1. -33.48. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.043. 1. -28.043. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.48. 1. -33.48. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.48. 1. -33.48. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.043. 1. -28.043. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.48. 1. -33.48. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.043. 1. -28.043. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.48. 1. -33.48. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.043. 1. -28.043. 0. 0. 0. 0. . NO. 0. 0. NO

*ELTEMPER    ; Element Temperatures
```

```
; ELEM LIST. TEMPER. GROUP
    23. 1.92.
    24. 1.92.
    25. 1.92.
    26. 1.92.
    27. 1.92.
    28. 1.92.
    29. 1.92.
    30. 1.92.

; End of data for load case [NCOMB26] ------------------------

*USE-STLD. NCOMB27

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. [ECCEN]. [VALUE]. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. [ECCEN]. [VALUE]. GROUP
; [VALUE]       : D1. P1. D2. P2. D3. P3. D4. P4
; [ECCEN]       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; [ADDITIONAL]  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 56.223. 1. 49.194. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -56.223. 1. -49.194. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 49.194. 1. 44.082. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -49.194. 1. -44.082. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 44.082. 1. 38.97. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -44.082. 1. -38.97. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 38.97. 1. 33.858. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -38.97. 1. -33.858. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 33.858. 1. 28.746. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -33.858. 1. -28.746. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 28.746. 1. 23.634. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -28.746. 1. -23.634. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 23.634. 1. 16.818. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -23.634. 1. -16.818. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.48. 1. -33.48. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.043. 1. -28.043. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.48. 1. -33.48. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.043. 1. -28.043. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.043. 1. -28.043. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.48. 1. -33.48. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.48. 1. -33.48. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.043. 1. -28.043. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.48. 1. -33.48. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.043. 1. -28.043. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.48. 1. -33.48. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.043. 1. -28.043. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.043. 1. -28.043. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.48. 1. -33.48. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.043. 1. -28.043. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.48. 1. -33.48. 0. 0. 0. 0. . NO. 0. 0. NO

*ELTEMPER    ; Element Temperatures
; ELEM LIST. TEMPER. GROUP
     1. -15.
     2. -15.
     3. -15.
     4. -15.
     5. -15.
     6. -15.
     7. -15.
     8. -15.
     9. -15.
    10. -15.
    11. -15.
    12. -15.
    13. -15.
    14. -15.
    15. -15.
    16. -15.
    17. -15.
```

```
     18. -15.
     19. -15.
     20. -15.
     21. -15.
     22. -15.
     23. -16.92.
     24. -16.92.
     25. -16.92.
     26. -16.92.
     27. -16.92.
     28. -16.92.
     29. -16.92.
     30. -16.92.

; End of data for load case [NCOMB27] -------------------------

*USE-STLD. NCOMB28

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. [ECCEN]. [VALUE]. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. [ECCEN]. [VALUE]. GROUP
; [VALUE]       : D1. P1. D2. P2. D3. P3. D4. P4
; [ECCEN]       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; [ADDITIONAL]  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 28.1115. 1. 24.597. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -28.1115. 1. -24.597. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 24.597. 1. 22.041. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -24.597. 1. -22.041. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 22.041. 1. 19.485. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -22.041. 1. -19.485. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 19.485. 1. 16.929. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -19.485. 1. -16.929. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 16.929. 1. 14.373. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -16.929. 1. -14.373. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 14.373. 1. 11.817. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -14.373. 1. -11.817. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.817. 1. 8.409. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -11.817. 1. -8.409. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.48. 1. -33.48. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.043. 1. -28.043. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.043. 1. -28.043. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.48. 1. -33.48. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.48. 1. -33.48. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.043. 1. -28.043. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.043. 1. -28.043. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.48. 1. -33.48. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.043. 1. -28.043. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.48. 1. -33.48. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.48. 1. -33.48. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.043. 1. -28.043. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.48. 1. -33.48. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.043. 1. -28.043. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.48. 1. -33.48. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.043. 1. -28.043. 0. 0. 0. 0. . NO. 0. 0. NO

*ELTEMPER    ; Element Temperatures
; ELEM LIST. TEMPER. GROUP
     1. -15.
     2. -15.
     3. -15.
     4. -15.
     5. -15.
     6. -15.
     7. -15.
     8. -15.
     9. -15.
    10. -15.
    11. -15.
    12. -15.
    13. -15.
```

```
    14. -15.
    15. -15.
    16. -15.
    17. -15.
    18. -15.
    19. -15.
    20. -15.
    21. -15.
    22. -15.
    23. -16.92.
    24. -16.92.
    25. -16.92.
    26. -16.92.
    27. -16.92.
    28. -16.92.
    29. -16.92.
    30. -16.92.

; End of data for load case [NCOMB28] ------------------------

*USE-STLD. NCOMB29

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. [ECCEN]. [VALUE]. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. [ECCEN]. [VALUE]. GROUP
; [VALUE]       : D1. P1. D2. P2. D3. P3. D4. P4
; [ECCEN]       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; [ADDITIONAL]  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 56.223. 1. 49.194. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -56.223. 1. -49.194. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 49.194. 1. 44.082. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -49.194. 1. -44.082. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 44.082. 1. 38.97. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -44.082. 1. -38.97. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 38.97. 1. 33.858. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -38.97. 1. -33.858. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 33.858. 1. 28.746. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -33.858. 1. -28.746. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 28.746. 1. 23.634. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -28.746. 1. -23.634. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 23.634. 1. 16.818. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -23.634. 1. -16.818. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.043. 1. -28.043. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.48. 1. -33.48. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.48. 1. -33.48. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.043. 1. -28.043. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.48. 1. -33.48. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.043. 1. -28.043. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.48. 1. -33.48. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.043. 1. -28.043. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.48. 1. -33.48. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.48. 1. -33.48. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.48. 1. -33.48. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.48. 1. -33.48. 0. 0. 0. 0. . NO. 0. 0. NO

*ELTEMPER    ; Element Temperatures
; ELEM LIST. TEMPER. GROUP
    23. 1.92.
    24. 1.92.
    25. 1.92.
    26. 1.92.
    27. 1.92.
    28. 1.92.
    29. 1.92.
    30. 1.92.

; End of data for load case [NCOMB29] ------------------------

*USE-STLD. NCOMB30

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. [ECCEN]. [VALUE]. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. [ECCEN]. [VALUE]. GROUP
; [VALUE]       : D1. P1. D2. P2. D3. P3. D4. P4
```

```
; [ECCEN]       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; [ADDITIONAL]  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 28.1115. 1. 24.597. 0. 0. 0. 0. . NO. 0. 0. NO
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -28.1115. 1. -24.597. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 24.597. 1. 22.041. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -24.597. 1. -22.041. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 22.041. 1. 19.485. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -22.041. 1. -19.485. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 19.485. 1. 16.929. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -19.485. 1. -16.929. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 16.929. 1. 14.373. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -16.929. 1. -14.373. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 14.373. 1. 11.817. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -14.373. 1. -11.817. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.817. 1. 8.409. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -11.817. 1. -8.409. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.043. 1. -28.043. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.48. 1. -33.48. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.48. 1. -33.48. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.043. 1. -28.043. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.48. 1. -33.48. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.043. 1. -28.043. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.043. 1. -28.043. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.48. 1. -33.48. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.48. 1. -33.48. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.48. 1. -33.48. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.48. 1. -33.48. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.48. 1. -33.48. 0. 0. 0. 0. . NO. 0. 0. NO

*ELTEMPER    ; Element Temperatures
; ELEM LIST. TEMPER. GROUP
    23. 1.92.
    24. 1.92.
    25. 1.92.
    26. 1.92.
    27. 1.92.
    28. 1.92.
    29. 1.92.
    30. 1.92.

; End of data for load case [NCOMB30] ------------------------

*USE-STLD. NCOMB31

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. [ECCEN]. [VALUE]. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. [ECCEN]. [VALUE]. GROUP
; [VALUE]       : D1. P1. D2. P2. D3. P3. D4. P4
; [ECCEN]       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; [ADDITIONAL]  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 56.223. 1. 49.194. 0. 0. 0. 0. . NO. 0. 0. NO
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -56.223. 1. -49.194. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 49.194. 1. 44.082. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -49.194. 1. -44.082. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 44.082. 1. 38.97. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -44.082. 1. -38.97. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 38.97. 1. 33.858. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -38.97. 1. -33.858. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 33.858. 1. 28.746. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -33.858. 1. -28.746. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 28.746. 1. 23.634. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -28.746. 1. -23.634. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 23.634. 1. 16.818. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -23.634. 1. -16.818. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.043. 1. -28.043. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.48. 1. -33.48. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.043. 1. -28.043. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.48. 1. -33.48. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.043. 1. -28.043. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.48. 1. -33.48. 0. 0. 0. 0. . NO. 0. 0. NO
```

```
    26. BEAM   . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.043. 1. -28.043. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM   . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.48. 1. -33.48. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM   . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.48. 1. -33.48. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM   . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.48. 1. -33.48. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM   . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.48. 1. -33.48. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM   . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.48. 1. -33.48. 0. 0. 0. 0. . NO. 0. 0. NO

*ELTEMPER    ; Element Temperatures
; ELEM LIST. TEMPER. GROUP
     1. -15.
     2. -15.
     3. -15.
     4. -15.
     5. -15.
     6. -15.
     7. -15.
     8. -15.
     9. -15.
    10. -15.
    11. -15.
    12. -15.
    13. -15.
    14. -15.
    15. -15.
    16. -15.
    17. -15.
    18. -15.
    19. -15.
    20. -15.
    21. -15.
    22. -15.
    23. -16.92.
    24. -16.92.
    25. -16.92.
    26. -16.92.
    27. -16.92.
    28. -16.92.
    29. -16.92.
    30. -16.92.

; End of data for load case [NCOMB31] ------------------------

*USE-STLD. NCOMB32

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. [ECCEN]. [VALUE]. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. [ECCEN]. [VALUE]. GROUP
; [VALUE]       : D1. P1. D2. P2. D3. P3. D4. P4
; [ECCEN]       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; [ADDITIONAL]  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM   . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 28.1115. 1. 24.597. 0. 0. 0. 0. . NO. 0. 0. NO
     9. BEAM   . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM   . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -28.1115. 1. -24.597. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM   . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 24.597. 1. 22.041. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM   . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM   . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -24.597. 1. -22.041. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM   . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 22.041. 1. 19.485. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM   . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM   . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -22.041. 1. -19.485. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM   . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 19.485. 1. 16.929. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM   . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM   . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -19.485. 1. -16.929. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM   . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM   . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 16.929. 1. 14.373. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM   . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -16.929. 1. -14.373. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM   . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM   . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 14.373. 1. 11.817. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM   . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -14.373. 1. -11.817. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM   . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.817. 1. 8.409. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM   . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM   . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -11.817. 1. -8.409. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM   . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.48. 1. -33.48. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM   . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.043. 1. -28.043. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM   . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.043. 1. -28.043. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM   . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.48. 1. -33.48. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM   . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.48. 1. -33.48. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM   . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.043. 1. -28.043. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM   . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.48. 1. -33.48. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM   . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.043. 1. -28.043. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM   . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.48. 1. -33.48. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM   . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.48. 1. -33.48. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM   . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.48. 1. -33.48. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM   . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.48. 1. -33.48. 0. 0. 0. 0. . NO. 0. 0. NO
```

```
*ELTEMPER    ; Element Temperatures
; ELEM LIST. TEMPER. GROUP
     1. -15.
     2. -15.
     3. -15.
     4. -15.
     5. -15.
     6. -15.
     7. -15.
     8. -15.
     9. -15.
    10. -15.
    11. -15.
    12. -15.
    13. -15.
    14. -15.
    15. -15.
    16. -15.
    17. -15.
    18. -15.
    19. -15.
    20. -15.
    21. -15.
    22. -15.
    23. -16.92.
    24. -16.92.
    25. -16.92.
    26. -16.92.
    27. -16.92.
    28. -16.92.
    29. -16.92.
    30. -16.92.

; End of data for load case [NCOMB32] ------------------------

*USE-STLD. NCOMB33

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. [ECCEN]. [VALUE]. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. [ECCEN]. [VALUE]. GROUP
; [VALUE]       : D1. P1. D2. P2. D3. P3. D4. P4
; [ECCEN]       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; [ADDITIONAL]  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 56.223. 1. 49.194. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -56.223. 1. -49.194. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 49.194. 1. 44.082. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -49.194. 1. -44.082. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 44.082. 1. 38.97. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -44.082. 1. -38.97. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 38.97. 1. 33.858. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -38.97. 1. -33.858. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 33.858. 1. 28.746. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -33.858. 1. -28.746. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 28.746. 1. 23.634. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -28.746. 1. -23.634. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 23.634. 1. 16.818. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -23.634. 1. -16.818. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.48. 1. -33.48. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.48. 1. -33.48. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.48. 1. -33.48. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.48. 1. -33.48. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.48. 1. -33.48. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.48. 1. -33.48. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.48. 1. -33.48. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.48. 1. -33.48. 0. 0. 0. 0. . NO. 0. 0. NO

; End of data for load case [NCOMB33] ------------------------

*USE-STLD. NCOMB34

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. [ECCEN]. [VALUE]. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. [ECCEN]. [VALUE]. GROUP
; [VALUE]       : D1. P1. D2. P2. D3. P3. D4. P4
; [ECCEN]       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; [ADDITIONAL]  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 41.961. 1. 34.932. 0. 0. 0. 0. . NO. 0. 0. NO
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 34.932. 1. 29.82. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
```

```
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 29.82. 1. 24.708. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 24.708. 1. 19.596. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 19.596. 1. 14.484. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 14.484. 1. 9.372. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 9.372. 1. 2.556. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.043. 1. -28.043. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.48. 1. -33.48. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.043. 1. -28.043. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.48. 1. -33.48. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.043. 1. -28.043. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.48. 1. -33.48. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.043. 1. -28.043. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.48. 1. -33.48. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.48. 1. -33.48. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.48. 1. -33.48. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.48. 1. -33.48. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.48. 1. -33.48. 0. 0. 0. 0. . NO. 0. 0. NO

; End of data for load case [NCOMB34] ------------------------

*USE-STLD. NCOMB35

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. [ECCEN]. [VALUE]. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. [ECCEN]. [VALUE]. GROUP
; [VALUE]       : D1. P1. D2. P2. D3. P3. D4. P4
; [ECCEN]       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; [ADDITIONAL]  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 20.9805. 1. 17.466. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 17.466. 1. 14.91. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 14.91. 1. 12.354. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 12.354. 1. 9.798. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 9.798. 1. 7.242. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 7.242. 1. 4.686. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 4.686. 1. 1.278. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.48. 1. -33.48. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.043. 1. -28.043. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.043. 1. -28.043. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.48. 1. -33.48. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.48. 1. -33.48. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.043. 1. -28.043. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.043. 1. -28.043. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.48. 1. -33.48. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.48. 1. -33.48. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.48. 1. -33.48. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.48. 1. -33.48. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -33.48. 1. -33.48. 0. 0. 0. 0. . NO. 0. 0. NO

; End of data for load case [NCOMB35] ------------------------


*LOADCOMB    ; Combinations
; NAME=NAME. KIND. ACTIVE. bES. iTYPE. DESC. iSERV-TYPE. nLCOMTYPE   ; line 1
;      ANAL1. LCNAME1. FACT1. ...                                    ; from line 2
   NAME=COMB1. GEN. INACTIVE. 0. 0. . 0. 0
        ST. LC1. 1.35. ST. LC2. 1.85. ST. LC4. 1.85. ST. LC6. 1.6
   NAME=COMB2. GEN. INACTIVE. 0. 0. . 0. 0
        ST. LC1. 1.35. ST. LC2. 1.85. ST. LC4. 1.85. ST. LC6. 0.6
   NAME=COMB3. GEN. INACTIVE. 0. 0. . 0. 0
        ST. LC1. 1.35. ST. LC3. 1.85. ST. LC5. 1.85. ST. LC6. 1.6
   NAME=COMB4. GEN. INACTIVE. 0. 0. . 0. 0
        ST. LC1. 1.35. ST. LC3. 1.85. ST. LC5. 1.85. ST. LC6. 0.6
   NAME=COMB5. GEN. INACTIVE. 0. 0. . 0. 0
        ST. LC1. 1.6. ST. LC2. 1.6. ST. LC4. 1.6. ST. LC6. 1.6
   NAME=COMB6. GEN. INACTIVE. 0. 0. . 0. 0
        ST. LC1. 1.6. ST. LC2. 1.6. ST. LC4. 1.6. ST. LC6. 0.6
   NAME=COMB7. GEN. INACTIVE. 0. 0. . 0. 0
        ST. LC1. 1.6. ST. LC3. 1.6. ST. LC5. 1.6. ST. LC6. 1.6
   NAME=COMB8. GEN. INACTIVE. 0. 0. . 0. 0
        ST. LC1. 1.6. ST. LC3. 1.6. ST. LC5. 1.6. ST. LC6. 0.6
   NAME=COMB9. GEN. INACTIVE. 0. 0. . 0. 0
        ST. LC1. 1.35. ST. LC2. 1.4. ST. LC4. 1.4. ST. LC6. 1.6. ST. LC8. 1.35
        ST. LC11. 1.35
```

```
NAME=COMB10. GEN. INACTIVE. 0. 0. . 0. 0
     ST. LC1. 1.35. ST. LC2. 1.4. ST. LC4. 1.4. ST. LC6. 0.6. ST. LC8. 1.35
     ST. LC11. 1.35
NAME=COMB11. GEN. INACTIVE. 0. 0. . 0. 0
     ST. LC1. 1.35. ST. LC2. 1.4. ST. LC4. 1.4. ST. LC6. 1.6. ST. LC9. 1.35
     ST. LC10. 1.35. ST. LC11. 1.4
NAME=COMB12. GEN. INACTIVE. 0. 0. . 0. 0
     ST. LC1. 1.35. ST. LC2. 1.4. ST. LC4. 1.4. ST. LC6. 0.6. ST. LC9. 1.35
     ST. LC10. 1.35. ST. LC11. 1.4
NAME=COMB13. GEN. INACTIVE. 0. 0. . 0. 0
     ST. LC1. 1.35. ST. LC3. 1.4. ST. LC5. 1.4. ST. LC6. 1.6. ST. LC8. 1.35
     ST. LC11. 1.35
NAME=COMB14. GEN. INACTIVE. 0. 0. . 0. 0
     ST. LC1. 1.35. ST. LC3. 1.4. ST. LC5. 1.4. ST. LC6. 0.6. ST. LC8. 1.35
     ST. LC11. 1.35
NAME=COMB15. GEN. INACTIVE. 0. 0. . 0. 0
     ST. LC1. 1.35. ST. LC3. 1.4. ST. LC5. 1.4. ST. LC6. 1.6. ST. LC9. 1.35
     ST. LC10. 1.35. ST. LC11. 1.4
NAME=COMB16. GEN. INACTIVE. 0. 0. . 0. 0
     ST. LC1. 1.35. ST. LC3. 1.4. ST. LC5. 1.4. ST. LC6. 0.6. ST. LC9. 1.35
     ST. LC10. 1.35. ST. LC11. 1.4
NAME=COMB17. GEN. INACTIVE. 0. 0. . 0. 0
     ST. LC1. 1.35. ST. LC3. 1.85. ST. LC5. 1.85. ST. LC7. 1.6
NAME=COMB18. GEN. INACTIVE. 0. 0. . 0. 0
     ST. LC1. 1.35. ST. LC3. 1.85. ST. LC5. 1.85. ST. LC7. 0.6
NAME=COMB19. GEN. INACTIVE. 0. 0. . 0. 0
     ST. LC1. 1.6. ST. LC3. 1.6. ST. LC5. 1.6. ST. LC7. 1.6
NAME=COMB20. GEN. INACTIVE. 0. 0. . 0. 0
     ST. LC1. 1.6. ST. LC3. 1.6. ST. LC5. 1.6. ST. LC7. 0.6
NAME=COMB21. GEN. INACTIVE. 0. 0. . 0. 0
     ST. LC1. 1. ST. LC2. 1. ST. LC4. 1. ST. LC6. 1
NAME=COMB22. GEN. INACTIVE. 0. 0. . 0. 0
     ST. LC1. 1. ST. LC2. 1. ST. LC4. 1. ST. LC6. 0.5
NAME=COMB23. GEN. INACTIVE. 0. 0. . 0. 0
     ST. LC1. 1. ST. LC3. 1. ST. LC5. 1. ST. LC6. 1
NAME=COMB24. GEN. INACTIVE. 0. 0. . 0. 0
     ST. LC1. 1. ST. LC3. 1. ST. LC5. 1. ST. LC6. 0.5
NAME=COMB25. GEN. INACTIVE. 0. 0. . 0. 0
     ST. LC1. 1. ST. LC2. 1. ST. LC4. 1. ST. LC6. 1. ST. LC8. 1. ST. LC11. 1
NAME=COMB26. GEN. INACTIVE. 0. 0. . 0. 0
     ST. LC1. 1. ST. LC2. 1. ST. LC4. 1. ST. LC6. 0.5. ST. LC8. 1
     ST. LC11. 1
NAME=COMB27. GEN. INACTIVE. 0. 0. . 0. 0
     ST. LC1. 1. ST. LC2. 1. ST. LC4. 1. ST. LC6. 1. ST. LC9. 1. ST. LC10. 1
     ST. LC11. 1
NAME=COMB28. GEN. INACTIVE. 0. 0. . 0. 0
     ST. LC1. 1. ST. LC2. 1. ST. LC4. 1. ST. LC6. 0.5. ST. LC9. 1
     ST. LC10. 1. ST. LC11. 1
NAME=COMB29. GEN. INACTIVE. 0. 0. . 0. 0
     ST. LC1. 1. ST. LC3. 1. ST. LC5. 1. ST. LC6. 1. ST. LC8. 1. ST. LC11. 1
NAME=COMB30. GEN. INACTIVE. 0. 0. . 0. 0
     ST. LC1. 1. ST. LC3. 1. ST. LC5. 1. ST. LC6. 0.5. ST. LC8. 1
     ST. LC11. 1
NAME=COMB31. GEN. INACTIVE. 0. 0. . 0. 0
     ST. LC1. 1. ST. LC3. 1. ST. LC5. 1. ST. LC6. 1. ST. LC9. 1. ST. LC10. 1
     ST. LC11. 1
NAME=COMB32. GEN. INACTIVE. 0. 0. . 0. 0
     ST. LC1. 1. ST. LC3. 1. ST. LC5. 1. ST. LC6. 0.5. ST. LC9. 1
     ST. LC10. 1. ST. LC11. 1
NAME=COMB33. GEN. INACTIVE. 0. 0. . 0. 0
     ST. LC1. 1. ST. LC6. 1
NAME=COMB34. GEN. INACTIVE. 0. 0. . 0. 0
     ST. LC1. 1. ST. LC3. 1. ST. LC5. 1. ST. LC7. 1
NAME=COMB35. GEN. INACTIVE. 0. 0. . 0. 0
     ST. LC1. 1. ST. LC3. 1. ST. LC5. 1. ST. LC7. 0.5
NAME=USD. GEN. ACTIVE. 0. 1. . 0. 0
     ST. NCOMB1. 1. ST. NCOMB2. 1. ST. NCOMB3. 1. ST. NCOMB4. 1
     ST. NCOMB5. 1. ST. NCOMB6. 1. ST. NCOMB7. 1. ST. NCOMB8. 1
     ST. NCOMB9. 1. ST. NCOMB10. 1. ST. NCOMB11. 1. ST. NCOMB12. 1
     ST. NCOMB13. 1. ST. NCOMB14. 1. ST. NCOMB15. 1. ST. NCOMB16. 1
     ST. NCOMB17. 1. ST. NCOMB18. 1. ST. NCOMB19. 1. ST. NCOMB20. 1
NAME=WSD. GEN. ACTIVE. 0. 1. . 0. 0
     ST. NCOMB21. 1. ST. NCOMB22. 1. ST. NCOMB23. 1. ST. NCOMB24. 1
     ST. NCOMB25. 1. ST. NCOMB26. 1. ST. NCOMB27. 1. ST. NCOMB28. 1
     ST. NCOMB29. 1. ST. NCOMB30. 1. ST. NCOMB31. 1. ST. NCOMB32. 1
     ST. NCOMB33. 1. ST. NCOMB34. 1. ST. NCOMB35. 1
NAME=NCOMB1. CONC. STRENGTH. 0. 0. . 0. 0
     ST. NCOMB1. 1
NAME=NCOMB2. CONC. STRENGTH. 0. 0. . 0. 0
     ST. NCOMB2. 1
NAME=NCOMB3. CONC. STRENGTH. 0. 0. . 0. 0
     ST. NCOMB3. 1
NAME=NCOMB4. CONC. STRENGTH. 0. 0. . 0. 0
     ST. NCOMB4. 1
NAME=NCOMB5. CONC. STRENGTH. 0. 0. . 0. 0
     ST. NCOMB5. 1
NAME=NCOMB6. CONC. STRENGTH. 0. 0. . 0. 0
```

```
        ST. NCOMB6. 1
    NAME=NCOMB7. CONC. STRENGTH. 0. 0. . 0. 0
        ST. NCOMB7. 1
    NAME=NCOMB8. CONC. STRENGTH. 0. 0. . 0. 0
        ST. NCOMB8. 1
    NAME=NCOMB9. CONC. STRENGTH. 0. 0. . 0. 0
        ST. NCOMB9. 1
    NAME=NCOMB10. CONC. STRENGTH. 0. 0. . 0. 0
        ST. NCOMB10. 1
    NAME=NCOMB11. CONC. STRENGTH. 0. 0. . 0. 0
        ST. NCOMB11. 1
    NAME=NCOMB12. CONC. STRENGTH. 0. 0. . 0. 0
        ST. NCOMB12. 1
    NAME=NCOMB13. CONC. STRENGTH. 0. 0. . 0. 0
        ST. NCOMB13. 1
    NAME=NCOMB14. CONC. STRENGTH. 0. 0. . 0. 0
        ST. NCOMB14. 1
    NAME=NCOMB15. CONC. STRENGTH. 0. 0. . 0. 0
        ST. NCOMB15. 1
    NAME=NCOMB16. CONC. STRENGTH. 0. 0. . 0. 0
        ST. NCOMB16. 1
    NAME=NCOMB17. CONC. STRENGTH. 0. 0. . 0. 0
        ST. NCOMB17. 1
    NAME=NCOMB18. CONC. STRENGTH. 0. 0. . 0. 0
        ST. NCOMB18. 1
    NAME=NCOMB19. CONC. STRENGTH. 0. 0. . 0. 0
        ST. NCOMB19. 1
    NAME=NCOMB20. CONC. STRENGTH. 0. 0. . 0. 0
        ST. NCOMB20. 1
    NAME=NCOMB21. CONC. STRENGTH. 0. 0. . 0. 0
        ST. NCOMB21. 1
    NAME=NCOMB22. CONC. STRENGTH. 0. 0. . 0. 0
        ST. NCOMB22. 1
    NAME=NCOMB23. CONC. STRENGTH. 0. 0. . 0. 0
        ST. NCOMB23. 1
    NAME=NCOMB24. CONC. STRENGTH. 0. 0. . 0. 0
        ST. NCOMB24. 1
    NAME=NCOMB25. CONC. STRENGTH. 0. 0. . 0. 0
        ST. NCOMB25. 1
    NAME=NCOMB26. CONC. STRENGTH. 0. 0. . 0. 0
        ST. NCOMB26. 1
    NAME=NCOMB27. CONC. STRENGTH. 0. 0. . 0. 0
        ST. NCOMB27. 1
    NAME=NCOMB28. CONC. STRENGTH. 0. 0. . 0. 0
        ST. NCOMB28. 1
    NAME=NCOMB29. CONC. STRENGTH. 0. 0. . 0. 0
        ST. NCOMB29. 1
    NAME=NCOMB30. CONC. STRENGTH. 0. 0. . 0. 0
        ST. NCOMB30. 1
    NAME=NCOMB31. CONC. STRENGTH. 0. 0. . 0. 0
        ST. NCOMB31. 1
    NAME=NCOMB32. CONC. STRENGTH. 0. 0. . 0. 0
        ST. NCOMB32. 1
    NAME=NCOMB33. CONC. STRENGTH. 0. 0. . 0. 0
        ST. NCOMB33. 1
    NAME=NCOMB34. CONC. STRENGTH. 0. 0. . 0. 0
        ST. NCOMB34. 1
    NAME=NCOMB35. CONC. STRENGTH. 0. 0. . 0. 0
        ST. NCOMB35. 1

*LOADCONST    ; Load Constribution for Nonlinear Load Case
; NAME=STLDCASE. DESC                                          ; 1st line
;      LCNAME1. LCTYPE1. FACTOR1. LCNAME2. LCTYPE2. FACTOR2. ...   ; from line 2
    NAME=NCOMB1.
        LC1. ST. 1.35. LC2. ST. 1.85. LC4. ST. 1.85. LC6. ST. 1.6
    NAME=NCOMB2.
        LC1. ST. 1.35. LC2. ST. 1.85. LC4. ST. 1.85. LC6. ST. 0.6
    NAME=NCOMB3.
        LC1. ST. 1.35. LC3. ST. 1.85. LC5. ST. 1.85. LC6. ST. 1.6
    NAME=NCOMB4.
        LC1. ST. 1.35. LC3. ST. 1.85. LC5. ST. 1.85. LC6. ST. 0.6
    NAME=NCOMB5.
        LC1. ST. 1.6. LC2. ST. 1.6. LC4. ST. 1.6. LC6. ST. 1.6
    NAME=NCOMB6.
        LC1. ST. 1.6. LC2. ST. 1.6. LC4. ST. 1.6. LC6. ST. 0.6
    NAME=NCOMB7.
        LC1. ST. 1.6. LC3. ST. 1.6. LC5. ST. 1.6. LC6. ST. 1.6
    NAME=NCOMB8.
        LC1. ST. 1.6. LC3. ST. 1.6. LC5. ST. 1.6. LC6. ST. 0.6
    NAME=NCOMB9.
        LC1. ST. 1.35. LC2. ST. 1.4. LC4. ST. 1.4. LC6. ST. 1.6. LC8. ST. 1.35
        LC11. ST. 1.35
    NAME=NCOMB10.
        LC1. ST. 1.35. LC2. ST. 1.4. LC4. ST. 1.4. LC6. ST. 0.6. LC8. ST. 1.35
        LC11. ST. 1.35
    NAME=NCOMB11.
        LC1. ST. 1.35. LC2. ST. 1.4. LC4. ST. 1.4. LC6. ST. 1.6. LC9. ST. 1.35
```

```
      LC10, ST, 1.35, LC11, ST, 1.4
 NAME=NCOMB12,
      LC1, ST, 1.35, LC2, ST, 1.4, LC4, ST, 1.4, LC6, ST, 0.6, LC9, ST, 1.35
      LC10, ST, 1.35, LC11, ST, 1.4
 NAME=NCOMB13,
      LC1, ST, 1.35, LC3, ST, 1.4, LC5, ST, 1.4, LC6, ST, 1.6, LC8, ST, 1.35
      LC11, ST, 1.35
 NAME=NCOMB14,
      LC1, ST, 1.35, LC3, ST, 1.4, LC5, ST, 1.4, LC6, ST, 0.6, LC8, ST, 1.35
      LC11, ST, 1.35
 NAME=NCOMB15,
      LC1, ST, 1.35, LC3, ST, 1.4, LC5, ST, 1.4, LC6, ST, 1.6, LC9, ST, 1.35
      LC10, ST, 1.35, LC11, ST, 1.4
 NAME=NCOMB16,
      LC1, ST, 1.35, LC3, ST, 1.4, LC5, ST, 1.4, LC6, ST, 0.6, LC9, ST, 1.35
      LC10, ST, 1.35, LC11, ST, 1.4
 NAME=NCOMB17,
      LC1, ST, 1.35, LC3, ST, 1.85, LC5, ST, 1.85, LC7, ST, 1.6
 NAME=NCOMB18,
      LC1, ST, 1.35, LC3, ST, 1.85, LC5, ST, 1.85, LC7, ST, 0.6
 NAME=NCOMB19,
      LC1, ST, 1.6, LC3, ST, 1.6, LC5, ST, 1.6, LC7, ST, 1.6
 NAME=NCOMB20,
      LC1, ST, 1.6, LC3, ST, 1.6, LC5, ST, 1.6, LC7, ST, 0.6
 NAME=NCOMB21,
      LC1, ST, 1, LC2, ST, 1, LC4, ST, 1, LC6, ST, 1
 NAME=NCOMB22,
      LC1, ST, 1, LC2, ST, 1, LC4, ST, 1, LC6, ST, 0.5
 NAME=NCOMB23,
      LC1, ST, 1, LC3, ST, 1, LC5, ST, 1, LC6, ST, 1
 NAME=NCOMB24,
      LC1, ST, 1, LC3, ST, 1, LC5, ST, 1, LC6, ST, 0.5
 NAME=NCOMB25,
      LC1, ST, 1, LC2, ST, 1, LC4, ST, 1, LC6, ST, 1, LC8, ST, 1, LC11, ST, 1
 NAME=NCOMB26,
      LC1, ST, 1, LC2, ST, 1, LC4, ST, 1, LC6, ST, 0.5, LC8, ST, 1
      LC11, ST, 1
 NAME=NCOMB27,
      LC1, ST, 1, LC2, ST, 1, LC4, ST, 1, LC6, ST, 1, LC9, ST, 1, LC10, ST, 1
      LC11, ST, 1
 NAME=NCOMB28,
      LC1, ST, 1, LC2, ST, 1, LC4, ST, 1, LC6, ST, 0.5, LC9, ST, 1
      LC10, ST, 1, LC11, ST, 1
 NAME=NCOMB29,
      LC1, ST, 1, LC3, ST, 1, LC5, ST, 1, LC6, ST, 1, LC8, ST, 1, LC11, ST, 1
 NAME=NCOMB30,
      LC1, ST, 1, LC3, ST, 1, LC5, ST, 1, LC6, ST, 0.5, LC8, ST, 1
      LC11, ST, 1
 NAME=NCOMB31,
      LC1, ST, 1, LC3, ST, 1, LC5, ST, 1, LC6, ST, 1, LC9, ST, 1, LC10, ST, 1
      LC11, ST, 1
 NAME=NCOMB32,
      LC1, ST, 1, LC3, ST, 1, LC5, ST, 1, LC6, ST, 0.5, LC9, ST, 1
      LC10, ST, 1, LC11, ST, 1
 NAME=NCOMB33,
      LC1, ST, 1, LC6, ST, 1
 NAME=NCOMB34,
      LC1, ST, 1, LC3, ST, 1, LC5, ST, 1, LC7, ST, 1
 NAME=NCOMB35,
      LC1, ST, 1, LC3, ST, 1, LC5, ST, 1, LC7, ST, 0.5

*LC-COLOR    ; Diagram Color for Load Case
; ANAL, LCNAME, iR1(ALL), iG1(ALL), iB1(ALL), iR2(MIN), iG2(MIN), iB2(MIN), iR3(MAX), iG2(MAX), iB2(MAX)
 CB, COMB1, 163, 255, 160, 210, 210, 210, 255, 192, 87
 CB, COMB2, 148, 87, 255, 255, 192, 87, 0, 128, 255
 CB, COMB3, 78, 0, 255, 255, 87, 128, 212, 160, 255
 CB, COMB4, 255, 255, 87, 0, 192, 128, 0, 128, 192
 CB, COMB5, 255, 0, 128, 0, 128, 255, 163, 160, 255
 CB, COMB6, 192, 192, 0, 210, 210, 210, 78, 0, 255
 CB, COMB7, 163, 255, 160, 85, 192, 0, 93, 255, 87
 CB, COMB8, 85, 0, 192, 255, 255, 87, 192, 128, 0
 CB, COMB9, 0, 157, 192, 255, 160, 255, 255, 255, 255
 CB, COMB10, 0, 128, 192, 192, 128, 0, 163, 160, 255
 CB, COMB11, 255, 192, 160, 255, 87, 128, 210, 210, 210
 CB, COMB12, 0, 128, 192, 0, 128, 255, 255, 255, 255
 CB, COMB13, 192, 192, 192, 0, 192, 192, 85, 192, 0
 CB, COMB14, 212, 160, 255, 255, 87, 87, 192, 0, 192
 CB, COMB15, 192, 72, 0, 255, 87, 128, 163, 255, 160
 CB, COMB16, 192, 0, 192, 192, 192, 192, 192, 0, 128
 CB, COMB17, 148, 87, 255, 163, 160, 255, 0, 128, 255
 CB, COMB18, 212, 160, 255, 78, 0, 255, 160, 192, 255
 CB, COMB19, 255, 192, 87, 255, 87, 87, 255, 192, 87
 CB, COMB20, 255, 255, 87, 160, 192, 255, 148, 87, 255
 CB, COMB21, 163, 255, 160, 255, 255, 87, 0, 128, 57
 CB, COMB22, 255, 255, 255, 192, 128, 0, 128, 192, 0
 CB, COMB23, 192, 0, 192, 0, 128, 128, 255, 160, 255
 CB, COMB24, 0, 157, 192, 0, 192, 192, 93, 255, 87
```

CB. COMB25. 255. 87. 87. 255. 87. 128. 255. 192. 87
CB. COMB26. 255. 0. 192. 160. 192. 255. 192. 0. 128
CB. COMB27. 255. 192. 87. 85. 0. 192. 192. 0. 192
CB. COMB28. 255. 192. 160. 85. 192. 0. 93. 255. 87
CB. COMB29. 128. 192. 0. 160. 255. 255. 255. 0. 128
CB. COMB30. 163. 160. 255. 0. 128. 57. 192. 0. 128
CB. COMB31. 0. 128. 255. 85. 0. 192. 0. 128. 128
CB. COMB32. 192. 72. 0. 78. 0. 255. 255. 0. 192
CB. COMB33. 146. 0. 255. 0. 128. 128. 255. 0. 128
CB. COMB34. 255. 192. 160. 255. 87. 87. 160. 192. 255
CB. COMB35. 0. 128. 128. 0. 192. 192. 148. 87. 255
CB. USD. 0. 128. 255. 255. 0. 192. 192. 0. 192
CB. WSD. 255. 160. 255. 192. 0. 128. 212. 160. 255
ST. LC1. 192. 128. 0. 210. 210. 210. 192. 192. 0
ST. LC2. 0. 128. 255. 192. 192. 0. 192. 192. 192
ST. LC3. 255. 128. 0. 0. 157. 192. 255. 255. 255
ST. LC4. 192. 0. 128. 160. 192. 255. 212. 160. 255
ST. LC5. 163. 255. 160. 255. 255. 255. 0. 128. 192
ST. LC6. 255. 128. 0. 128. 192. 0. 192. 0. 128
ST. LC7. 212. 160. 255. 192. 192. 0. 255. 255. 87
ST. LC8. 255. 192. 160. 146. 0. 255. 192. 192. 0
ST. LC9. 255. 192. 87. 255. 192. 87. 212. 160. 255
ST. LC10. 0. 192. 192. 192. 192. 0. 255. 192. 160
ST. LC11. 255. 255. 87. 255. 0. 192. 128. 192. 0
CBC. NCOMB1. 192. 128. 0. 212. 160. 255. 255. 255. 87
CBC. NCOMB2. 210. 210. 210. 192. 72. 0. 93. 255. 87
CBC. NCOMB3. 78. 0. 255. 148. 87. 255. 255. 255. 255
CBC. NCOMB4. 255. 87. 128. 192. 0. 192. 255. 87. 87
CBC. NCOMB5. 0. 128. 255. 0. 192. 192. 146. 0. 255
CBC. NCOMB6. 210. 210. 210. 163. 255. 160. 255. 87. 128
CBC. NCOMB7. 255. 255. 255. 255. 192. 87. 163. 255. 160
CBC. NCOMB8. 255. 192. 87. 85. 0. 192. 0. 157. 192
CBC. NCOMB9. 255. 87. 128. 255. 192. 160. 148. 87. 255
CBC. NCOMB10. 78. 0. 255. 0. 128. 192. 255. 192. 160
CBC. NCOMB11. 160. 192. 255. 255. 87. 87. 163. 160. 255
CBC. NCOMB12. 160. 255. 255. 255. 192. 87. 0. 192. 128
CBC. NCOMB13. 0. 128. 57. 0. 128. 128. 0. 192. 128
CBC. NCOMB14. 255. 192. 87. 0. 128. 128. 192. 192. 0
CBC. NCOMB15. 160. 192. 255. 160. 192. 255. 93. 255. 87
CBC. NCOMB16. 146. 0. 255. 128. 192. 0. 192. 0. 192
CBC. NCOMB17. 192. 0. 128. 192. 0. 128. 255. 87. 87
CBC. NCOMB18. 210. 210. 210. 78. 0. 255. 163. 160. 255
CBC. NCOMB19. 192. 0. 192. 192. 128. 0. 0. 157. 192
CBC. NCOMB20. 255. 192. 87. 255. 0. 128. 0. 128. 255
CBC. NCOMB21. 85. 192. 0. 192. 192. 192. 0. 192. 128
CBC. NCOMB22. 163. 255. 160. 255. 255. 87. 255. 87. 128
CBC. NCOMB23. 255. 0. 192. 192. 192. 192. 0. 157. 192
CBC. NCOMB24. 255. 87. 128. 192. 0. 192. 0. 128. 192
CBC. NCOMB25. 192. 0. 192. 255. 255. 87. 192. 72. 0
CBC. NCOMB26. 148. 87. 255. 85. 192. 0. 85. 0. 192
CBC. NCOMB27. 163. 160. 255. 163. 160. 255. 160. 192. 255
CBC. NCOMB28. 255. 87. 128. 78. 0. 255. 192. 192. 192
CBC. NCOMB29. 255. 255. 255. 78. 0. 255. 85. 0. 192
CBC. NCOMB30. 93. 255. 87. 192. 0. 128. 78. 0. 255
CBC. NCOMB31. 160. 192. 255. 0. 128. 57. 148. 87. 255
CBC. NCOMB32. 192. 192. 192. 160. 192. 255. 0. 128. 255
CBC. NCOMB33. 128. 192. 0. 85. 192. 0. 146. 0. 255
CBC. NCOMB34. 0. 157. 192. 255. 87. 87. 0. 128. 192
CBC. NCOMB35. 255. 87. 128. 93. 255. 87. 148. 87. 255
ST. NCOMB1. 85. 0. 192. 0. 128. 192. 85. 0. 192
ST. NCOMB2. 192. 192. 192. 0. 128. 128. 255. 128. 0
ST. NCOMB3. 210. 210. 210. 255. 128. 0. 85. 192. 0
ST. NCOMB4. 255. 160. 255. 0. 192. 192. 85. 192. 0
ST. NCOMB5. 255. 160. 255. 93. 255. 87. 0. 192. 192
ST. NCOMB6. 192. 0. 128. 0. 128. 128. 128. 192. 0
ST. NCOMB7. 255. 160. 255. 255. 0. 128. 192. 192. 192
ST. NCOMB8. 210. 210. 210. 212. 160. 255. 255. 255. 255
ST. NCOMB9. 192. 128. 0. 192. 128. 0. 0. 128. 128
ST. NCOMB10. 0. 128. 57. 255. 87. 87. 255. 128. 0
ST. NCOMB11. 255. 87. 128. 192. 192. 0. 255. 192. 87
ST. NCOMB12. 160. 255. 255. 0. 128. 255. 148. 87. 255
ST. NCOMB13. 160. 255. 255. 255. 255. 255. 192. 128. 0
ST. NCOMB14. 0. 192. 128. 160. 192. 255. 160. 192. 255
ST. NCOMB15. 160. 255. 255. 255. 87. 87. 255. 0. 128
ST. NCOMB16. 146. 0. 255. 128. 192. 0. 0. 192. 128
ST. NCOMB17. 212. 160. 255. 163. 255. 160. 160. 255. 255
ST. NCOMB18. 78. 0. 255. 93. 255. 87. 255. 0. 192
ST. NCOMB19. 128. 192. 0. 85. 192. 0. 255. 160. 255
ST. NCOMB20. 93. 255. 87. 0. 128. 128. 255. 87. 87
ST. NCOMB21. 192. 0. 128. 212. 160. 255. 192. 0. 192
ST. NCOMB22. 0. 128. 57. 255. 87. 87. 128. 192. 0
ST. NCOMB23. 0. 128. 192. 0. 128. 128. 192. 0. 192
ST. NCOMB24. 163. 255. 160. 255. 192. 160. 255. 87. 87
ST. NCOMB25. 85. 192. 0. 210. 210. 210. 0. 128. 57
ST. NCOMB26. 212. 160. 255. 163. 160. 255. 0. 192. 192
ST. NCOMB27. 85. 192. 0. 146. 0. 255. 192. 0. 128
ST. NCOMB28. 128. 192. 0. 163. 255. 160. 255. 192. 160

```
 ST. NCOMB29. 0. 128. 128. 0. 192. 128. 128. 192. 0
 ST. NCOMB30. 85. 0. 192. 255. 0. 128. 255. 192. 87
 ST. NCOMB31. 163. 255. 160. 255. 0. 192. 0. 128. 255
 ST. NCOMB32. 192. 0. 192. 192. 72. 0. 0. 192. 128
 ST. NCOMB33. 146. 0. 255. 148. 87. 255. 0. 192. 192
 ST. NCOMB34. 128. 192. 0. 0. 157. 192. 128. 192. 0
 ST. NCOMB35. 255. 128. 0. 255. 255. 87. 255. 0. 128

*ANAL-CTRL
; bARDC. bANRC. iITER. TOL. bCSECF. bTRS. bCRBAR. bTPF. bCSO. bSCS. bCLATS
   YES. YES. 20. 0.001. YES. YES. YES. NO. NO. NO. NO


*ENDDATA
        LC1. ST. 1. LC2. ST. 1. LC4. ST. 1. LC6. ST. 0.5. LC9. ST. 1
        LC10. ST. 1. LC11. ST. 1
   NAME=NCOMB29.
        LC1. ST. 1. LC3. ST. 1. LC5. ST. 1. LC6. ST. 1. LC8. ST. 1. LC11. ST. 1
   NAME=NCOMB30.
        LC1. ST. 1. LC3. ST. 1. LC5. ST. 1. LC6. ST. 0.5. LC8. ST. 1
        LC11. ST. 1
   NAME=NCOMB31.
        LC1. ST. 1. LC3. ST. 1. LC5. ST. 1. LC6. ST. 1. LC9. ST. 1. LC10. ST. 1
        LC11. ST. 1
   NAME=NCOMB32.
        LC1. ST. 1. LC3. ST. 1. LC5. ST. 1. LC6. ST. 0.5. LC9. ST. 1
        LC10. ST. 1. LC11. ST. 1
   NAME=NCOMB33.
        LC1. ST. 1. LC6. ST. 1
   NAME=NCOMB34.
        LC1. ST. 1. LC3. ST. 1. LC5. ST. 1. LC7. ST. 1
   NAME=NCOMB35.
        LC1. ST. 1. LC3. ST. 1. LC5. ST. 1. LC7. ST. 0.5

*LC-COLOR    ; Diagram Color for Load Case
; ANAL. LCNAME. iR1(ALL). iG1(ALL). iB1(ALL). iR2(MIN). iG2(MIN). iB2(MIN). iR3(MAX). iG2(MAX). iB2(MAX)
 CB. COMB1. 255. 0. 128. 255. 0. 128. 148. 87. 255
 CB. COMB2. 160. 192. 255. 255. 192. 160. 0. 128. 192
 CB. COMB3. 146. 0. 255. 160. 192. 255. 192. 128. 0
 CB. COMB4. 85. 192. 0. 212. 160. 255. 128. 192. 0
 CB. COMB5. 192. 0. 128. 0. 128. 57. 212. 160. 255
 CB. COMB6. 0. 128. 192. 212. 160. 255. 212. 160. 255
 CB. COMB7. 255. 0. 128. 0. 192. 192. 160. 192. 255
 CB. COMB8. 255. 192. 87. 192. 0. 192. 212. 160. 255
 CB. COMB9. 163. 160. 255. 192. 128. 0. 78. 0. 255
 CB. COMB10. 0. 128. 192. 85. 192. 0. 85. 0. 192
 CB. COMB11. 160. 192. 255. 93. 255. 87. 0. 157. 192
 CB. COMB12. 192. 192. 0. 255. 160. 255. 148. 87. 255
 CB. COMB13. 255. 128. 0. 255. 192. 87. 192. 0. 128
 CB. COMB14. 0. 128. 57. 255. 0. 128. 212. 160. 255
 CB. COMB15. 0. 192. 192. 0. 192. 128. 192. 0. 128
 CB. COMB16. 0. 128. 128. 255. 255. 87. 255. 128. 0
 CB. COMB17. 85. 192. 0. 255. 0. 192. 163. 255. 160
 CB. COMB18. 0. 128. 192. 128. 192. 0. 128. 192. 0
 CB. COMB19. 163. 160. 255. 146. 0. 255. 255. 87. 128
 CB. COMB20. 163. 255. 160. 160. 192. 255. 192. 192. 192
 CB. COMB21. 160. 255. 255. 0. 192. 128. 128. 192. 0
 CB. COMB22. 163. 255. 160. 192. 192. 192. 160. 192. 255
 CB. COMB23. 255. 192. 87. 0. 128. 255. 255. 87. 87
 CB. COMB24. 93. 255. 87. 192. 192. 0. 146. 0. 255
 CB. COMB25. 255. 0. 192. 255. 0. 192. 192. 72. 0
 CB. COMB26. 0. 192. 128. 255. 255. 87. 0. 128. 57
 CB. COMB27. 0. 157. 192. 0. 128. 255. 255. 0. 128
 CB. COMB28. 255. 192. 160. 0. 157. 192. 0. 192. 192
 CB. COMB29. 255. 128. 0. 192. 192. 0. 0. 192. 128
 CB. COMB30. 255. 160. 255. 0. 157. 192. 255. 87. 87
 CB. COMB31. 0. 192. 192. 160. 192. 255. 148. 87. 255
 CB. COMB32. 255. 128. 0. 146. 0. 255. 255. 255. 255
 CB. COMB33. 0. 157. 192. 0. 128. 57. 192. 72. 0
 CB. COMB34. 163. 255. 160. 212. 160. 255. 128. 192. 0
 CB. COMB35. 93. 255. 87. 0. 192. 128. 85. 192. 0
 CB. USD. 192. 192. 192. 160. 192. 255. 255. 128. 0
 CB. WSD. 0. 128. 57. 163. 255. 160. 160. 255. 255
 ST. LC1. 255. 255. 255. 163. 160. 255. 0. 128. 255
 ST. LC2. 255. 192. 160. 255. 0. 128. 0. 192. 192
 ST. LC3. 146. 0. 255. 78. 0. 255. 255. 192. 87
 ST. LC4. 255. 192. 87. 255. 128. 0. 0. 192. 128
 ST. LC5. 192. 192. 0. 0. 157. 192. 163. 160. 255
 ST. LC6. 255. 87. 128. 255. 87. 128. 255. 87. 87
 ST. LC7. 0. 128. 192. 255. 160. 255. 0. 128. 57
 ST. LC8. 255. 255. 87. 255. 0. 128. 192. 0. 192
 ST. LC9. 160. 255. 255. 255. 0. 192. 163. 255. 160
 ST. LC10. 78. 0. 255. 163. 160. 255. 255. 160. 255
 ST. LC11. 128. 192. 0. 255. 87. 128. 192. 192. 0
 CBC. NCOMB1. 160. 255. 255. 255. 255. 87. 0. 192. 128
 CBC. NCOMB2. 255. 255. 87. 0. 128. 255. 0. 128. 192
 CBC. NCOMB3. 0. 128. 57. 163. 160. 255. 255. 255. 87
```

```
CBC. NCOMB4. 93. 255. 87. 163. 160. 255. 146. 0. 255
CBC. NCOMB5. 163. 160. 255. 255. 192. 160. 78. 0. 255
CBC. NCOMB6. 0. 157. 192. 148. 87. 255. 192. 128. 0
CBC. NCOMB7. 85. 0. 192. 212. 160. 255. 128. 192. 0
CBC. NCOMB8. 192. 0. 128. 212. 160. 255. 0. 192. 128
CBC. NCOMB9. 255. 0. 128. 78. 0. 255. 160. 192. 255
CBC. NCOMB10. 255. 128. 0. 0. 128. 57. 255. 0. 128
CBC. NCOMB11. 163. 255. 160. 93. 255. 87. 255. 0. 192
CBC. NCOMB12. 212. 160. 255. 192. 0. 192. 0. 128. 255
CBC. NCOMB13. 255. 87. 128. 160. 192. 255. 146. 0. 255
CBC. NCOMB14. 192. 72. 0. 78. 0. 255. 255. 192. 160
CBC. NCOMB15. 85. 0. 192. 255. 255. 255. 78. 0. 255
CBC. NCOMB16. 212. 160. 255. 148. 87. 255. 128. 192. 0
CBC. NCOMB17. 0. 128. 192. 255. 87. 128. 0. 128. 128
CBC. NCOMB18. 0. 128. 255. 255. 0. 192. 255. 128. 0
CBC. NCOMB19. 128. 192. 0. 0. 128. 128. 85. 0. 192
CBC. NCOMB20. 255. 0. 192. 93. 255. 87. 255. 87. 87
CBC. NCOMB21. 255. 0. 128. 78. 0. 255. 148. 87. 255
CBC. NCOMB22. 192. 192. 0. 0. 128. 255. 85. 192. 0
CBC. NCOMB23. 163. 255. 160. 148. 87. 255. 192. 192. 192
CBC. NCOMB24. 192. 128. 0. 192. 192. 192. 192. 0. 128
CBC. NCOMB25. 192. 192. 192. 0. 192. 192. 0. 128. 255
CBC. NCOMB26. 255. 87. 128. 255. 87. 128. 128. 192. 0
CBC. NCOMB27. 255. 87. 128. 0. 128. 57. 255. 87. 128
CBC. NCOMB28. 85. 192. 0. 0. 128. 255. 210. 210. 210
CBC. NCOMB29. 163. 255. 160. 0. 192. 192. 192. 192. 0
CBC. NCOMB30. 93. 255. 87. 85. 192. 0. 255. 192. 160
CBC. NCOMB31. 146. 0. 255. 85. 192. 0. 255. 192. 160
CBC. NCOMB32. 146. 0. 255. 255. 192. 160. 78. 0. 255
CBC. NCOMB33. 255. 255. 255. 78. 0. 255. 163. 160. 255
CBC. NCOMB34. 163. 255. 160. 85. 192. 0. 255. 192. 87
CBC. NCOMB35. 163. 255. 160. 192. 128. 0. 255. 128. 0
ST. NCOMB1. 192. 192. 192. 160. 255. 255. 255. 192. 160
ST. NCOMB2. 0. 128. 128. 93. 255. 87. 192. 192. 192
ST. NCOMB3. 0. 128. 192. 212. 160. 255. 255. 160. 255
ST. NCOMB4. 255. 0. 192. 0. 128. 57. 255. 255. 255
ST. NCOMB5. 0. 192. 128. 0. 128. 192. 192. 0. 128
ST. NCOMB6. 192. 72. 0. 0. 128. 57. 85. 192. 0
ST. NCOMB7. 210. 210. 210. 192. 128. 0. 255. 0. 128
ST. NCOMB8. 255. 0. 128. 148. 87. 255. 0. 128. 57
ST. NCOMB9. 255. 192. 87. 0. 128. 255. 255. 192. 87
ST. NCOMB10. 192. 192. 192. 255. 160. 255. 128. 192. 0
ST. NCOMB11. 0. 192. 192. 146. 0. 255. 255. 255. 87
ST. NCOMB12. 255. 192. 160. 0. 157. 192. 255. 87. 87
ST. NCOMB13. 128. 192. 0. 85. 192. 0. 0. 192. 192
ST. NCOMB14. 255. 87. 87. 192. 128. 0. 192. 192. 192
ST. NCOMB15. 210. 210. 210. 160. 192. 255. 192. 128. 0
ST. NCOMB16. 78. 0. 255. 255. 128. 0. 78. 0. 255
ST. NCOMB17. 255. 192. 160. 0. 192. 128. 192. 128. 0
ST. NCOMB18. 255. 192. 160. 255. 0. 192. 0. 192. 192
ST. NCOMB19. 255. 87. 128. 163. 255. 160. 255. 87. 87
ST. NCOMB20. 192. 192. 0. 85. 0. 192. 255. 128. 0
ST. NCOMB21. 163. 160. 255. 148. 87. 255. 85. 0. 192
ST. NCOMB22. 255. 192. 160. 146. 0. 255. 255. 87. 87
ST. NCOMB23. 192. 0. 192. 0. 192. 128. 0. 157. 192
ST. NCOMB24. 148. 87. 255. 163. 160. 255. 255. 192. 87
ST. NCOMB25. 212. 160. 255. 148. 87. 255. 255. 87. 87
ST. NCOMB26. 192. 128. 0. 0. 128. 128. 0. 128. 57
ST. NCOMB27. 192. 0. 192. 0. 128. 255. 255. 192. 87
ST. NCOMB28. 0. 128. 128. 192. 192. 192. 85. 0. 192
ST. NCOMB29. 255. 192. 160. 0. 157. 192. 163. 255. 160
ST. NCOMB30. 255. 0. 128. 192. 0. 128. 0. 128. 128
ST. NCOMB31. 255. 87. 87. 85. 192. 0. 192. 72. 0
ST. NCOMB32. 160. 255. 255. 0. 157. 192. 192. 192. 192
ST. NCOMB33. 146. 0. 255. 255. 192. 87. 192. 72. 0
ST. NCOMB34. 255. 192. 87. 255. 128. 0. 255. 0. 192
ST. NCOMB35. 85. 192. 0. 210. 210. 210. 192. 192. 0

*ANAL-CTRL
; bARDC. bANRC. iITER. TOL. bCSECF. bTRS. bCRBAR. bTPF. bCSO. bSCS. bCLATS
   YES. YES. 20. 0.001. YES. YES. YES. NO. NO. NO. NO

*ENDDATA
```

8.OUPUT

FRAME ELEMENT FORCES

Elem	Load	Part	Axial (kN)	Shear-y (kN)	Shear-z (kN)	Torsion (kN·m)	Moment-y (kN·m)	Moment-z (kN·m)
1	USD(max)	I[1]	50.260	0.000	-302.000	0.00E+00	-140.300	0.000
1	USD(max)	1/4	50.260	0.000	-305.830	0.00E+00	-84.390	0.000
1	USD(max)	2/4	50.260	0.000	-309.660	0.00E+00	-25.660	0.000
1	USD(max)	3/4	50.260	0.000	-313.490	0.00E+00	41.850	0.000
1	USD(max)	J[2]	50.260	0.000	-317.320	0.00E+00	110.160	0.000
1	USD(min)	I[1]	-264.100	0.000	-376.280	0.00E+00	-261.690	0.000
1	USD(min)	1/4	-264.100	0.000	-380.810	0.00E+00	-196.550	0.000
1	USD(min)	2/4	-264.100	0.000	-385.350	0.00E+00	-135.940	0.000
1	USD(min)	3/4	-264.100	0.000	-389.890	0.00E+00	-75.010	0.000
1	USD(min)	J[2]	-264.100	0.000	-394.430	0.00E+00	-16.480	0.000
1	WSD(max)	I[1]	30.100	0.000	-195.530	0.00E+00	-106.770	0.000
1	WSD(max)	1/4	30.100	0.000	-198.370	0.00E+00	-65.570	0.000
1	WSD(max)	2/4	30.100	0.000	-201.200	0.00E+00	-23.870	0.000
1	WSD(max)	3/4	30.100	0.000	-204.040	0.00E+00	18.340	0.000
1	WSD(max)	J[2]	30.100	0.000	-206.880	0.00E+00	61.050	0.000
1	WSD(min)	I[1]	-161.960	0.000	-235.170	0.00E+00	-163.560	0.000
1	WSD(min)	1/4	-161.960	0.000	-238.010	0.00E+00	-121.410	0.000
1	WSD(min)	2/4	-161.960	0.000	-240.850	0.00E+00	-78.770	0.000
1	WSD(min)	3/4	-161.960	0.000	-243.680	0.00E+00	-35.840	0.000
1	WSD(min)	J[2]	-161.960	0.000	-246.520	0.00E+00	5.680	0.000
2	USD(max)	I[2]	50.260	0.000	-199.000	0.00E+00	110.160	0.000
2	USD(max)	1/4	50.260	0.000	-201.610	0.00E+00	138.770	0.000
2	USD(max)	2/4	50.260	0.000	-204.210	0.00E+00	167.760	0.000
2	USD(max)	3/4	50.260	0.000	-206.820	0.00E+00	197.130	0.000
2	USD(max)	J[3]	50.260	0.000	-209.430	0.00E+00	226.860	0.000
2	USD(min)	I[2]	-264.100	0.000	-279.650	0.00E+00	-16.480	0.000
2	USD(min)	1/4	-264.100	0.000	-282.740	0.00E+00	9.530	0.000
2	USD(min)	2/4	-264.100	0.000	-285.830	0.00E+00	35.860	0.000
2	USD(min)	3/4	-264.100	0.000	-288.920	0.00E+00	62.500	0.000
2	USD(min)	J[3]	-264.100	0.000	-292.010	0.00E+00	89.460	0.000
2	WSD(max)	I[2]	30.100	0.000	-124.700	0.00E+00	61.050	0.000
2	WSD(max)	1/4	30.100	0.000	-126.630	0.00E+00	78.950	0.000
2	WSD(max)	2/4	30.100	0.000	-128.560	0.00E+00	97.080	0.000
2	WSD(max)	3/4	30.100	0.000	-130.500	0.00E+00	115.440	0.000
2	WSD(max)	J[3]	30.100	0.000	-132.430	0.00E+00	134.040	0.000
2	WSD(min)	I[2]	-161.960	0.000	-174.780	0.00E+00	5.680	0.000
2	WSD(min)	1/4	-161.960	0.000	-176.710	0.00E+00	23.840	0.000
2	WSD(min)	2/4	-161.960	0.000	-178.650	0.00E+00	42.240	0.000
2	WSD(min)	3/4	-161.960	0.000	-180.580	0.00E+00	60.880	0.000
2	WSD(min)	J[3]	-161.960	0.000	-182.510	0.00E+00	79.740	0.000
3	USD(max)	I[3]	50.260	0.000	-116.970	0.00E+00	226.860	0.000
3	USD(max)	1/4	50.260	0.000	-119.580	0.00E+00	243.760	0.000
3	USD(max)	2/4	50.260	0.000	-122.180	0.00E+00	261.030	0.000
3	USD(max)	3/4	50.260	0.000	-124.790	0.00E+00	278.670	0.000
3	USD(max)	J[4]	50.260	0.000	-127.400	0.00E+00	296.690	0.000
3	USD(min)	I[3]	-264.100	0.000	-203.010	0.00E+00	89.460	0.000
3	USD(min)	1/4	-264.100	0.000	-206.100	0.00E+00	106.320	0.000
3	USD(min)	2/4	-264.100	0.000	-209.190	0.00E+00	123.490	0.000
3	USD(min)	3/4	-264.100	0.000	-212.280	0.00E+00	139.960	0.000
3	USD(min)	J[4]	-264.100	0.000	-215.370	0.00E+00	156.610	0.000
3	WSD(max)	I[3]	30.100	0.000	-73.100	0.00E+00	134.040	0.000
3	WSD(max)	1/4	30.100	0.000	-75.030	0.00E+00	144.610	0.000
3	WSD(max)	2/4	30.100	0.000	-76.960	0.00E+00	155.410	0.000
3	WSD(max)	3/4	30.100	0.000	-78.890	0.00E+00	166.440	0.000
3	WSD(max)	J[4]	30.100	0.000	-80.830	0.00E+00	177.710	0.000
3	WSD(min)	I[3]	-161.960	0.000	-126.880	0.00E+00	79.740	0.000
3	WSD(min)	1/4	-161.960	0.000	-128.810	0.00E+00	91.270	0.000
3	WSD(min)	2/4	-161.960	0.000	-130.750	0.00E+00	103.040	0.000
3	WSD(min)	3/4	-161.960	0.000	-132.680	0.00E+00	112.770	0.000
3	WSD(min)	J[4]	-161.960	0.000	-134.610	0.00E+00	122.460	0.000
4	USD(max)	I[4]	50.260	0.000	-35.450	0.00E+00	296.690	0.000
4	USD(max)	1/4	50.260	0.000	-38.060	0.00E+00	301.930	0.000
4	USD(max)	2/4	50.260	0.000	-40.670	0.00E+00	307.560	0.000
4	USD(max)	3/4	50.260	0.000	-43.280	0.00E+00	316.110	0.000
4	USD(max)	J[5]	50.260	0.000	-45.880	0.00E+00	327.600	0.000
4	USD(min)	I[4]	-264.100	0.000	-120.550	0.00E+00	156.610	0.000
4	USD(min)	1/4	-264.100	0.000	-123.640	0.00E+00	163.260	0.000
4	USD(min)	2/4	-264.100	0.000	-126.730	0.00E+00	170.230	0.000
4	USD(min)	3/4	-264.100	0.000	-129.820	0.00E+00	177.510	0.000
4	USD(min)	J[5]	-264.100	0.000	-132.910	0.00E+00	185.100	0.000
4	WSD(max)	I[4]	30.100	0.000	-21.760	0.00E+00	177.710	0.000
4	WSD(max)	1/4	30.100	0.000	-23.690	0.00E+00	180.990	0.000
4	WSD(max)	2/4	30.100	0.000	-25.620	0.00E+00	187.860	0.000
4	WSD(max)	3/4	30.100	0.000	-27.550	0.00E+00	195.360	0.000

Elem	Load	Part	Axial (kN)	Shear-y (kN)	Shear-z (kN)	Torsion (kN · m)	Moment-y (kN · m)	Moment-z (kN · m)
4	WSD(max)	J[5]	30.100	0.000	-29.490	0.00E+00	203.100	0.000
4	WSD(min)	I[4]	-161.960	0.000	-75.350	0.00E+00	122.460	0.000
4	WSD(min)	1/4	-161.960	0.000	-77.280	0.00E+00	125.210	0.000
4	WSD(min)	2/4	-161.960	0.000	-79.210	0.00E+00	128.200	0.000
4	WSD(min)	3/4	-161.960	0.000	-81.140	0.00E+00	131.430	0.000
4	WSD(min)	J[5]	-161.960	0.000	-83.070	0.00E+00	134.890	0.000
5	USD(max)	I[5]	50.260	0.000	54.290	0.00E+00	327.600	0.000
5	USD(max)	1/4	50.260	0.000	51.200	0.00E+00	327.240	0.000
5	USD(max)	2/4	50.260	0.000	48.110	0.00E+00	327.250	0.000
5	USD(max)	3/4	50.260	0.000	45.020	0.00E+00	327.730	0.000
5	USD(max)	J[6]	50.260	0.000	41.930	0.00E+00	332.910	0.000
5	USD(min)	I[5]	-264.100	0.000	-42.450	0.00E+00	185.100	0.000
5	USD(min)	1/4	-264.100	0.000	-45.050	0.00E+00	182.600	0.000
5	USD(min)	2/4	-264.100	0.000	-47.660	0.00E+00	180.410	0.000
5	USD(min)	3/4	-264.100	0.000	-50.270	0.00E+00	178.540	0.000
5	USD(min)	J[6]	-264.100	0.000	-52.870	0.00E+00	176.980	0.000
5	WSD(max)	I[5]	30.100	0.000	33.930	0.00E+00	203.100	0.000
5	WSD(max)	1/4	30.100	0.000	32.000	0.00E+00	203.430	0.000
5	WSD(max)	2/4	30.100	0.000	30.070	0.00E+00	203.990	0.000
5	WSD(max)	3/4	30.100	0.000	28.140	0.00E+00	204.830	0.000
5	WSD(max)	J[6]	30.100	0.000	26.200	0.00E+00	208.070	0.000
5	WSD(min)	I[5]	-161.960	0.000	-19.960	0.00E+00	134.890	0.000
5	WSD(min)	1/4	-161.960	0.000	-21.890	0.00E+00	131.430	0.000
5	WSD(min)	2/4	-161.960	0.000	-23.820	0.00E+00	128.200	0.000
5	WSD(min)	3/4	-161.960	0.000	-25.750	0.00E+00	125.210	0.000
5	WSD(min)	J[6]	-161.960	0.000	-27.680	0.00E+00	122.460	0.000
6	USD(max)	I[6]	50.260	0.000	150.680	0.00E+00	332.910	0.000
6	USD(max)	1/4	50.260	0.000	147.590	0.00E+00	325.420	0.000
6	USD(max)	2/4	50.260	0.000	144.500	0.00E+00	318.310	0.000
6	USD(max)	3/4	50.260	0.000	141.410	0.00E+00	311.580	0.000
6	USD(max)	J[7]	50.260	0.000	138.320	0.00E+00	305.210	0.000
6	USD(min)	I[6]	-264.100	0.000	41.290	0.00E+00	176.980	0.000
6	USD(min)	1/4	-264.100	0.000	38.690	0.00E+00	165.190	0.000
6	USD(min)	2/4	-264.100	0.000	36.080	0.00E+00	153.630	0.000
6	USD(min)	3/4	-264.100	0.000	33.470	0.00E+00	138.900	0.000
6	USD(min)	J[7]	-264.100	0.000	30.870	0.00E+00	124.500	0.000
6	WSD(max)	I[6]	30.100	0.000	94.170	0.00E+00	208.070	0.000
6	WSD(max)	1/4	30.100	0.000	92.240	0.00E+00	203.390	0.000
6	WSD(max)	2/4	30.100	0.000	90.310	0.00E+00	198.940	0.000
6	WSD(max)	3/4	30.100	0.000	88.380	0.00E+00	194.730	0.000
6	WSD(max)	J[7]	30.100	0.000	86.450	0.00E+00	190.760	0.000
6	WSD(min)	I[6]	-161.960	0.000	39.550	0.00E+00	122.460	0.000
6	WSD(min)	1/4	-161.960	0.000	37.620	0.00E+00	112.770	0.000
6	WSD(min)	2/4	-161.960	0.000	35.690	0.00E+00	103.330	0.000
6	WSD(min)	3/4	-161.960	0.000	33.760	0.00E+00	94.110	0.000
6	WSD(min)	J[7]	-161.960	0.000	31.830	0.00E+00	85.130	0.000
7	USD(max)	I[7]	50.260	0.000	247.560	0.00E+00	305.210	0.000
7	USD(max)	1/4	50.260	0.000	244.470	0.00E+00	285.330	0.000
7	USD(max)	2/4	50.260	0.000	241.380	0.00E+00	265.820	0.000
7	USD(max)	3/4	50.260	0.000	238.290	0.00E+00	246.690	0.000
7	USD(max)	J[8]	50.260	0.000	235.210	0.00E+00	227.930	0.000
7	USD(min)	I[7]	-264.100	0.000	132.150	0.00E+00	124.500	0.000
7	USD(min)	1/4	-264.100	0.000	129.540	0.00E+00	99.170	0.000
7	USD(min)	2/4	-264.100	0.000	126.940	0.00E+00	74.160	0.000
7	USD(min)	3/4	-264.100	0.000	124.330	0.00E+00	49.470	0.000
7	USD(min)	J[8]	-264.100	0.000	121.720	0.00E+00	25.090	0.000
7	WSD(max)	I[7]	30.100	0.000	154.730	0.00E+00	190.760	0.000
7	WSD(max)	1/4	30.100	0.000	152.800	0.00E+00	178.330	0.000
7	WSD(max)	2/4	30.100	0.000	150.870	0.00E+00	166.140	0.000
7	WSD(max)	3/4	30.100	0.000	148.930	0.00E+00	154.180	0.000
7	WSD(max)	J[8]	30.100	0.000	147.000	0.00E+00	142.460	0.000
7	WSD(min)	I[7]	-161.960	0.000	103.460	0.00E+00	85.130	0.000
7	WSD(min)	1/4	-161.960	0.000	101.530	0.00E+00	69.190	0.000
7	WSD(min)	2/4	-161.960	0.000	99.590	0.00E+00	53.480	0.000
7	WSD(min)	3/4	-161.960	0.000	97.660	0.00E+00	38.010	0.000
7	WSD(min)	J[8]	-161.960	0.000	95.730	0.00E+00	22.780	0.000
8	USD(max)	I[8]	50.260	0.000	386.570	0.00E+00	227.930	0.000
8	USD(max)	1/4	50.260	0.000	382.030	0.00E+00	171.120	0.000
8	USD(max)	2/4	50.260	0.000	377.500	0.00E+00	117.300	0.000
8	USD(max)	3/4	50.260	0.000	372.960	0.00E+00	70.660	0.000
8	USD(max)	J[9]	50.260	0.000	368.420	0.00E+00	24.690	0.000
8	USD(min)	I[8]	-264.100	0.000	271.440	0.00E+00	25.090	0.000
8	USD(min)	1/4	-264.100	0.000	267.610	0.00E+00	-33.020	0.000
8	USD(min)	2/4	-264.100	0.000	263.780	0.00E+00	-92.810	0.000
8	USD(min)	3/4	-264.100	0.000	259.950	0.00E+00	-155.140	0.000
8	USD(min)	J[9]	-264.100	0.000	256.120	0.00E+00	-221.170	0.000
8	WSD(max)	I[8]	30.100	0.000	241.610	0.00E+00	142.460	0.000
8	WSD(max)	1/4	30.100	0.000	238.770	0.00E+00	106.950	0.000
8	WSD(max)	2/4	30.100	0.000	235.930	0.00E+00	71.960	0.000
8	WSD(max)	3/4	30.100	0.000	233.100	0.00E+00	37.460	0.000

Elem	Load	Part	Axial (kN)	Shear-y (kN)	Shear-z (kN)	Torsion (kN · m)	Moment-y (kN · m)	Moment-z (kN · m)
8	WSD(max)	J[9]	30.100	0.000	230.260	0.00E+00	3.480	0.000
8	WSD(min)	I[8]	-161.960	0.000	200.730	0.00E+00	22.780	0.000
8	WSD(min)	1/4	-161.960	0.000	197.900	0.00E+00	-13.820	0.000
8	WSD(min)	2/4	-161.960	0.000	195.060	0.00E+00	-55.190	0.000
8	WSD(min)	3/4	-161.960	0.000	192.220	0.00E+00	-96.970	0.000
8	WSD(min)	J[9]	-161.960	0.000	189.390	0.00E+00	-138.230	0.000
9	USD(max)	I[1]	-419.070	0.000	-86.470	0.00E+00	-164.680	0.000
9	USD(max)	1/4	-414.980	0.000	-80.410	0.00E+00	-149.210	0.000
9	USD(max)	2/4	-410.890	0.000	-74.480	0.00E+00	-134.250	0.000
9	USD(max)	3/4	-406.790	0.000	-68.680	0.00E+00	-104.780	0.000
9	USD(max)	J[10]	-402.700	0.000	-63.020	0.00E+00	-78.570	0.000
9	USD(min)	I[1]	-531.270	0.000	-260.170	0.00E+00	-283.120	0.000
9	USD(min)	1/4	-526.420	0.000	-238.560	0.00E+00	-257.360	0.000
9	USD(min)	2/4	-521.570	0.000	-217.320	0.00E+00	-233.590	0.000
9	USD(min)	3/4	-516.720	0.000	-196.440	0.00E+00	-211.780	0.000
9	USD(min)	J[10]	-511.870	0.000	-175.920	0.00E+00	-191.850	0.000
9	WSD(max)	I[1]	-283.600	0.000	-63.850	0.00E+00	-123.210	0.000
9	WSD(max)	1/4	-280.570	0.000	-59.250	0.00E+00	-102.860	0.000
9	WSD(max)	2/4	-277.530	0.000	-54.760	0.00E+00	-84.420	0.000
9	WSD(max)	3/4	-274.500	0.000	-50.390	0.00E+00	-67.870	0.000
9	WSD(max)	J[10]	-271.470	0.000	-46.130	0.00E+00	-53.170	0.000
9	WSD(min)	I[1]	-332.050	0.000	-158.070	0.00E+00	-176.950	0.000
9	WSD(min)	1/4	-329.010	0.000	-144.780	0.00E+00	-160.850	0.000
9	WSD(min)	2/4	-325.980	0.000	-131.720	0.00E+00	-146.000	0.000
9	WSD(min)	3/4	-322.950	0.000	-118.880	0.00E+00	-132.360	0.000
9	WSD(min)	J[10]	-319.920	0.000	-106.260	0.00E+00	-119.910	0.000
10	USD(max)	I[9]	-409.370	0.000	50.260	0.00E+00	-19.110	0.000
10	USD(max)	1/4	-405.280	0.000	50.260	0.00E+00	-27.280	0.000
10	USD(max)	2/4	-401.190	0.000	50.260	0.00E+00	-35.450	0.000
10	USD(max)	3/4	-397.090	0.000	50.260	0.00E+00	-43.610	0.000
10	USD(max)	J[11]	-393.000	0.000	50.260	0.00E+00	-46.570	0.000
10	USD(min)	I[9]	-531.270	0.000	-240.430	0.00E+00	-228.290	0.000
10	USD(min)	1/4	-526.420	0.000	-218.830	0.00E+00	-191.690	0.000
10	USD(min)	2/4	-521.570	0.000	-197.590	0.00E+00	-159.480	0.000
10	USD(min)	3/4	-516.720	0.000	-176.700	0.00E+00	-146.590	0.000
10	USD(min)	J[11]	-511.870	0.000	-156.180	0.00E+00	-135.160	0.000
10	WSD(max)	I[9]	-283.600	0.000	30.100	0.00E+00	-27.680	0.000
10	WSD(max)	1/4	-280.570	0.000	30.100	0.00E+00	-32.570	0.000
10	WSD(max)	2/4	-277.530	0.000	30.100	0.00E+00	-37.460	0.000
10	WSD(max)	3/4	-274.500	0.000	30.100	0.00E+00	-42.360	0.000
10	WSD(max)	J[11]	-271.470	0.000	30.100	0.00E+00	-43.990	0.000
10	WSD(min)	I[9]	-332.050	0.000	-147.400	0.00E+00	-142.680	0.000
10	WSD(min)	1/4	-329.010	0.000	-134.110	0.00E+00	-119.810	0.000
10	WSD(min)	2/4	-325.980	0.000	-121.050	0.00E+00	-99.560	0.000
10	WSD(min)	3/4	-322.950	0.000	-108.210	0.00E+00	-89.390	0.000
10	WSD(min)	J[11]	-319.920	0.000	-95.600	0.00E+00	-80.360	0.000
11	USD(max)	I[10]	-402.700	0.000	-63.020	0.00E+00	-78.570	0.000
11	USD(max)	1/4	-399.720	0.000	-56.400	0.00E+00	-57.220	0.000
11	USD(max)	2/4	-396.750	0.000	-48.640	0.00E+00	-38.560	0.000
11	USD(max)	3/4	-393.770	0.000	-41.000	0.00E+00	-22.540	0.000
11	USD(max)	J[12]	-390.790	0.000	-33.470	0.00E+00	-9.110	0.000
11	USD(min)	I[10]	-511.870	0.000	-175.920	0.00E+00	-191.850	0.000
11	USD(min)	1/4	-508.340	0.000	-157.290	0.00E+00	-175.090	0.000
11	USD(min)	2/4	-504.810	0.000	-138.980	0.00E+00	-160.710	0.000
11	USD(min)	3/4	-501.290	0.000	-120.970	0.00E+00	-153.140	0.000
11	USD(min)	J[12]	-497.760	0.000	-103.260	0.00E+00	-146.290	0.000
11	WSD(max)	I[10]	-271.470	0.000	-46.130	0.00E+00	-53.170	0.000
11	WSD(max)	1/4	-269.260	0.000	-42.290	0.00E+00	-41.200	0.000
11	WSD(max)	2/4	-267.060	0.000	-38.560	0.00E+00	-30.750	0.000
11	WSD(max)	3/4	-264.850	0.000	-33.290	0.00E+00	-21.780	0.000
11	WSD(max)	J[12]	-262.650	0.000	-27.220	0.00E+00	-14.260	0.000
11	WSD(min)	I[10]	-319.920	0.000	-106.260	0.00E+00	-119.910	0.000
11	WSD(min)	1/4	-317.710	0.000	-94.820	0.00E+00	-109.430	0.000
11	WSD(min)	2/4	-315.510	0.000	-83.570	0.00E+00	-100.330	0.000
11	WSD(min)	3/4	-313.300	0.000	-72.510	0.00E+00	-94.820	0.000
11	WSD(min)	J[12]	-311.100	0.000	-61.640	0.00E+00	-89.850	0.000
12	USD(max)	I[11]	-393.000	0.000	50.260	0.00E+00	-46.570	0.000
12	USD(max)	1/4	-390.020	0.000	50.260	0.00E+00	-30.280	0.000
12	USD(max)	2/4	-387.050	0.000	50.260	0.00E+00	-16.400	0.000
12	USD(max)	3/4	-384.070	0.000	50.260	0.00E+00	-4.900	0.000
12	USD(max)	J[13]	-381.090	0.000	50.260	0.00E+00	4.270	0.000
12	USD(min)	I[11]	-511.870	0.000	-156.180	0.00E+00	-135.160	0.000
12	USD(min)	1/4	-508.340	0.000	-137.560	0.00E+00	-125.890	0.000
12	USD(min)	2/4	-504.810	0.000	-119.240	0.00E+00	-117.840	0.000
12	USD(min)	3/4	-501.290	0.000	-101.230	0.00E+00	-119.140	0.000
12	USD(min)	J[13]	-497.760	0.000	-83.530	0.00E+00	-123.770	0.000
12	WSD(max)	I[11]	-271.470	0.000	30.100	0.00E+00	-43.990	0.000
12	WSD(max)	1/4	-269.260	0.000	30.100	0.00E+00	-33.610	0.000
12	WSD(max)	2/4	-267.060	0.000	30.100	0.00E+00	-24.750	0.000
12	WSD(max)	3/4	-264.850	0.000	30.100	0.00E+00	-17.360	0.000

Elem	Load	Part	Axial (kN)	Shear-y (kN)	Shear-z (kN)	Torsion (kN · m)	Moment-y (kN · m)	Moment-z (kN · m)
12	WSD(max)	J[13]	-262.650	0.000	30.100	0.00E+00	-11.430	0.000
12	WSD(min)	I[11]	-319.920	0.000	-95.600	0.00E+00	-80.360	0.000
12	WSD(min)	1/4	-317.710	0.000	-84.150	0.00E+00	-73.030	0.000
12	WSD(min)	2/4	-315.510	0.000	-72.900	0.00E+00	-68.510	0.000
12	WSD(min)	3/4	-313.300	0.000	-61.840	0.00E+00	-71.730	0.000
12	WSD(min)	J[13]	-311.100	0.000	-50.980	0.00E+00	-74.950	0.000
13	USD(max)	I[12]	-390.790	0.000	-33.470	0.00E+00	-9.110	0.000
13	USD(max)	1/4	-387.820	0.000	-26.050	0.00E+00	1.770	0.000
13	USD(max)	2/4	-384.840	0.000	-18.750	0.00E+00	10.540	0.000
13	USD(max)	3/4	-381.860	0.000	-11.400	0.00E+00	18.700	0.000
13	USD(max)	J[14]	-378.890	0.000	-4.070	0.00E+00	24.460	0.000
13	USD(min)	I[12]	-497.760	0.000	-103.260	0.00E+00	-146.290	0.000
13	USD(min)	1/4	-494.230	0.000	-85.860	0.00E+00	-140.140	0.000
13	USD(min)	2/4	-490.700	0.000	-68.770	0.00E+00	-134.680	0.000
13	USD(min)	3/4	-487.170	0.000	-55.310	0.00E+00	-129.900	0.000
13	USD(min)	J[14]	-483.650	0.000	-46.890	0.00E+00	-125.770	0.000
13	WSD(max)	I[12]	-262.650	0.000	-27.220	0.00E+00	-14.260	0.000
13	WSD(max)	1/4	-260.440	0.000	-21.250	0.00E+00	-8.170	0.000
13	WSD(max)	2/4	-258.240	0.000	-15.380	0.00E+00	-3.480	0.000
13	WSD(max)	3/4	-256.030	0.000	-9.600	0.00E+00	-0.160	0.000
13	WSD(max)	J[14]	-253.830	0.000	-3.920	0.00E+00	1.820	0.000
13	WSD(min)	I[12]	-311.100	0.000	-61.640	0.00E+00	-89.850	0.000
13	WSD(min)	1/4	-308.890	0.000	-50.970	0.00E+00	-85.410	0.000
13	WSD(min)	2/4	-306.690	0.000	-40.480	0.00E+00	-81.470	0.000
13	WSD(min)	3/4	-304.480	0.000	-32.270	0.00E+00	-78.030	0.000
13	WSD(min)	J[14]	-302.280	0.000	-27.200	0.00E+00	-75.080	0.000
14	USD(max)	I[13]	-381.090	0.000	50.260	0.00E+00	4.270	0.000
14	USD(max)	1/4	-378.120	0.000	50.260	0.00E+00	11.160	0.000
14	USD(max)	2/4	-375.140	0.000	50.260	0.00E+00	15.960	0.000
14	USD(max)	3/4	-372.160	0.000	50.260	0.00E+00	19.140	0.000
14	USD(max)	J[15]	-369.190	0.000	50.260	0.00E+00	20.170	0.000
14	USD(min)	I[13]	-497.760	0.000	-83.530	0.00E+00	-123.770	0.000
14	USD(min)	1/4	-494.230	0.000	-66.130	0.00E+00	-128.390	0.000
14	USD(min)	2/4	-490.700	0.000	-49.040	0.00E+00	-133.020	0.000
14	USD(min)	3/4	-487.170	0.000	-32.250	0.00E+00	-137.640	0.000
14	USD(min)	J[15]	-483.650	0.000	-15.780	0.00E+00	-142.270	0.000
14	WSD(max)	I[13]	-262.650	0.000	30.100	0.00E+00	-11.430	0.000
14	WSD(max)	1/4	-260.440	0.000	30.100	0.00E+00	-6.930	0.000
14	WSD(max)	2/4	-258.240	0.000	30.100	0.00E+00	-3.480	0.000
14	WSD(max)	3/4	-256.030	0.000	30.100	0.00E+00	-0.160	0.000
14	WSD(max)	J[15]	-253.830	0.000	30.100	0.00E+00	1.820	0.000
14	WSD(min)	I[13]	-311.100	0.000	-50.980	0.00E+00	-74.950	0.000
14	WSD(min)	1/4	-308.890	0.000	-40.300	0.00E+00	-78.160	0.000
14	WSD(min)	2/4	-306.690	0.000	-29.810	0.00E+00	-81.380	0.000
14	WSD(min)	3/4	-304.480	0.000	-19.520	0.00E+00	-84.590	0.000
14	WSD(min)	J[15]	-302.280	0.000	-9.420	0.00E+00	-87.810	0.000
15	USD(max)	I[14]	-378.890	0.000	-4.070	0.00E+00	24.460	0.000
15	USD(max)	1/4	-375.910	0.000	3.130	0.00E+00	28.360	0.000
15	USD(max)	2/4	-372.930	0.000	16.330	0.00E+00	30.070	0.000
15	USD(max)	3/4	-369.960	0.000	31.810	0.00E+00	29.420	0.000
15	USD(max)	J[16]	-366.980	0.000	47.060	0.00E+00	26.460	0.000
15	USD(min)	I[14]	-483.650	0.000	-46.890	0.00E+00	-125.770	0.000
15	USD(min)	1/4	-480.120	0.000	-38.790	0.00E+00	-122.270	0.000
15	USD(min)	2/4	-476.590	0.000	-30.980	0.00E+00	-119.390	0.000
15	USD(min)	3/4	-473.060	0.000	-23.490	0.00E+00	-117.120	0.000
15	USD(min)	J[16]	-469.530	0.000	-16.300	0.00E+00	-115.420	0.000
15	WSD(max)	I[14]	-253.830	0.000	-3.920	0.00E+00	1.820	0.000
15	WSD(max)	1/4	-251.620	0.000	1.660	0.00E+00	3.630	0.000
15	WSD(max)	2/4	-249.420	0.000	10.210	0.00E+00	4.430	0.000
15	WSD(max)	3/4	-247.210	0.000	19.730	0.00E+00	3.780	0.000
15	WSD(max)	J[16]	-245.010	0.000	29.070	0.00E+00	1.720	0.000
15	WSD(min)	I[14]	-302.280	0.000	-27.200	0.00E+00	-75.080	0.000
15	WSD(min)	1/4	-300.070	0.000	-22.330	0.00E+00	-72.590	0.000
15	WSD(min)	2/4	-297.870	0.000	-17.650	0.00E+00	-70.550	0.000
15	WSD(min)	3/4	-295.660	0.000	-13.160	0.00E+00	-68.950	0.000
15	WSD(min)	J[16]	-293.460	0.000	-8.870	0.00E+00	-67.770	0.000
16	USD(max)	I[15]	-369.190	0.000	50.260	0.00E+00	20.170	0.000
16	USD(max)	1/4	-366.210	0.000	50.260	0.00E+00	20.730	0.000
16	USD(max)	2/4	-363.230	0.000	50.260	0.00E+00	19.570	0.000
16	USD(max)	3/4	-360.260	0.000	50.260	0.00E+00	16.130	0.000
16	USD(max)	J[17]	-357.280	0.000	58.440	0.00E+00	10.460	0.000
16	USD(min)	I[15]	-483.650	0.000	-15.780	0.00E+00	-142.270	0.000
16	USD(min)	1/4	-480.120	0.000	0.100	0.00E+00	-146.890	0.000
16	USD(min)	2/4	-476.590	0.000	9.300	0.00E+00	-151.520	0.000
16	USD(min)	3/4	-473.060	0.000	16.020	0.00E+00	-156.140	0.000
16	USD(min)	J[17]	-469.530	0.000	22.630	0.00E+00	-162.290	0.000
16	WSD(max)	I[15]	-253.830	0.000	30.100	0.00E+00	1.820	0.000
16	WSD(max)	1/4	-251.620	0.000	30.100	0.00E+00	2.490	0.000
16	WSD(max)	2/4	-249.420	0.000	30.100	0.00E+00	1.870	0.000
16	WSD(max)	3/4	-247.210	0.000	30.100	0.00E+00	0.000	0.000

Elem	Load	Part	Axial (kN)	Shear-y (kN)	Shear-z (kN)	Torsion (kN・m)	Moment-y (kN・m)	Moment-z (kN・m)
16	WSD(max)	J[17]	-245.010	0.000	35.220	0.00E+00	-3.090	0.000
16	WSD(min)	I[15]	-302.280	0.000	-9.420	0.00E+00	-87.810	0.000
16	WSD(min)	1/4	-300.070	0.000	-0.150	0.00E+00	-91.020	0.000
16	WSD(min)	2/4	-297.870	0.000	7.150	0.00E+00	-94.240	0.000
16	WSD(min)	3/4	-295.660	0.000	12.550	0.00E+00	-97.450	0.000
16	WSD(min)	J[17]	-293.460	0.000	17.850	0.00E+00	-101.430	0.000
17	USD(max)	I[16]	-366.980	0.000	47.060	0.00E+00	26.460	0.000
17	USD(max)	1/4	-364.000	0.000	62.010	0.00E+00	21.240	0.000
17	USD(max)	2/4	-361.030	0.000	76.640	0.00E+00	13.790	0.000
17	USD(max)	3/4	-358.050	0.000	90.970	0.00E+00	4.180	0.000
17	USD(max)	J[18]	-355.070	0.000	105.000	0.00E+00	-7.560	0.000
17	USD(min)	I[16]	-469.530	0.000	-16.300	0.00E+00	-115.420	0.000
17	USD(min)	1/4	-466.010	0.000	-9.410	0.00E+00	-114.300	0.000
17	USD(min)	2/4	-462.480	0.000	-3.510	0.00E+00	-113.730	0.000
17	USD(min)	3/4	-458.950	0.000	0.300	0.00E+00	-115.370	0.000
17	USD(min)	J[18]	-455.420	0.000	3.990	0.00E+00	-122.440	0.000
17	WSD(max)	I[16]	-245.010	0.000	29.070	0.00E+00	1.720	0.000
17	WSD(max)	1/4	-242.800	0.000	38.210	0.00E+00	-1.730	0.000
17	WSD(max)	2/4	-240.600	0.000	47.160	0.00E+00	-6.540	0.000
17	WSD(max)	3/4	-238.390	0.000	55.920	0.00E+00	-12.670	0.000
17	WSD(max)	J[18]	-236.190	0.000	64.490	0.00E+00	-20.100	0.000
17	WSD(min)	I[16]	-293.460	0.000	-8.870	0.00E+00	-67.770	0.000
17	WSD(min)	1/4	-291.250	0.000	-4.760	0.00E+00	-67.010	0.000
17	WSD(min)	2/4	-289.050	0.000	-1.190	0.00E+00	-66.640	0.000
17	WSD(min)	3/4	-286.840	0.000	1.310	0.00E+00	-66.650	0.000
17	WSD(min)	J[18]	-284.640	0.000	3.700	0.00E+00	-68.500	0.000
18	USD(max)	I[17]	-357.280	0.000	58.440	0.00E+00	10.460	0.000
18	USD(max)	1/4	-354.300	0.000	71.050	0.00E+00	2.620	0.000
18	USD(max)	2/4	-351.330	0.000	83.350	0.00E+00	-7.350	0.000
18	USD(max)	3/4	-348.350	0.000	95.350	0.00E+00	-19.420	0.000
18	USD(max)	J[19]	-345.370	0.000	107.040	0.00E+00	-33.520	0.000
18	USD(min)	I[17]	-469.530	0.000	22.630	0.00E+00	-162.290	0.000
18	USD(min)	1/4	-466.010	0.000	29.120	0.00E+00	-169.510	0.000
18	USD(min)	2/4	-462.480	0.000	30.830	0.00E+00	-176.740	0.000
18	USD(min)	3/4	-458.950	0.000	30.830	0.00E+00	-183.960	0.000
18	USD(min)	J[19]	-455.420	0.000	30.830	0.00E+00	-191.190	0.000
18	WSD(max)	I[17]	-245.010	0.000	35.220	0.00E+00	-3.090	0.000
18	WSD(max)	1/4	-242.800	0.000	43.100	0.00E+00	-7.380	0.000
18	WSD(max)	2/4	-240.600	0.000	50.790	0.00E+00	-12.840	0.000
18	WSD(max)	3/4	-238.390	0.000	58.280	0.00E+00	-19.430	0.000
18	WSD(max)	J[19]	-236.190	0.000	65.590	0.00E+00	-27.140	0.000
18	WSD(min)	I[17]	-293.460	0.000	17.850	0.00E+00	-101.430	0.000
18	WSD(min)	1/4	-291.250	0.000	21.440	0.00E+00	-105.950	0.000
18	WSD(min)	2/4	-289.050	0.000	21.440	0.00E+00	-110.460	0.000
18	WSD(min)	3/4	-286.840	0.000	21.440	0.00E+00	-114.980	0.000
18	WSD(min)	J[19]	-284.640	0.000	21.440	0.00E+00	-119.490	0.000
19	USD(max)	I[18]	-355.070	0.000	105.000	0.00E+00	-7.560	0.000
19	USD(max)	1/4	-352.100	0.000	118.720	0.00E+00	-21.380	0.000
19	USD(max)	2/4	-349.120	0.000	132.120	0.00E+00	-37.240	0.000
19	USD(max)	3/4	-346.140	0.000	145.230	0.00E+00	-55.090	0.000
19	USD(max)	J[20]	-343.170	0.000	158.020	0.00E+00	-67.060	0.000
19	USD(min)	I[18]	-455.420	0.000	3.990	0.00E+00	-122.440	0.000
19	USD(min)	1/4	-451.890	0.000	7.570	0.00E+00	-130.470	0.000
19	USD(min)	2/4	-448.370	0.000	11.040	0.00E+00	-139.430	0.000
19	USD(min)	3/4	-444.840	0.000	14.290	0.00E+00	-149.310	0.000
19	USD(min)	J[20]	-441.310	0.000	17.210	0.00E+00	-160.090	0.000
19	WSD(max)	I[18]	-236.190	0.000	64.490	0.00E+00	-20.100	0.000
19	WSD(max)	1/4	-233.980	0.000	72.860	0.00E+00	-28.810	0.000
19	WSD(max)	2/4	-231.780	0.000	81.050	0.00E+00	-38.750	0.000
19	WSD(max)	3/4	-229.570	0.000	89.040	0.00E+00	-49.910	0.000
19	WSD(max)	J[20]	-227.370	0.000	96.840	0.00E+00	-57.370	0.000
19	WSD(min)	I[18]	-284.640	0.000	3.700	0.00E+00	-68.500	0.000
19	WSD(min)	1/4	-282.430	0.000	6.000	0.00E+00	-74.570	0.000
19	WSD(min)	2/4	-280.230	0.000	8.200	0.00E+00	-81.360	0.000
19	WSD(min)	3/4	-278.020	0.000	10.310	0.00E+00	-88.850	0.000
19	WSD(min)	J[20]	-275.820	0.000	12.320	0.00E+00	-97.030	0.000
20	USD(max)	I[19]	-345.370	0.000	107.040	0.00E+00	-33.520	0.000
20	USD(max)	1/4	-342.400	0.000	118.720	0.00E+00	-49.620	0.000
20	USD(max)	2/4	-339.420	0.000	132.120	0.00E+00	-67.670	0.000
20	USD(max)	3/4	-336.440	0.000	145.230	0.00E+00	-87.630	0.000
20	USD(max)	J[21]	-333.470	0.000	158.020	0.00E+00	-109.440	0.000
20	USD(min)	I[19]	-455.420	0.000	30.830	0.00E+00	-191.190	0.000
20	USD(min)	1/4	-451.890	0.000	30.830	0.00E+00	-198.410	0.000
20	USD(min)	2/4	-448.370	0.000	30.830	0.00E+00	-205.640	0.000
20	USD(min)	3/4	-444.840	0.000	30.830	0.00E+00	-212.860	0.000
20	USD(min)	J[21]	-441.310	0.000	30.830	0.00E+00	-220.090	0.000
20	WSD(max)	I[19]	-236.190	0.000	65.590	0.00E+00	-27.140	0.000
20	WSD(max)	1/4	-233.980	0.000	72.860	0.00E+00	-35.930	0.000
20	WSD(max)	2/4	-231.780	0.000	81.050	0.00E+00	-45.770	0.000
20	WSD(max)	3/4	-229.570	0.000	89.040	0.00E+00	-56.640	0.000

Elem	Load	Part	Axial (kN)	Shear-y (kN)	Shear-z (kN)	Torsion (kN・m)	Moment-y (kN・m)	Moment-z (kN・m)
20	WSD(max)	J[21]	-227.370	0.000	96.840	0.00E+00	-68.500	0.000
20	WSD(min)	I[19]	-284.640	0.000	21.440	0.00E+00	-119.490	0.000
20	WSD(min)	1/4	-282.430	0.000	21.440	0.00E+00	-124.010	0.000
20	WSD(min)	2/4	-280.230	0.000	21.440	0.00E+00	-128.520	0.000
20	WSD(min)	3/4	-278.020	0.000	21.440	0.00E+00	-133.040	0.000
20	WSD(min)	J[21]	-275.820	0.000	21.440	0.00E+00	-137.550	0.000
21	USD(max)	I[20]	-343.170	0.000	158.020	0.00E+00	-67.060	0.000
21	USD(max)	1/4	-339.200	0.000	168.450	0.00E+00	-71.070	0.000
21	USD(max)	2/4	-335.230	0.000	178.670	0.00E+00	-75.520	0.000
21	USD(max)	3/4	-331.260	0.000	188.670	0.00E+00	-80.410	0.000
21	USD(max)	J[22]	-327.290	0.000	198.460	0.00E+00	-85.680	0.000
21	USD(min)	I[20]	-441.310	0.000	17.210	0.00E+00	-160.090	0.000
21	USD(min)	1/4	-436.610	0.000	19.550	0.00E+00	-169.750	0.000
21	USD(min)	2/4	-431.900	0.000	21.820	0.00E+00	-180.010	0.000
21	USD(min)	3/4	-427.200	0.000	24.000	0.00E+00	-199.660	0.000
21	USD(min)	J[22]	-422.490	0.000	26.110	0.00E+00	-223.360	0.000
21	WSD(max)	I[20]	-227.370	0.000	96.840	0.00E+00	-57.370	0.000
21	WSD(max)	1/4	-224.430	0.000	103.200	0.00E+00	-59.830	0.000
21	WSD(max)	2/4	-221.490	0.000	109.420	0.00E+00	-62.560	0.000
21	WSD(max)	3/4	-218.550	0.000	115.500	0.00E+00	-65.520	0.000
21	WSD(max)	J[22]	-215.610	0.000	121.460	0.00E+00	-68.720	0.000
21	WSD(min)	I[20]	-275.820	0.000	12.320	0.00E+00	-97.030	0.000
21	WSD(min)	1/4	-272.880	0.000	13.930	0.00E+00	-104.360	0.000
21	WSD(min)	2/4	-269.940	0.000	15.460	0.00E+00	-112.150	0.000
21	WSD(min)	3/4	-267.000	0.000	16.940	0.00E+00	-124.790	0.000
21	WSD(min)	J[22]	-264.060	0.000	18.340	0.00E+00	-139.600	0.000
22	USD(max)	I[21]	-333.470	0.000	158.020	0.00E+00	-109.440	0.000
22	USD(max)	1/4	-329.500	0.000	168.450	0.00E+00	-129.000	0.000
22	USD(max)	2/4	-325.530	0.000	178.670	0.00E+00	-149.790	0.000
22	USD(max)	3/4	-321.560	0.000	188.670	0.00E+00	-162.990	0.000
22	USD(max)	J[30]	-317.590	0.000	198.460	0.00E+00	-173.900	0.000
22	USD(min)	I[21]	-441.310	0.000	30.830	0.00E+00	-220.090	0.000
22	USD(min)	1/4	-436.610	0.000	30.830	0.00E+00	-226.110	0.000
22	USD(min)	2/4	-431.900	0.000	30.830	0.00E+00	-232.130	0.000
22	USD(min)	3/4	-427.200	0.000	30.830	0.00E+00	-238.150	0.000
22	USD(min)	J[30]	-422.490	0.000	30.830	0.00E+00	-244.170	0.000
22	WSD(max)	I[21]	-227.370	0.000	96.840	0.00E+00	-68.500	0.000
22	WSD(max)	1/4	-224.430	0.000	103.200	0.00E+00	-79.120	0.000
22	WSD(max)	2/4	-221.490	0.000	109.420	0.00E+00	-90.400	0.000
22	WSD(max)	3/4	-218.550	0.000	115.500	0.00E+00	-102.310	0.000
22	WSD(max)	J[30]	-215.610	0.000	121.460	0.00E+00	-114.850	0.000
22	WSD(min)	I[21]	-275.820	0.000	21.440	0.00E+00	-137.550	0.000
22	WSD(min)	1/4	-272.880	0.000	21.440	0.00E+00	-141.320	0.000
22	WSD(min)	2/4	-269.940	0.000	21.440	0.00E+00	-145.080	0.000
22	WSD(min)	3/4	-267.000	0.000	21.440	0.00E+00	-148.840	0.000
22	WSD(min)	J[30]	-264.060	0.000	21.440	0.00E+00	-152.600	0.000
23	USD(max)	I[22]	-30.830	0.000	-277.740	0.00E+00	-9.060	0.000
23	USD(max)	1/4	-30.830	0.000	-257.090	0.00E+00	24.370	0.000
23	USD(max)	2/4	-30.830	0.000	-236.450	0.00E+00	55.210	0.000
23	USD(max)	3/4	-30.830	0.000	-215.800	0.00E+00	87.020	0.000
23	USD(max)	J[23]	-30.830	0.000	-195.160	0.00E+00	116.850	0.000
23	USD(min)	I[22]	-221.090	0.000	-367.510	0.00E+00	-166.490	0.000
23	USD(min)	1/4	-221.090	0.000	-344.590	0.00E+00	-122.180	0.000
23	USD(min)	2/4	-221.090	0.000	-321.680	0.00E+00	-84.660	0.000
23	USD(min)	3/4	-221.090	0.000	-298.770	0.00E+00	-49.720	0.000
23	USD(min)	J[23]	-221.090	0.000	-275.860	0.00E+00	-17.940	0.000
23	WSD(max)	I[22]	-21.440	0.000	-187.550	0.00E+00	-12.280	0.000
23	WSD(max)	1/4	-21.440	0.000	-175.860	0.00E+00	11.730	0.000
23	WSD(max)	2/4	-21.440	0.000	-164.160	0.00E+00	33.960	0.000
23	WSD(max)	3/4	-21.440	0.000	-152.470	0.00E+00	54.390	0.000
23	WSD(max)	J[23]	-21.440	0.000	-140.780	0.00E+00	73.030	0.000
23	WSD(min)	I[22]	-135.210	0.000	-229.690	0.00E+00	-104.060	0.000
23	WSD(min)	1/4	-135.210	0.000	-215.370	0.00E+00	-76.240	0.000
23	WSD(min)	2/4	-135.210	0.000	-201.050	0.00E+00	-50.210	0.000
23	WSD(min)	3/4	-135.210	0.000	-186.730	0.00E+00	-25.980	0.000
23	WSD(min)	J[23]	-135.210	0.000	-172.410	0.00E+00	-4.820	0.000
24	USD(max)	I[23]	-30.830	0.000	-195.160	0.00E+00	116.850	0.000
24	USD(max)	1/4	-30.830	0.000	-174.430	0.00E+00	143.920	0.000
24	USD(max)	2/4	-30.830	0.000	-153.700	0.00E+00	168.100	0.000
24	USD(max)	3/4	-30.830	0.000	-132.970	0.00E+00	189.390	0.000
24	USD(max)	J[24]	-30.830	0.000	-112.250	0.00E+00	207.800	0.000
24	USD(min)	I[23]	-221.090	0.000	-275.860	0.00E+00	-17.940	0.000
24	USD(min)	1/4	-221.090	0.000	-252.850	0.00E+00	10.250	0.000
24	USD(min)	2/4	-221.090	0.000	-229.850	0.00E+00	35.980	0.000
24	USD(min)	3/4	-221.090	0.000	-206.850	0.00E+00	59.260	0.000
24	USD(min)	J[24]	-221.090	0.000	-183.840	0.00E+00	80.080	0.000
24	WSD(max)	I[23]	-21.440	0.000	-140.780	0.00E+00	73.030	0.000
24	WSD(max)	1/4	-21.440	0.000	-127.610	0.00E+00	89.950	0.000
24	WSD(max)	2/4	-21.440	0.000	-113.230	0.00E+00	105.060	0.000
24	WSD(max)	3/4	-21.440	0.000	-98.860	0.00E+00	118.370	0.000

Elem	Load	Part	Axial (kN)	Shear-y (kN)	Shear-z (kN)	Torsion (kN·m)	Moment-y (kN·m)	Moment-z (kN·m)
24	WSD(max)	J[24]	-21.440	0.000	-84.480	0.00E+00	129.870	0.000
24	WSD(min)	I[23]	-135.210	0.000	-172.410	0.00E+00	-4.820	0.000
24	WSD(min)	1/4	-135.210	0.000	-158.030	0.00E+00	12.110	0.000
24	WSD(min)	2/4	-135.210	0.000	-143.660	0.00E+00	27.570	0.000
24	WSD(min)	3/4	-135.210	0.000	-129.280	0.00E+00	41.550	0.000
24	WSD(min)	J[24]	-135.210	0.000	-114.900	0.00E+00	54.060	0.000
25	USD(max)	I[24]	-30.830	0.000	-112.250	0.00E+00	207.800	0.000
25	USD(max)	1/4	-30.830	0.000	-91.560	0.00E+00	223.290	0.000
25	USD(max)	2/4	-30.830	0.000	-70.870	0.00E+00	236.980	0.000
25	USD(max)	3/4	-30.830	0.000	-50.190	0.00E+00	248.160	0.000
25	USD(max)	J[25]	-30.830	0.000	-29.500	0.00E+00	256.460	0.000
25	USD(min)	I[24]	-221.090	0.000	-183.840	0.00E+00	80.080	0.000
25	USD(min)	1/4	-221.090	0.000	-160.890	0.00E+00	98.420	0.000
25	USD(min)	2/4	-221.090	0.000	-137.930	0.00E+00	114.320	0.000
25	USD(min)	3/4	-221.090	0.000	-114.970	0.00E+00	126.990	0.000
25	USD(min)	J[25]	-221.090	0.000	-92.010	0.00E+00	134.680	0.000
25	WSD(max)	I[24]	-21.440	0.000	-84.480	0.00E+00	129.870	0.000
25	WSD(max)	1/4	-21.440	0.000	-70.130	0.00E+00	139.560	0.000
25	WSD(max)	2/4	-21.440	0.000	-55.780	0.00E+00	147.980	0.000
25	WSD(max)	3/4	-21.440	0.000	-41.430	0.00E+00	154.790	0.000
25	WSD(max)	J[25]	-21.440	0.000	-27.080	0.00E+00	159.800	0.000
25	WSD(min)	I[24]	-135.210	0.000	-114.900	0.00E+00	54.060	0.000
25	WSD(min)	1/4	-135.210	0.000	-100.550	0.00E+00	65.080	0.000
25	WSD(min)	2/4	-135.210	0.000	-86.210	0.00E+00	74.630	0.000
25	WSD(min)	3/4	-135.210	0.000	-71.860	0.00E+00	82.710	0.000
25	WSD(min)	J[25]	-135.210	0.000	-57.510	0.00E+00	89.330	0.000
26	USD(max)	I[25]	-30.830	0.000	-29.500	0.00E+00	256.460	0.000
26	USD(max)	1/4	-30.830	0.000	-8.770	0.00E+00	261.900	0.000
26	USD(max)	2/4	-30.830	0.000	11.960	0.00E+00	264.450	0.000
26	USD(max)	3/4	-30.830	0.000	32.690	0.00E+00	264.110	0.000
26	USD(max)	J[26]	-30.830	0.000	53.410	0.00E+00	260.890	0.000
26	USD(min)	I[25]	-221.090	0.000	-92.010	0.00E+00	134.680	0.000
26	USD(min)	1/4	-221.090	0.000	-69.010	0.00E+00	139.930	0.000
26	USD(min)	2/4	-221.090	0.000	-46.010	0.00E+00	142.740	0.000
26	USD(min)	3/4	-221.090	0.000	-23.000	0.00E+00	143.090	0.000
26	USD(min)	J[26]	-221.090	0.000	0.000	0.00E+00	140.990	0.000
26	WSD(max)	I[25]	-21.440	0.000	-27.080	0.00E+00	159.800	0.000
26	WSD(max)	1/4	-21.440	0.000	-12.710	0.00E+00	163.010	0.000
26	WSD(max)	2/4	-21.440	0.000	1.670	0.00E+00	164.430	0.000
26	WSD(max)	3/4	-21.440	0.000	16.050	0.00E+00	164.040	0.000
26	WSD(max)	J[26]	-21.440	0.000	30.420	0.00E+00	161.840	0.000
26	WSD(min)	I[25]	-135.210	0.000	-57.510	0.00E+00	89.330	0.000
26	WSD(min)	1/4	-135.210	0.000	-43.130	0.00E+00	94.480	0.000
26	WSD(min)	2/4	-135.210	0.000	-28.750	0.00E+00	98.170	0.000
26	WSD(min)	3/4	-135.210	0.000	-14.380	0.00E+00	100.380	0.000
26	WSD(min)	J[26]	-135.210	0.000	0.000	0.00E+00	101.110	0.000
27	USD(max)	I[26]	-30.830	0.000	53.410	0.00E+00	260.890	0.000
27	USD(max)	1/4	-30.830	0.000	69.260	0.00E+00	255.040	0.000
27	USD(max)	2/4	-30.830	0.000	86.240	0.00E+00	249.090	0.000
27	USD(max)	3/4	-30.830	0.000	105.030	0.00E+00	241.870	0.000
27	USD(max)	J[27]	-30.830	0.000	123.810	0.00E+00	231.770	0.000
27	USD(min)	I[26]	-221.090	0.000	0.000	0.00E+00	140.990	0.000
27	USD(min)	1/4	-221.090	0.000	19.540	0.00E+00	136.660	0.000
27	USD(min)	2/4	-221.090	0.000	39.080	0.00E+00	130.350	0.000
27	USD(min)	3/4	-221.090	0.000	58.620	0.00E+00	122.050	0.000
27	USD(min)	J[27]	-221.090	0.000	78.160	0.00E+00	111.760	0.000
27	WSD(max)	I[26]	-21.440	0.000	30.420	0.00E+00	161.840	0.000
27	WSD(max)	1/4	-21.440	0.000	42.160	0.00E+00	158.010	0.000
27	WSD(max)	2/4	-21.440	0.000	53.900	0.00E+00	152.700	0.000
27	WSD(max)	3/4	-21.440	0.000	65.640	0.00E+00	145.920	0.000
27	WSD(max)	J[27]	-21.440	0.000	77.380	0.00E+00	138.240	0.000
27	WSD(min)	I[26]	-135.210	0.000	0.000	0.00E+00	101.110	0.000
27	WSD(min)	1/4	-135.210	0.000	11.740	0.00E+00	100.380	0.000
27	WSD(min)	2/4	-135.210	0.000	23.480	0.00E+00	98.170	0.000
27	WSD(min)	3/4	-135.210	0.000	35.220	0.00E+00	94.480	0.000
27	WSD(min)	J[27]	-135.210	0.000	46.960	0.00E+00	89.330	0.000
28	USD(max)	I[27]	-30.830	0.000	123.810	0.00E+00	231.770	0.000
28	USD(max)	1/4	-30.830	0.000	142.560	0.00E+00	218.810	0.000
28	USD(max)	2/4	-30.830	0.000	161.300	0.00E+00	202.970	0.000
28	USD(max)	3/4	-30.830	0.000	180.050	0.00E+00	184.260	0.000
28	USD(max)	J[28]	-30.830	0.000	198.790	0.00E+00	162.670	0.000
28	USD(min)	I[27]	-221.090	0.000	78.160	0.00E+00	111.760	0.000
28	USD(min)	1/4	-221.090	0.000	97.670	0.00E+00	99.510	0.000
28	USD(min)	2/4	-221.090	0.000	117.170	0.00E+00	84.560	0.000
28	USD(min)	3/4	-221.090	0.000	136.670	0.00E+00	67.280	0.000
28	USD(min)	J[28]	-221.090	0.000	153.170	0.00E+00	48.020	0.000
28	WSD(max)	I[27]	-21.440	0.000	77.380	0.00E+00	138.240	0.000
28	WSD(max)	1/4	-21.440	0.000	89.100	0.00E+00	130.140	0.000
28	WSD(max)	2/4	-21.440	0.000	100.810	0.00E+00	120.240	0.000
28	WSD(max)	3/4	-21.440	0.000	112.530	0.00E+00	108.540	0.000

Elem	Load	Part	Axial (kN)	Shear-y (kN)	Shear-z (kN)	Torsion (kN · m)	Moment-y (kN · m)	Moment-z (kN · m)
28	WSD(max)	J[28]	-21.440	0.000	124.240	0.00E+00	95.050	0.000
28	WSD(min)	I[27]	-135.210	0.000	46.960	0.00E+00	89.330	0.000
28	WSD(min)	1/4	-135.210	0.000	58.670	0.00E+00	82.710	0.000
28	WSD(min)	2/4	-135.210	0.000	70.390	0.00E+00	73.030	0.000
28	WSD(min)	3/4	-135.210	0.000	82.100	0.00E+00	61.110	0.000
28	WSD(min)	J[28]	-135.210	0.000	93.820	0.00E+00	47.720	0.000
29	USD(max)	I[28]	-30.830	0.000	198.790	0.00E+00	162.670	0.000
29	USD(max)	1/4	-30.830	0.000	217.570	0.00E+00	138.150	0.000
29	USD(max)	2/4	-30.830	0.000	236.360	0.00E+00	110.750	0.000
29	USD(max)	3/4	-30.830	0.000	255.140	0.00E+00	80.460	0.000
29	USD(max)	J[29]	-30.830	0.000	275.860	0.00E+00	47.280	0.000
29	USD(min)	I[28]	-221.090	0.000	153.170	0.00E+00	48.020	0.000
29	USD(min)	1/4	-221.090	0.000	169.020	0.00E+00	26.730	0.000
29	USD(min)	2/4	-221.090	0.000	184.870	0.00E+00	3.450	0.000
29	USD(min)	3/4	-221.090	0.000	200.720	0.00E+00	-21.810	0.000
29	USD(min)	J[29]	-221.090	0.000	216.570	0.00E+00	-49.070	0.000
29	WSD(max)	I[28]	-21.440	0.000	124.240	0.00E+00	95.050	0.000
29	WSD(max)	1/4	-21.440	0.000	135.980	0.00E+00	79.730	0.000
29	WSD(max)	2/4	-21.440	0.000	147.720	0.00E+00	62.600	0.000
29	WSD(max)	3/4	-21.440	0.000	159.460	0.00E+00	43.670	0.000
29	WSD(max)	J[29]	-21.440	0.000	172.410	0.00E+00	22.930	0.000
29	WSD(min)	I[28]	-135.210	0.000	93.820	0.00E+00	47.720	0.000
29	WSD(min)	1/4	-135.210	0.000	105.560	0.00E+00	32.830	0.000
29	WSD(min)	2/4	-135.210	0.000	117.300	0.00E+00	16.470	0.000
29	WSD(min)	3/4	-135.210	0.000	129.040	0.00E+00	-1.370	0.000
29	WSD(min)	J[29]	-135.210	0.000	140.780	0.00E+00	-20.670	0.000
30	USD(max)	I[29]	-30.830	0.000	275.860	0.00E+00	47.280	0.000
30	USD(max)	1/4	-30.830	0.000	298.770	0.00E+00	11.370	0.000
30	USD(max)	2/4	-30.830	0.000	321.680	0.00E+00	-27.410	0.000
30	USD(max)	3/4	-30.830	0.000	344.590	0.00E+00	-63.830	0.000
30	USD(max)	J[30]	-30.830	0.000	367.510	0.00E+00	-101.640	0.000
30	USD(min)	I[29]	-221.090	0.000	216.570	0.00E+00	-49.070	0.000
30	USD(min)	1/4	-221.090	0.000	232.350	0.00E+00	-78.190	0.000
30	USD(min)	2/4	-221.090	0.000	248.140	0.00E+00	-109.290	0.000
30	USD(min)	3/4	-221.090	0.000	263.920	0.00E+00	-142.360	0.000
30	USD(min)	J[30]	-221.090	0.000	279.710	0.00E+00	-179.560	0.000
30	WSD(max)	I[29]	-21.440	0.000	172.410	0.00E+00	22.930	0.000
30	WSD(max)	1/4	-21.440	0.000	186.730	0.00E+00	0.490	0.000
30	WSD(max)	2/4	-21.440	0.000	201.050	0.00E+00	-23.750	0.000
30	WSD(max)	3/4	-21.440	0.000	215.370	0.00E+00	-49.770	0.000
30	WSD(max)	J[30]	-21.440	0.000	229.690	0.00E+00	-75.660	0.000
30	WSD(min)	I[29]	-135.210	0.000	140.780	0.00E+00	-20.670	0.000
30	WSD(min)	1/4	-135.210	0.000	152.470	0.00E+00	-41.370	0.000
30	WSD(min)	2/4	-135.210	0.000	164.160	0.00E+00	-63.530	0.000
30	WSD(min)	3/4	-135.210	0.000	175.860	0.00E+00	-87.150	0.000
30	WSD(min)	J[30]	-135.210	0.000	187.550	0.00E+00	-112.230	0.000

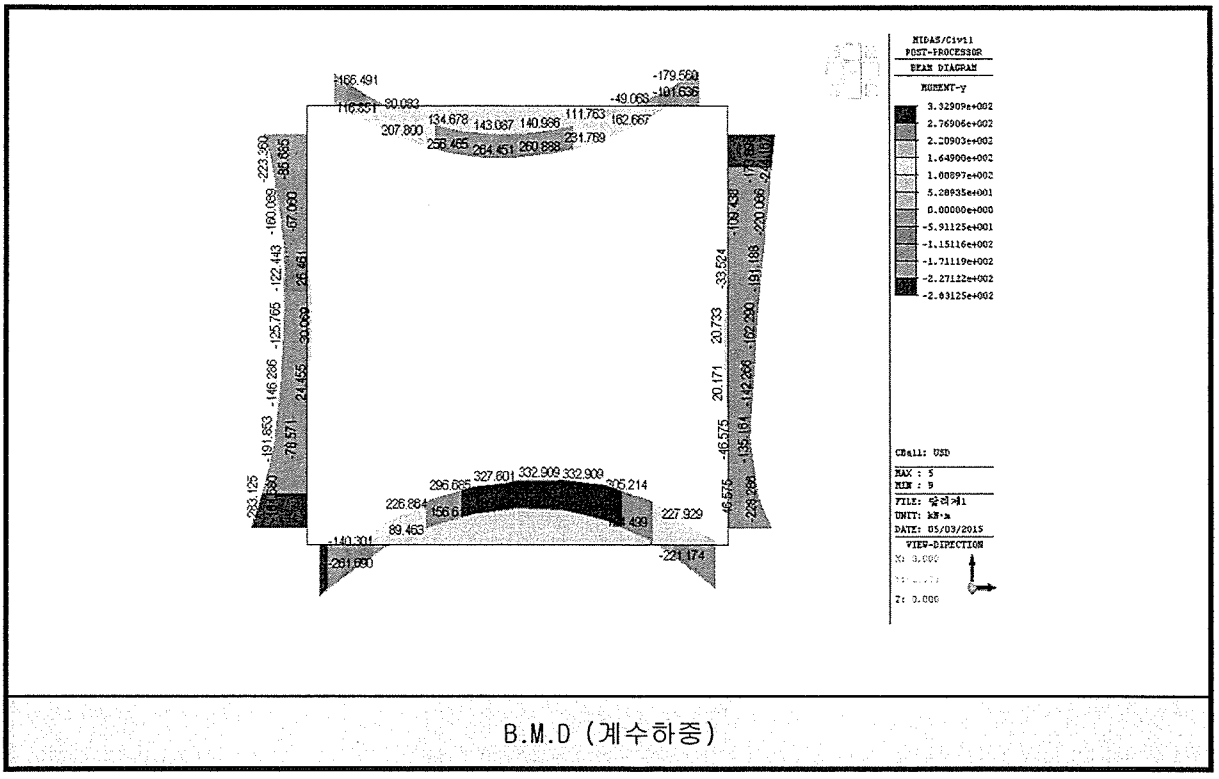
9. 단면력 요약

구분	위치	부재	극한하중			사용하중	비고
			Mu(kN · m)	Su(kN)	Pu(kN)	M(kN · m)	
상부슬래브	단부	23,30	-179.56	367.51	-	-112.23	
	중앙부	26,27	264.45	123.81	-	164.43	
벽체	상단부 (축력최대)	21,22	-135.90	198.46	-441.31	-57.37	
	상단부 (모멘트최대)	21,22	-244.17	198.46	-393.65	-152.60	
	중앙부 (축력최대)	15,16	-3.39	58.44	-483.65	4.43	
	중앙부 (모멘트최대)	15,16	-162.29	-46.89	-440.69	-101.43	
	하단부 (축력최대)	9,10	-228.29	-260.17	-531.27	-27.68	
	하단부 (모멘트최대)	9,10	-283.12	-260.17	-482.59	-176.95	
하부슬래브	단부	1,8	-261.69	394.43	-	-163.56	
	중앙부	4,5	332.91	132.91	-	208.07	

-'전단력과 사용하중 상태에서의 모멘트는 선택 부재에서의 최대값 적용

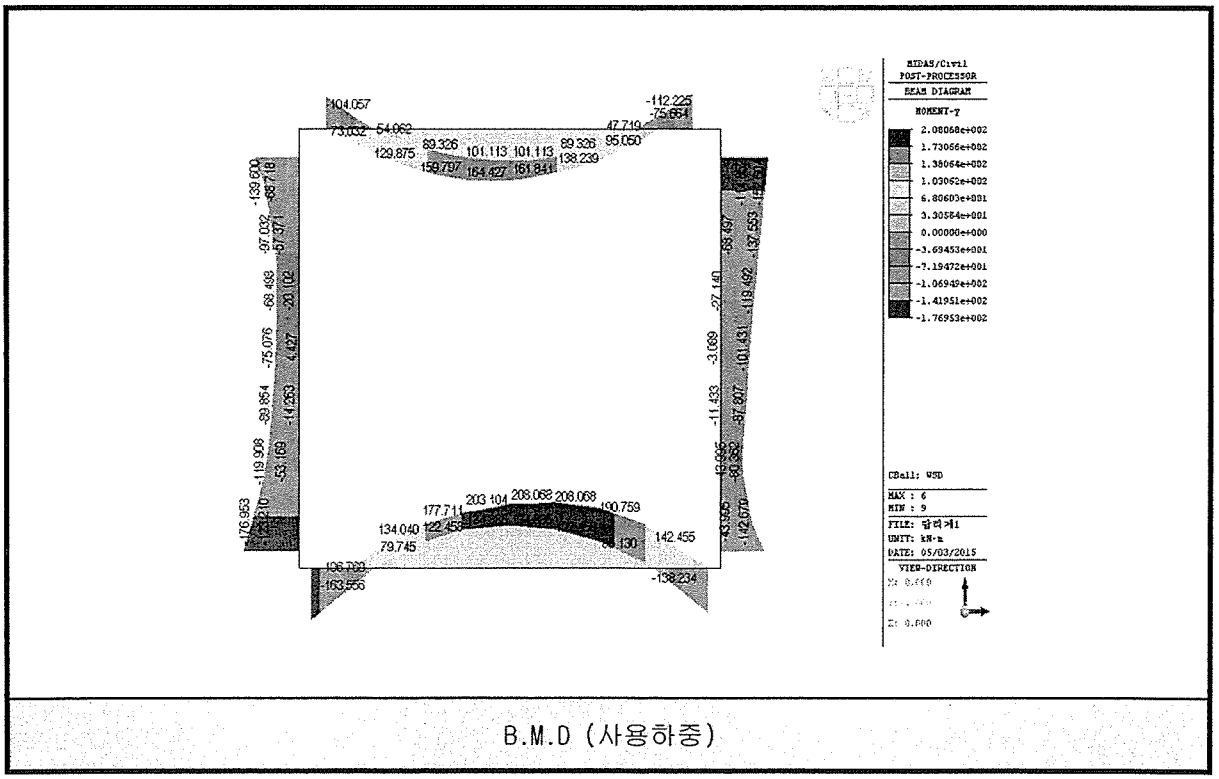
10. 단면력도

(1) 극한하중 모멘트도



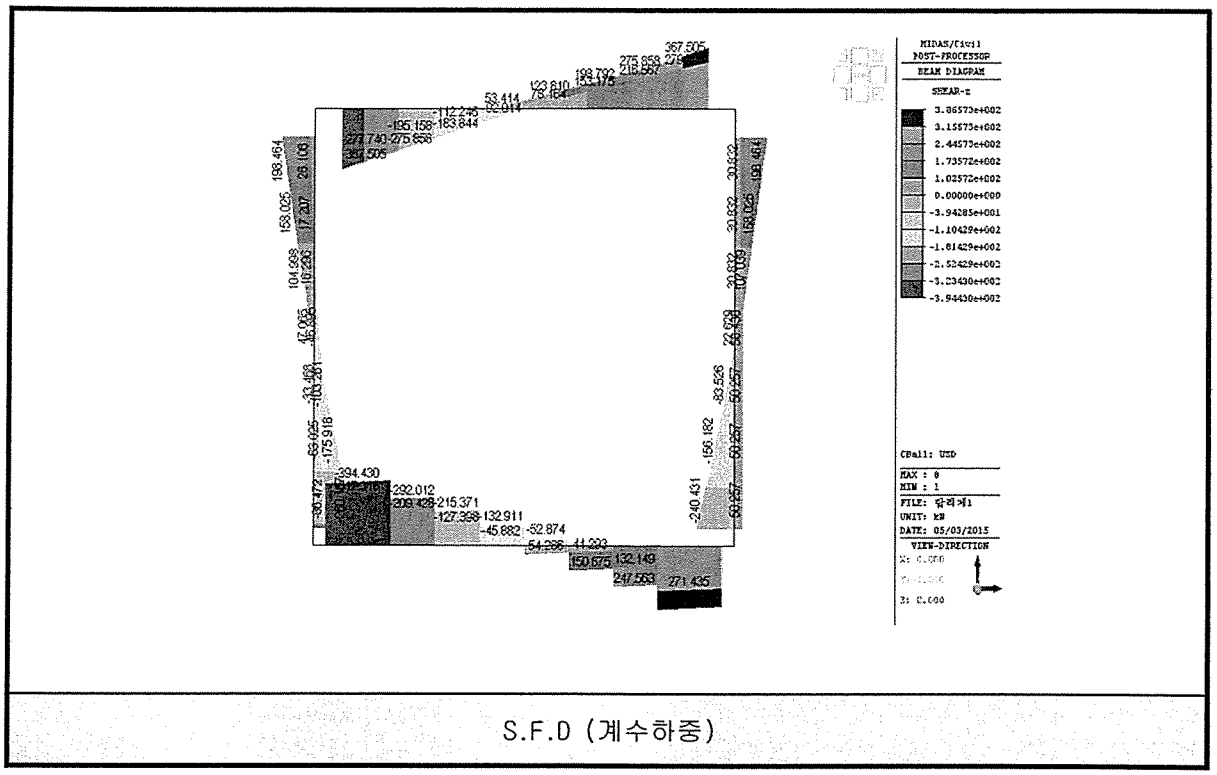
B.M.D (계수하중)

(2) 사용하중 모멘트도



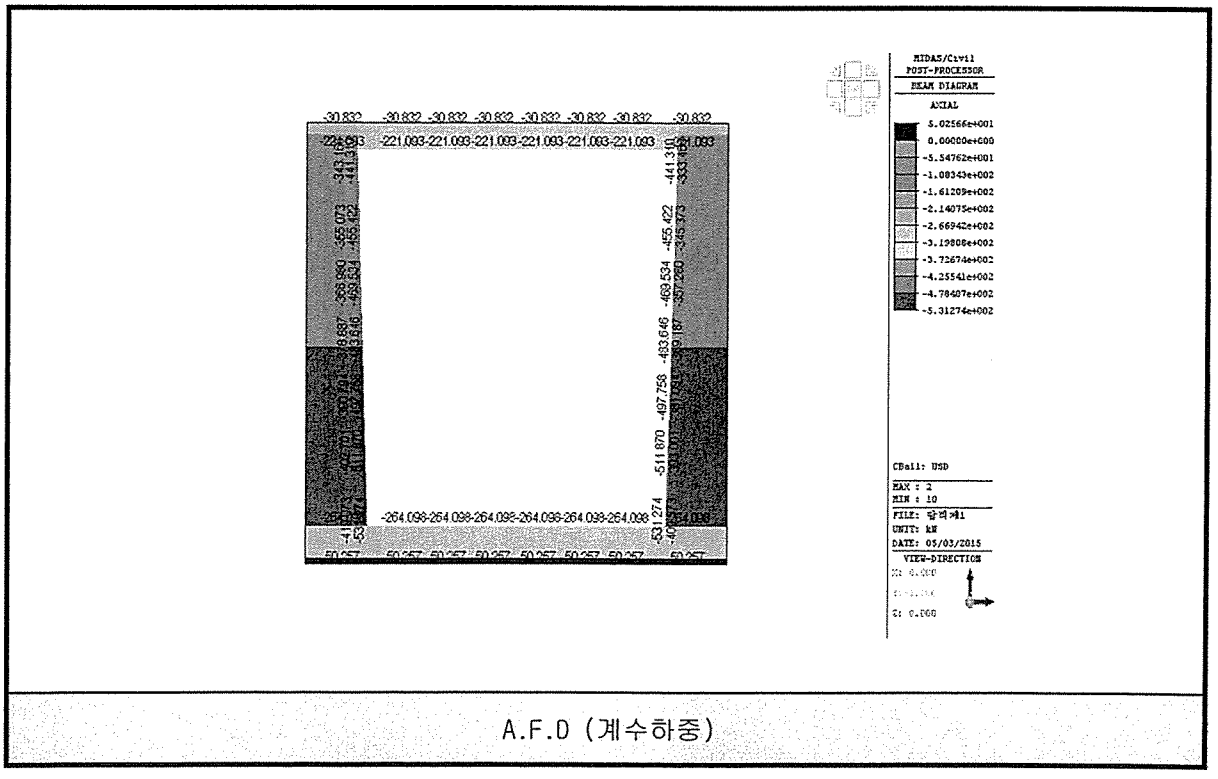
B.M.D (사용하중)

(3) 극한하중 전단력도



S.F.D (계수하중)

(4) 극한하중 축력도



A.F.D (계수하중)

11. 단면검토

① 상부 슬래브 단부

* 검토 조건

pmin = max(0.25√fck / fy, 1.4/fy) = 0.00350

fck (Mpa)	fy (Mpa)	β1	Φf	Φv	Mo (kN.m)
30.0	400.0	0.836	0.900	0.850	112.230
B (mm)	H (mm)	d (mm)	피복 (mm)	Mu (kN.m)	Su (kN)
1000.0	700.0	600.0	100.0	179.560	367.510

전단설계시 단면의 유효높이 ds = 500.0 d1' = 100 d2' = 0

* 휨모멘트 검토

공칭강도시 등가응력깊이 a = (As×fy) / (0.85×fck×B) = 35.953 mm

최외단 인장철근 변형률 εt = 0.03885 ≥ 0.004 ----- ∴ O.K.

여기서 εt = 0.003×(H - a/β1 - Dc_min) / (a/β1)

0.005 ≤ εt 이므로 인장지배단면, Φf = 0.900 를 적용한다.

ⓐ 필요철근량 및 철근비 검토

$Mu / \Phi = As \times fy / (d - a/2)$ ---------- (1)

$a = As \times fy / (0.85 \times fck \times b)$ ---------- (2)

式(2)를 式(1)에 대입하여 2차방정식으로 As를 구한다.

$$\frac{fy^2}{2 \times 0.85 \times fck \times b} \times As^2 - fy \times d \times As + \frac{Mu}{\Phi} = 0$$

필요 철근량 req.As = 840.532 mm^2

사용철근비 : Puse = As / (B × D) = 0.00382

최대철근비 : Pmax = 0.714 x k1 x Φx (fck / fy) x {600 / (600 + fy)} = 0.02283

최소철근비 :
- Pmin = 1.4 / fy = 0.00350
- Pmin = 0.25 √fck / fy = 0.00342
- 적용 = 0.0035

As(req) = 840.532 mm^2 As(min) = 2100.000 mm^2

4/3×As(req) = 1120.709 mm^2 ※ As = 1120.709 mm^2

사용철근량 = H19 × 8ea = 2292.000 ㎟ ----- ∴ O.K.

ⓑ 휨강도 검토

ØMn = Ø f · fy · As · (D - a/2) = 480239230 N · mm

= 480.239 kN · m > 179.560 kN · m ----- ∴ O.K. [사용률 = 2.675]

* 전단력 검토

Øv · Vc = Øv · 1/6 · √fck · B · d / 1000 = 387.970 kN

1/2 x Φv x Vc = 193.985 kN ≤ Vu ≤Φv x Vc ∴ 최소전단 철근을 배근하는것이 좋다.

▣ 사용성 검토 (균열방지 인장철근 간격검토)

ⓐ 응력산정

fs = M / [As x (d - χ/3)]

= 112.23 × 1000000 / [2292×(600 - 123.635/3)]

= 87.629 Mpa

χ = -nAs/b + nAs/b√[1 + 2bd/(nAs)]

= -7 × 2292/1000 + 7 × 2292/1000 × √[(1 + 2×1000×600/(7×2292)]

= 123.635 mm

사용철근량 = 2292.000 mm^2 (철근도심 : 100 mm)

1단 H19 @ 125 (= 2292 mm^2)

ⓑ 철근의 최대 중심간격

Cc = 100 - 19 / 2 = 90.50 mm

여기서 Cc : 인장철근이나 긴장재의 표면과 콘크리트 표면사이의 두께(mm)

Smin : 375 x (210 / fs) - 2.5 x Cc = 375 × (210 / 87.629) - 2.5 × 90.5 = 672.427 mm

300 x (210 / fs) = 300 × (210 / 87.629) = 718.941 mm

Sa는 작은 값인 672.427 mm 를 적용

S = 125.00 ≤ Sa (= 672.427 mm) ----- ∴ O.K.

② 상부슬래브 중앙부

* 검토 조건

pmin = max(0.25√fck / fy, 1.4/fy) = 0.00350

fck (Mpa)	fy (Mpa)	β1	Φf	Φv	Mo (kN.m)
30.0	400.0	0.836	0.900	0.850	164.430
B (mm)	H (mm)	d (mm)	피복 (mm)	Mu (kN.m)	Vu (kN)
1000.0	600.0	500.0	100.0	264.450	123.810

전단설계시 단면의 유효높이 ds = 500.0 d1' = 100 d2' = 0

* 휨모멘트 검토

공칭강도시 등가응력깊이 a = (As×fy) / (0.85×fck×B) = 35.953 mm

최외단 인장철근 변형률 εt = 0.03188 ≥ 0.004 ----- ∴ O.K.

여기서 εt = 0.003×(H - a/β1 - Dc_min) / (a/β1)

0.005 ≤ εt 이므로 인장지배단면, Φf = 0.900 를 적용한다.

ⓐ 필요철근량 및 철근비 검토

$Mu / \Phi = As \times fy / (d - a/2)$ ---------- (1)

$a = As \times fy / (0.85 \times fck \times b)$ ---------- (2)

式(2)를 式(1)에 대입하여 2차방정식으로 As를 구한다.

$$\frac{fy^2}{2\times 0.85\times fck\times b}\times As^2 - fy\times d\times As + \frac{Mu}{\Phi} = 0$$

필요 철근량 req.As = 1504.681 mm^2

사용철근비 : Puse = As / (B × D) = 0.00458

최대철근비 : Pmax = 0.714 x k1 x Φx (fck / fy) x {600 / (600 + fy)} = 0.02283

최소철근비 :
- Pmin = 1.4 / fy = 0.00350
- Pmin = 0.25 √fck / fy = 0.00342
- 적용 = 0.0035

As(req) = 1504.681 mm^2 As(min) = 1750.000 mm^2

4/3×As(req) = 2006.242 mm^2 ※ As = 1750.000 mm^2

사용철근량 = H19 × 8ea = 2292.000 ㎟ ----- ∴ O.K.

ⓑ 휨강도 검토

ØMn = Øf · fy · As · (D - a/2) = 397727230 N · mm

= 397.727 kN · m > 264.450 kN · m ----- ∴ O.K. [사용률 = 1.504]

* 전단력 검토

Øv · Vc = Øv · 1/6 · √fck · B · d / 1000 = 387.970 kN

∴ 전단철근이 필요없음.

▣ 사용성 검토 (균열방지 인장철근 간격검토)

ⓐ 응력산정

fs = M / [As x (d - χ/3)]

= 164.43 × 1000000 / [2292×(500 - 111.633/3)]

= 155.018 Mpa

χ = -nAs/b + nAs/b√[1 + 2bd/(nAs)]

= -7 × 2292/1000 + 7 × 2292/1000 × √[(1 + 2×1000×500/(7×2292)]

= 111.633 mm

사용철근량 = 2292.000 mm^2 (철근도심 : 100 mm)

1단 H19 @ 125 (= 2292 ㎟)

ⓑ 철근의 최대 중심간격

Cc = 100 - 19 / 2 = 90.50 mm

여기서 Cc ; 인장철근이나 긴장재의 표면과 콘크리트 표면사이의 두께(mm)

Smin : 375 x (210 / fs) - 2.5 x Cc = 375 × (210 / 155.018) - 2.5 × 90.5 = 281.754 mm

300 x (210 / fs) = 300 × (210 / 155.018) = 406.403 mm

Sa는 작은 값인 281.754 mm 를 적용

S = 125.00 ≤ Sa (= 281.754 mm) ----- ∴ O.K.

③ 하부슬래브 단부

* 검토 조건

pmin = max(0.25√fck / fy, 1.4/fy) = 0.00350

fck (Mpa)	fy (Mpa)	β1	Φf	Φv	Mo (kN.m)
30.0	400.0	0.836	0.900	0.850	163.560
B (mm)	H (mm)	d (mm)	피복 (mm)	Mu (kN.m)	Vu (kN)
1000.0	650.0	550.0	100.0	261.690	394.430

전단설계시 단면의 유효높이 ds = 550.0 d1' = 100 d2' = 0

* 휨모멘트 검토

공칭강도시 등가응력깊이 a = (As×fy) / (0.85×fck×B) = 35.953 mm

최외단 인장철근 변형률 εt = 0.03537 ≥ 0.004 ----- ∴ O.K

여기서 εt = 0.003×(H - a/β1 - Dc_min) / (a/β1)

0.005 ≤ εt 이므로 인장지배단면, Φf = 0.900 를 적용한다.

ⓐ 필요철근량 및 철근비 검토

Mu / Φ = As×fy / (d - a/2) ---------- (1)

a = As×fy / (0.85×fck×b) ---------- (2)

式(2)를 式(1)에 대입하여 2차방정식으로 As를 구한다.

$$\frac{fy^2}{2\times 0.85\times fck\times b}\times As^2 - fy\times d\times As + \frac{Mu}{\Phi} = 0$$

필요 철근량 req.As = 1347.562 mm^2

사용철근비 : Puse = As / (B × D) = 0.00417

최대철근비 : Pmax = 0.714 x k1 x Φx (fck / fy) x {600 / (600 + fy)} = 0.02283

최소철근비 : Pmin = 1.4 / fy = 0.00350
Pmin = 0.25 √fck / fy = 0.00342
적용 = 0.0035

As(req) = 1347.562 mm^2 As(min) = 1925.000 mm^2

4/3×As(req) = 1796.750 mm^2 ※ As = 1796.750 mm^2

사용철근량 = H19 × 8ea = 2292.000 ㎟ ----- ∴ O.K.

ⓑ 휨강도 검토

ØMn = Ø f · fy · As · (D - a/2) = 438983230 N · mm

= 438.983 kN · m > 261.690 kN · m ----- ∴ O.K [사용률 = 1.677]

* 전단력 검토

Øv · Vc = Øv · 1/6 · √fck · B · d / 1000 = 426.767 kN

1/2 x Φv x Vc = 213.384 kN ≤ Vu ≤Φv x Vc ∴ 최소전단 철근을 배근하는것이 좋다.

▣ 사용성 검토 (균열방지 인장철근 간격검토)

ⓐ 응력산정

fs = M / [As x (d - χ/3)]

= 163.56 × 1000000 / [2292×(550 - 117.769/3)]

= 139.720 Mpa

χ = -nAs/b + nAs/b√[1 + 2bd/(nAs)]

= -7 × 2292/1000 + 7 × 2292/1000 × √[(1 + 2×1000×550/(7×2292)]

= 117.769 mm

사용철근량 = 2292.000 mm^2 (철근도심 : 100 mm)

1단 H19 @ 125 (= 2292 ㎟)

ⓑ 철근의 최대 중심간격

Cc = 100 - 19 / 2 = 90.50 mm

여기서 Cc ; 인장철근이나 긴장재의 표면과 콘크리트 표면사이의 두께(mm)

Smin : 375 x (210 / fs) - 2.5 x Cc = 375 × (210 / 139.72) - 2.5 × 90.5 = 337.376 mm

300 x (210 / fs) = 300 × (210 / 139.72) = 450.901 mm

Sa는 작은 값인 337.376 mm 를 적용

S = 125.00 ≤ Sa (= 337.376 mm) ----- ∴ O.K.

④ 하부슬래브 중앙부

* 검토 조건

pmin = max(0.25√fck / fy, 1.4/fy) = 0.00350

fck (Mpa)	fy (Mpa)	β1	Φf	Φv	Mo (kN.m)
30.0	400.0	0.836	0.900	0.850	208.070
B (mm)	H (mm)	d (mm)	피복 (mm)	Mu (kN.m)	Vu (kN)
1000.0	650.0	550.0	100.0	332.910	132.910

전단설계시 단면의 유효높이 ds = 550.0 d1' = 100 d2' = 0

* 휨모멘트 검토

공칭강도시 등가응력깊이 a = (As×fy) / (0.85×fck×B) = 35.953 mm

최외단 인장철근 변형률 εt = 0.03537 ≥ 0.004 ----- ∴ O.K

여기서 εt = 0.003×(H - a/β1 - Dc_min) / (a/β1)

0.005 ≤ εt 이므로 인장지배단면, Φf = 0.900 를 적용한다.

ⓐ 필요철근량 및 철근비 검토

Mu / Φ = As×fy / (d - a/2) ———————— (1)

a = As×fy / (0.85×fck×b) ———————— (2)

式(2)를 式(1)에 대입하여 2차방정식으로 As를 구한다.

$$\frac{fy^2}{2\times 0.85\times fck\times b}\times As^2 - fy\times d\times As + \frac{Mu}{\Phi} = 0$$

필요 철근량 req.As = 1723.735 mm^2

사용철근비 : Puse = As / (B × D) = 0.00417

최대철근비 : Pmax = 0.714 x k1 x Φx (fck / fy) x {600 / (600 + fy)} = 0.02283

최소철근비 : Pmin = 1.4 / fy = 0.00350

Pmin = 0.25 √fck / fy = 0.00342

적용 = 0.0035

As(req) = 1723.735 mm^2 As(min) = 1925.000 mm^2

4/3×As(req) = 2298.313 mm^2 ※ As = 1925.000 mm^2

사용철근량 = H19 × 8ea = 2292.000 ㎟ ----- ∴ O.K. .

ⓑ 휨강도 검토

ØMn = Øf · fy · As · (D - a/2) = 438983230 N · mm

= 438.983 kN · m > 332.910 kN · m ----- ∴ O.K [사용률 = 1.319]

* 전단력 검토

Øv · Vc = Øv · 1/6 · √fck · B · d / 1000 = 426.767 kN

∴ 전단철근이 필요없음.

▣ 사용성 검토 (균열방지 인장철근 간격검토)

ⓐ 응력산정

fs = M / [As x (d - χ/3)]

= 208.07 × 1000000 / [2292×(550 - 117.769/3)]

= 177.743 Mpa

χ = -nAs/b + nAs/b√[1 + 2bd/(nAs)]

= -7 × 2292/1000 + 7 × 2292/1000 × √[(1 + 2×1000×550/(7×2292)]

= 117.769 mm

사용철근량 = 2292.000 mm^2 (철근도심 : 100 mm)

1단 H19 @ 125 (= 2292 mm^2)

ⓑ 철근의 최대 중심간격

Cc = 100 - 19 / 2 = 90.50 mm

여기서 Cc ; 인장철근이나 긴장재의 표면과 콘크리트 표면사이의 두께(mm)

Smin : 375 x (210 / fs) - 2.5 x Cc = 375 × (210 / 177.743) - 2.5 × 90.5 = 216.806 mm

300 x (210 / fs) = 300 × (210 / 177.743) = 354.445 mm

Sa는 작은 값인 216.806 mm 를 적용

S = 125.00 ≤ Sa (= 216.806 mm) ----- ∴ O.K.

⑤ 벽체 상단부

* 검토 조건

pmin = max(0.25√fck / fy, 1.4/fy) = 0.00350

fck (Mpa)	fy (Mpa)	β1	Φf	Φv	Mo (kN.m)
30.0	400.0	0.836	0.900	0.850	152.600
B (mm)	H (mm)	d (mm)	피복 (mm)	Mu (kN.m)	Vu (kN)
1000.0	700.0	600.0	100.0	244.170	198.460

전단설계시 단면의 유효높이 ds = 500.0 d1' = 100 d2' = 0

* 휨모멘트 검토

공칭강도시 등가응력깊이 a = (As×fy) / (0.85×fck×B) = 35.953 mm

최외단 인장철근 변형률 εt = 0.03885 ≥ 0.004 ----- ∴ O.K

여기서 εt = 0.003×(H - a/β1 - Dc_min) / (a/β1)

0.005 ≤ εt 이므로 인장지배단면, Φf = 0.900 를 적용한다.

ⓐ 필요철근량 및 철근비 검토

Mu / Φ = As×fy / (d - a/2) ---------- (1)

a = As×fy / (0.85×fck×b) ---------- (2)

式(2)를 式(1)에 대입하여 2차방정식으로 As를 구한다.

$$\frac{fy^2}{2\times 0.85\times fck\times b}\times As^2 - fy\times d\times As + \frac{Mu}{\Phi} = 0$$

필요 철근량 req.As = 1147.633 mm^2

사용철근비 : Puse = As / (B × D) = 0.00382

최대철근비 : Pmax = 0.714 x k1 x Φx (fck / fy) x {600 / (600 + fy)} = 0.02283

최소철근비 :
- Pmin = 1.4 / fy = 0.00350
- Pmin = 0.25 √fck / fy = 0.00342
- 적용 = 0.0035

As(req) = 1147.633 mm^2 As(min) = 2100.000 mm^2

4/3×As(req) = 1530.178 mm^2 ※ As = 1530.178 mm^2

사용철근량 = H19 × 8ea = 2292.000 ㎟ ----- ∴ O.K.

ⓑ 휨강도 검토

ØMn = Øf · fy · As · (D - a/2) = 480239230 N · mm

= 480.239 kN · m > 244.170 kN · m ----- ∴ O.K [사용률 = 1.967]

* 전단력 검토

Øv · Vc = Øv · 1/6 · √fck · B · d / 1000 = 387.970 kN

1/2 x Φv x Vc = 193.985 kN ≤ Vu ≤Φv x Vc ∴ 슬래브이므로 최소전단 철근 배근이 필요없음.

▣ 사용성 검토 (균열방지 인장철근 간격검토)

ⓐ 응력산정

fs = M / [As x (d - χ/3)]

= 152.6 × 1000000 / [2292×(600 - 123.635/3)]

= 119.150 Mpa

χ = -nAs/b + nAs/b√[1 + 2bd/(nAs)]

= -7 × 2292/1000 + 7 × 2292/1000 × √[(1 + 2×1000×600/(7×2292)]

= 123.635 mm

사용철근량 = 2292.000 mm^2 (철근도심 : 100 mm)

1단 H19 @ 125 (= 2292 ㎟)

ⓑ 철근의 최대 중심간격

Cc = 100 - 19 / 2 = 90.50 mm

여기서 Cc ; 인장철근이나 긴장재의 표면과 콘크리트 표면사이의 두께(mm)

Smin : 375 x (210 / fs) - 2.5 x Cc = 375 × (210 / 119.15) - 2.5 × 90.5 = 434.684 mm

300 x (210 / fs) = 300 × (210 / 119.15) = 528.747 mm

Sa는 작은 값인 434.684 mm 를 적용

S = 125.00 ≤ Sa (= 434.684 mm) ----- ∴ O.K.

⑥ 벽체 중앙부

* 검토 조건

pmin = max(0.25√fck / fy, 1.4/fy) = 0.00350

fck (Mpa)	fy (Mpa)	β1	Φf	Φv	Mo (kN.m)
30.0	400.0	0.836	0.900	0.850	101.430
B (mm)	H (mm)	d (mm)	피복 (mm)	Mu (kN.m)	Vu (kN)
1000.0	600.0	500.0	100.0	162.290	46.890

전단설계시 단면의 유효높이 ds = 500.0 d1' = 100 d2' = 0

* 휨모멘트 검토

공칭강도시 등가응력깊이 a = (As×fy) / (0.85×fck×B) = 35.953 mm

최외단 인장철근 변형률 εt = 0.03188 ≥ 0.004 ----- ∴ O.K

여기서 εt = 0.003×(H - a/β1 - Dc_min) / (a/β1)

0.005 ≤ εt 이므로 인장지배단면, Φf = 0.900 를 적용한다.

ⓐ 필요철근량 및 철근비 검토

Mu / Φ = As×fy / (d - a/2) ---------- (1)

a = As×fy / (0.85×fck×b) ---------- (2)

式(2)를 式(1)에 대입하여 2차방정식으로 As를 구한다.

$$\frac{fy^2}{2\times 0.85\times fck\times b}\times As^2 - fy\times d\times As + \frac{Mu}{\Phi} = 0$$

필요 철근량 req.As = 914.736 mm^2

사용철근비 : Puse = As / (B × D) = 0.00458

최대철근비 : Pmax = 0.714 x k1 x Φx (fck / fy) x {600 / (600 + fy)} = 0.02283

최소철근비 : Pmin = 1.4 / fy = 0.00350

Pmin = 0.25 √fck / fy = 0.00342

적용 = 0.0035

As(req) = 914.736 mm^2 As(min) = 1750.000 mm^2

4/3×As(req) = 1219.649 mm^2 ※ As = 1219.649 mm^2

사용철근량 = H19 × 8ea = 2292.000 ㎟ ----- ∴ O.K.

ⓑ 휨강도 검토

ØMn = Ø f · fy · As · (D - a/2) = 397727230 N · mm

= 397.727 kN · m > 162.290 kN · m ----- ∴ O.K [사용률 = 2.451]

* 전단력 검토

Øv · Vc = Øv · 1/6 · √fck · B · d / 1000 = 387.970 kN

∴ 전단철근이 필요없음.

▣ 사용성 검토 (균열방지 인장철근 간격검토)

ⓐ 응력산정

fs = M / [As x (d - χ/3)]

= 101.43 × 1000000 / [2292×(500 - 111.633/3)]

= 95.624 Mpa

χ = -nAs/b + nAs/b√[1 + 2bd/(nAs)]

= -7 × 2292/1000 + 7 × 2292/1000 × √[(1 + 2×1000×500/(7×2292)]

= 111.633 mm

사용철근량 = 2292.000 mm^2 (철근도심 : 100 mm)

1단 H19 @ 125 (= 2292 mm^2)

ⓑ 철근의 최대 중심간격

Cc = 100 - 19 / 2 = 90.50 mm

여기서 Cc ; 인장철근이나 긴장재의 표면과 콘크리트 표면사이의 두께(mm)

Smin : 375 x (210 / fs) - 2.5 x Cc = 375 × (210 / 95.624) - 2.5 × 90.5 = 597.284 mm

300 x (210 / fs) = 300 × (210 / 95.624) = 658.828 mm

Sa는 작은 값인 597.284 mm 를 적용

S = 125.00 ≤ Sa (= 597.284 mm) ------ ∴ O.K.

⑦ 벽체 하단부

* 검토 조건

pmin = max(0.25√fck / fy, 1.4/fy) = 0.00350

fck (Mpa)	fy (Mpa)	β1	Φf	Φv	Mo (kN.m)
30.0	400.0	0.836	0.900	0.850	176.950
B (mm)	H (mm)	d (mm)	피복 (mm)	Mu (kN.m)	Vu (kN)
1000.0	600.0	500.0	100.0	283.120	260.170

전단설계시 단면의 유효높이 ds = 500.0 d1' = 100 d2' = 0

* 휨모멘트 검토

공칭강도시 등가응력깊이 a = (As×fy) / (0.85×fck×B) = 35.953 mm

최외단 인장철근 변형률 εt = 0.03188 ≥ 0.004 ----- ∴ O.K

여기서 εt = 0.003×(H - a/β1 - Dc_min) / (a/β1)

0.005 ≤ εt 이므로 인장지배단면, Φf = 0.900 를 적용한다.

ⓐ 필요철근량 및 철근비 검토

Mu / Φ = As×fy / (d - a/2) ---------- (1)

a = As×fy / (0.85×fck×b) ---------- (2)

式(2)를 式(1)에 대입하여 2차방정식으로 As를 구한다.

$$\frac{fy^2}{2\times 0.85\times fck\times b}\times As^2 - fy\times d\times As + \frac{Mu}{\Phi} = 0$$

필요 철근량 req.As = 1613.738 mm^2

사용철근비 : Puse = As / (B × D) = 0.00458

최대철근비 : Pmax = 0.714 x k1 x Φx (fck / fy) x {600 / (600 + fy)} = 0.02283

최소철근비 :
- Pmin = 1.4 / fy = 0.00350
- Pmin = 0.25 √fck / fy = 0.00342
- 적용 = 0.0035

As(req) = 1613.738 mm^2 As(min) = 1750.000 mm^2

4/3×As(req) = 2151.651 mm^2 ※ As = 1750.000 mm^2

사용철근량 = H19 × 8ea = 2292.000 ㎟ ----- ∴ O.K.

ⓑ 휨강도 검토

ØMn = Øf · fy · As · (D - a/2) = 397727230 N · mm

= 397.727 kN · m > 283.120 kN · m ----- ∴ O.K [사용률 = 1.405]

* 전단력 검토

Øv · Vc = Øv · 1/6 · √fck · B · d / 1000 = 387.970 kN

1/2 x Φv x Vc = 193.985 kN ≤ Vu ≤Φv x Vc ∴ 슬래브이므로 최소전단 철근 배근이 필요없음.

▣ 사용성 검토 (균열방지 인장철근 간격검토)

ⓐ 응력산정

fs = M / [As x (d - χ/3)]

= 176.95 × 1000000 / [2292×(500 - 111.633/3)]

= 166.822 Mpa

χ = -nAs/b + nAs/b√[1 + 2bd/(nAs)]

= -7 × 2292/1000 + 7 × 2292/1000 × √[(1 + 2×1000×500/(7×2292)]

= 111.633 mm

사용철근량 = 2292.000 mm^2 (철근도심 : 100 mm)

1단 H19 @ 125 (= 2292 ㎟)

ⓑ 철근의 최대 중심간격

Cc = 100 - 19 / 2 = 90.50 mm

여기서 Cc ; 인장철근이나 긴장재의 표면과 콘크리트 표면사이의 두께(mm)

Smin : 375 x (210 / fs) - 2.5 x Cc = 375 × (210 / 166.822) - 2.5 × 90.5 = 245.810 mm

300 x (210 / fs) = 300 × (210 / 166.822) = 377.648 mm

Sa는 작은 값인 245.810 mm 를 적용

S = 125.00 ≤ Sa (= 245.81 mm) ----- ∴ O.K.

⑤ 벽체 상단부 - Pmax 일 경우

설계축력	:	Pu	=	441.31	(kN) ,	설계모멘트	:	Mu	=	135.90	(kN · m)	
설계전단력	:	Vu	=	198.46	(kN) ,	사용 모멘트	:	M	=	57.37	(kN.m)	
부 재 높 이	:	H	=	700.0	(mm) ,	f_y	=	400	MPa	f_{ck}	=	30 MPa
폭	:	b	=	1000	(mm) ,	ϕ_f	=	0.90	,	ϕ_v	=	0.85
유효높이(휨)	:	d	=	600.0	(mm) ,	d'	=	100	(mm),	ϕc	=	0.70
유효높이(전단)	:	d	=	500.0	(mm) ,	k_1	=	0.836	,	e	=	307.95 (mm)

○ 휨철근량 계산

- 철근비검토

As = H 19 @ 8 EA = 22.920 cm^2 , d1 = 10.0 cm

Σ = 22.920 cm^2

Asf = H 19 @ 4 EA = 11.460 cm^2 , d'1 = 10.0 cm

Pmin (0.0015) < Puse (0.0049) < Pmax (0.0800) ———— O.K!!!

- 평형하중 산정

소성중심 계산

Cc = 0.84 x 30 x 700.00 x 1000.00 = 17556000.000 N

Cs = As x fy = 916800.00 N , Cs' = Asf x fy = 458400.000 N

Xp = (17556000.00 x 350.0 + 916800.0 x 100.0 + 458400.0 x 600.0) / 18931200.000

= 343.947 mm

- 평형상태 계산

Cb = 600 / (600 + fy) x d = 360.000 mm, ab = k1 x cb = 300.960 mm

fs' = 600 x (360.000 - 100.0) / 360.0(= 400 Mpa (fs' ≤ fy)

Cc = 0.836 x 30 x 300.960 x 1000 = 7548076.800 N

Cs = As' x (fs' - 0.9 x fck) = 427458.000 N

Ts = As x fs = 916800.000 N

Pb = 7548076.800 + 427458.000 - 916800.000 = 7058734.800 N

Mb = 7548076.800x(600.0-300.960/2)+427458.000x(600.0-100.0)-7058734.800x(343.947-100.0)

= 1884786827.089 N.mm

eb < e → 인장파괴 (eb = Mb / Pb = 267.015 mm)

- 공칭강도 계산 : 반복계산을 통해 c = 299.415 mm , a = k1 x c = 250.311 mm 사용

fs = 600 x (600.000 - 299.415) / 299.415 = 400 Mpa (fs ≤ fy)

fs' = 600 x (299.415 - 100.000) / 299.415 = 399.6093 Mpa (fs ≤ fy)

Cc = 0.836 x 30 x 250.311 x 1000 = 6277800.472 N

Cs = 1146.000 x (399.609 - 0.836 x 30) = 429210.583 N

Ts = 2292.000 x 400.000 = 916800.000 N

Pn = 6277800.472 + 429210.583 - 916800.000 = 5790211.055 N

Mn' = 6277800.472 x (600.0 - 250.311 / 2) + 429210.583 x (600.0 - 100.0)

= 3195584243.827 N.mm

- 편심오차 : | e' - Mn'/Pn | = 0.001 < 0.001 (e' = e + Xp - dc = 551.893296 mm)

- 축방향력 및 휨에대한 검토

(max) Pn = 0.80 x { 0.85 fck x (Ag - Ast) + fy x Ast} : 15310024.800 N ≥ Pn = 5790211.055

ΦPn = 4053147.739 > ΦPb = 4941114.360 , 0.1 x fck x Ag = 2100000.000

∴ Φ = 0.700

ΦPn = 0.70 x 5790211.055 = 4053.148 kN ≥ Pu = 441.310 kN ------- O.K!!!

ΦMn = ΦPn x 307.947 = 1248.154 kN.m ≥ Mu = 135.900 kN.m ------- O.K!!!

○ 전단력 검토

$\phi Vc = 0.85 \times 1/6 \times (1 + Pu / (14 \times Ag)) \times \sqrt{fck} \times bo \times d$ = 405441.074 N

여기서 , Vu < 1/2ϕVc 이므로 전단철근보강 불필요

○ 사용성 검토 (균열방지 인장철근 간격검토)

- 응력산정

$fs = M / [As \times (d - \chi/3)]$

$= 57.37 \times 1000000 / [2292 \times (600 - 123.635/3)]$

= 44.794 Mpa

$\chi = -nAs/b + nAs/b\sqrt{[1 + 2bd/(nAs)]}$

$= -7 \times 2292/1000 + 7 \times 2292/1000 \times \sqrt{[(1 + 2 \times 1000 \times 600/(7 \times 2292)]}$

= 123.635 mm

사용철근량 = 2292.000 mm^2 (철근도심 : 100 mm)

1단 H19 @ 125 (= 2292 ㎟)

- 철근의 최대 중심간격

Cc = 100 - 19 / 2 = 90.50 mm

여기서 Cc ; 인장철근이나 긴장재의 표면과 콘크리트 표면사이의 두께(mm)

Smin : 375 x (210 / fs) - 2.5 x Cc = 375 × (210 / 44.794) - 2.5 × 90.5 = 1531.786 mm

300 x (210 / fs) = 300 × (210 / 44.794) = 1406.428 mm

Sa는 작은 값인 1406.428 mm 를 적용

S = 125.00 ≤ Sa (= 1406.428 mm) ------ ∴ O.K.

⑥ 벽체 상단부 - Mmax 일 경우

설계축력	:	Pu	=	393.65	(kN) ,	설계모멘트	:	Mu	=	244.17	(kN · m)	
설계전단력	:	Vu	=	198.46	(kN) ,	사용 모멘트	:	M	=	152.60	(kN.m)	
부 재 높 이	:	H	=	700.0	(mm) ,	f_y	=	400	MPa	f_{ck}	=	30 MPa
폭	:	b	=	1000	(mm) ,	ϕ_f	=	0.90	,	ϕ_v	=	0.85
유효높이(휨)	:	d	=	600.0	(mm) ,	d'	=	100	(mm),	ϕc	=	0.70
유효높이(전단)	:	d	=	500.0	(mm) ,	k_1	=	0.836	,	e	=	620.27 (mm)

○ 휨철근량 계산

- 철근비검토

As = H 19 @ 8 EA = 22.920 cm^2 , d1 = 10.0 cm

Σ = 22.920 cm^2

Asf = H 19 @ 4 EA = 11.460 cm^2 , d'1 = 10.0 cm

Pmin (0.0015) < Puse (0.0049) < Pmax (0.0800) ———— O.K!!!

- 평형하중 산정

소성중심 계산

Cc = 0.84 x 30 x 700.00 x 1000.00 = 17556000.000 N

Cs = As x fy = 916800.00 N , Cs' = Asf x fy = 458400.000 N

Xp = (17556000.00 x 350.0 + 916800.0 x 100.0 + 458400.0 x 600.0) / 18931200.000

= 343.947 mm

- 평형상태 계산

Cb = 600 / (600 + fy) x d = 360.000 mm, ab = k1 x cb = 300.960 mm

fs' = 600 x (360.000 - 100.0) / 360.0(= 400 Mpa (fs' ≤ fy)

Cc = 0.836 x 30 x 300.960 x 1000 = 7548076.800 N

Cs = As' x (fs' - 0.9 x fck) = 427458.000 N

Ts = As x fs = 916800.000 N

Pb = 7548076.800 + 427458.000 - 916800.000 = 7058734.800 N

Mb = 7548076.800x(600.0-300.960/2)+427458.000x(600.0-100.0)-7058734.800x(343.947-100.0)

= 1884786827.089 N.mm

eb < e → 인장파괴 (eb = Mb / Pb = 267.015 mm)

- 공칭강도 계산 : 반복계산을 통해 c = 116.815 mm , a = k1 x c = 97.658 mm 사용

fs = 600 x (600.000 - 116.815) / 116.815 = 400 Mpa (fs ≤ fy)

fs' = 600 x (116.815 - 100.000) / 116.815 = 86.36905 Mpa (fs ≤ fy)

Cc = 0.836 x 30 x 97.658 x 1000 = 2449254.264 N

Cs = 1146.000 x (86.369 - 0.836 x 30) = 70237.249 N

Ts = 2292.000 x 400.000 = 916800.000 N

Pn = 2449254.264 + 70237.249 - 916800.000 = 1602691.513 N

Mn' = 2449254.264 x (600.0 - 97.658 / 2) + 70237.249 x (600.0 - 100.0)

= 1385076955.452 N.mm

- 편심오차 : | e' - Mn'/Pn | = 0.001 < 0.001 (e' = e + Xp - dc = 864.218316 mm)

- 축방향력 및 휨에대한 검토

(max) Pn = 0.80 x { 0.85 fck x (Ag - Ast) + fy x Ast} : 15310024.800 N ≥ Pn = 1602691.513

ΦPn = 1121884.059 < ΦPb = 4941114.360 , 0.1 x fck x Ag = 2100000.000

∴ Φ = 0.770

ΦPn = 0.77 x 1602691.513 = 1234.072 kN ≥ Pu = 393.650 kN ------- O.K!!!

ΦMn = ΦPn x 620.272 = 765.460 kN.m ≥ Mu = 244.170 kN.m ------- O.K!!!

○ 전단력 검토

$\phi Vc = 0.85 \times 1/6 \times (1 + Pu / (14 \times Ag)) \times \sqrt{fck} \times bo \times d$ = 403554.272 N

여기서 , Vu < 1/2ϕVc 이므로 전단철근보강 불필요

○ 사용성 검토 (균열방지 인장철근 간격검토)

- 응력산정

fs = M / [As x (d - χ/3)]

= 152.6 × 1000000 / [2292×(600 - 123.635/3)]

= 119.150 Mpa

$\chi = -nAs/b + nAs/b\sqrt{[1 + 2bd/(nAs)]}$

$= -7 \times 2292/1000 + 7 \times 2292/1000 \times \sqrt{[(1 + 2\times 1000\times 600/(7\times 2292)]}$

= 123.635 mm

사용철근량 = 2292.000 mm^2 (철근도심 : 100 mm)

1단 H19 @ 125 (= 2292 ㎟)

- 철근의 최대 중심간격

Cc = 100 - 19 / 2 = 90.50 mm

여기서 Cc : 인장철근이나 긴장재의 표면과 콘크리트 표면사이의 두께(mm)

Smin : 375 x (210 / fs) - 2.5 x Cc = 375 × (210 / 119.15) - 2.5 × 90.5 = 434.684 mm

300 x (210 / fs) = 300 × (210 / 119.15) = 528.747 mm

Sa는 작은 값인 434.684 mm 를 적용

S = 125.00 ≤ Sa (= 434.684 mm) ----- ∴ O.K.

⑦ 벽체 중앙부 - Pmax 일 경우

설계축력	:	Pu	=	483.65	(kN) ,	설계모멘트	:	Mu	=	3.39	(kN·m)		
설계전단력	:	Vu	=	58.44	(kN) ,	사용 모멘트	:	M	=	4.43	(kN.m)		
부 재 높 이	:	H	=	600.0	(mm) ,	f_y	=	400	MPa	f_{ck}	=	30	MPa
폭	:	b	=	1000	(mm) ,	ϕ_f	=	0.90	,	ϕ_v	=	0.85	
유효높이(휨)	:	d	=	500.0	(mm) ,	d'	=	100	(mm),	ϕc	=	0.70	
유효높이(전단)	:	d	=	500.0	(mm) ,	k_1	=	0.836	,	e	=	7.01	(mm)

○ 휨철근량 계산

- 철근비검토

As = H 19 @ 8 EA = 22.920 cm^2 , d1 = 10.0 cm

Σ = 22.920 cm^2

Asf = H 19 @ 4 EA = 11.460 cm^2 , d'1 = 10.0 cm

Pmin (0.0015) < Puse (0.0057) < Pmax (0.0800) ———— O.K!!!

- 평형하중 산정

소성중심 계산

Cc = 0.84 x 30 x 600.00 x 1000.00 = 15048000.000 N

Cs = As x fy = 916800.00 N , Cs' = Asf x fy = 458400.000 N

Xp = (15048000.00 x 300.0 + 916800.0 x 100.0 + 458400.0 x 500.0) / 16423200.000

= 294.418 mm

- 평형상태 계산

Cb = 600 / (600 + fy) x d = 300.000 mm, ab = k1 x cb = 250.800 mm

fs' = 600 x (300.000 - 100.0) / 300.0(= 400 Mpa (fs' ≤ fy)

Cc = 0.836 x 30 x 250.800 x 1000 = 6290064.000 N

Cs = As' x (fs' - 0.9 x fck) = 427458.000 N

Ts = As x fs = 916800.000 N

Pb = 6290064.000 + 427458.000 - 916800.000 = 5800722.000 N

Mb = 6290064.000x(500.0-250.800/2)+427458.000x(500.0-100.0)-5800722.000x(294.418-100.0)

= 1399478417.013 N.mm

eb > e → 압축파괴 (eb = Mb / Pb = 241.259 mm)

- 공칭강도 계산 : 반복계산을 통해 c = 714.627 mm , a = k1 x c = 597.428 mm 사용

fs = 600 x (500.000 - 714.627) / 714.627 = -180.2 Mpa (fs ≤ fy)

fs' = 600 x (714.627 - 100.000) / 714.627 = 400 Mpa (fs ≤ fy)

Cc = 0.836 x 30 x 597.428 x 1000 = 14983492.264 N

Cs = 1146.000 x (400.000 - 0.836 x 30) = 429658.320 N

Ts = 2292.000 x -180.200 = -413019.326 N

Pn = 14983492.264 + 429658.320 - -413019.326 = 15826169.910 N

Mn' = 14983492.264 x (500.0 - 597.428 / 2) + 429658.320 x (500.0 - 100.0)

= 3187831142.140 N.mm

- 편심오차 : | e' - Mn'/Pn | = 0.001 < 0.001 (e' = e + Xp - dc = 201.426854 mm)

- 축방향력 및 휨에대한 검토

(max) Pn = 0.80 x { 0.85 fck x (Ag - Ast) + fy x Ast} : 13270024.800 N ≤ Pn = 15826169.910

ΦPn = 11078318.937 > ΦPb = 4060505.400 , 0.1 x fck x Ag = 1800000.000

∴ Φ = 0.700

ΦPn = 0.70 x 15826169.910 = 11078.319 kN ≥ Pu = 483.650 kN ------ O.K!!!

ΦMn = ΦPn x 7.009 = 77.650 kN.m ≥ Mu = 3.390 kN.m ------ O.K!!!

○ 전단력 검토

$\phi Vc = 0.85 \times 1/6 \times (1 + Pu / (14 \times Ag)) \times \sqrt{fck} \times bo \times d$ = 410308.450 N

여기서 , Vu < 1/2φVc 이므로 전단철근보강 불필요

○ 사용성 검토 (균열방지 인장철근 간격검토)

- 응력산정

fs = M / [As x (d - χ/3)]

= 4.43 × 1000000 / [2292×(500 - 111.633/3)]

= 4.176 Mpa

$\chi = -nAs/b + nAs/b\sqrt{[1 + 2bd/(nAs)]}$

$= -7 \times 2292/1000 + 7 \times 2292/1000 \times \sqrt{[(1 + 2\times1000\times500/(7\times2292)]}$

= 111.633 mm

사용철근량 = 2292.000 mm^2 (철근도심 : 100 mm)

1단 H19 @ 125 (= 2292 ㎟)

- 철근의 최대 중심간격

Cc = 100 - 19 / 2 = 90.50 mm

여기서 Cc ; 인장철근이나 긴장재의 표면과 콘크리트 표면사이의 두께(mm)

Smin : 375 x (210 / fs) - 2.5 x Cc = 375 × (210 / 4.176) - 2.5 × 90.5 = ######## mm

300 x (210 / fs) = 300 × (210 / 4.176) = ######## mm

Sa는 작은 값인 ######## mm 를 적용

S = 125.00 ≤ Sa (= 15084.623 mm) ----- ∴ O.K.

⑧ 벽체 중앙부 - Mmax 일 경우

설계축력	:	Pu	=	440.69	(kN) ,	설계모멘트	:	Mu	=	162.29	(kN·m)		
설계전단력	:	Vu	=	46.89	(kN) ,	사용 모멘트	:	M	=	101.43	(kN.m)		
부 재 높 이	:	H	=	600.0	(mm) ,	f_y	=	400	MPa	f_{ck}	=	30	MPa
폭	:	b	=	1000	(mm) ,	ϕ_f	=	0.90	,	ϕ_v	=	0.85	
유효높이(휨)	:	d	=	500.0	(mm) ,	d'	=	100	(mm),	ϕc	=	0.70	
유효높이(전단)	:	d	=	500.0	(mm) ,	k_1	=	0.836	,	e	=	368.26	(mm)

○ 휨철근량 계산

- 철근비검토

As = H 19 @ 8 EA = 22.920 cm^2 , d1 = 10.0 cm

Σ = 22.920 cm^2

Asf = H 19 @ 4 EA = 11.460 cm^2 , d'1 = 10.0 cm

Pmin (0.0015) < Puse (0.0057) < Pmax (0.0800) ---------- O.K!!!

- 평형하중 산정

소성중심 계산

Cc = 0.84 x 30 x 600.00 x 1000.00 = 15048000.000 N

Cs = As x fy = 916800.00 N , Cs' = Asf x fy = 458400.000 N

Xp = (15048000.00 x 300.0 + 916800.0 x 100.0 + 458400.0 x 500.0) / 16423200.000

= 294.418 mm

- 평형상태 계산

Cb = 600 / (600 + fy) x d = 300.000 mm, ab = k1 x cb = 250.800 mm

fs' = 600 x (300.000 - 100.0) / 300.0(= 400 Mpa (fs' ≤ fy)

Cc = 0.836 x 30 x 250.800 x 1000 = 6290064.000 N

Cs = As' x (fs' - 0.9 x fck) = 427458.000 N

Ts = As x fs = 916800.000 N

Pb = 6290064.000 + 427458.000 - 916800.000 = 5800722.000 N

Mb = 6290064.000x(500.0-250.800/2)+427458.000x(500.0-100.0)-5800722.000x(294.418-100.0)

= 1399478417.013 N.mm

eb < e → 인장파괴 (eb = Mb / Pb = 241.259 mm)

- 공칭강도 계산 : 반복계산을 통해 c = 169.525 mm , a = k1 x c = 141.723 mm 사용

fs = 600 x (500.000 - 169.525) / 169.525 = 400 Mpa (fs ≤ fy)

fs' = 600 x (169.525 - 100.000) / 169.525 = 246.0693 Mpa (fs ≤ fy)

Cc = 0.836 x 30 x 141.723 x 1000 = 3554404.042 N

Cs = 1146.000 x (246.069 - 0.836 x 30) = 253253.709 N

Ts = 2292.000 x 400.000 = 916800.000 N

Pn = 3554404.042 + 253253.709 - 916800.000 = 2890857.751 N

Mn' = 3554404.042 x (500.0 - 141.723 / 2) + 253253.709 x (500.0 - 100.0)

= 1626633725.989 N.mm

- 편심오차 : | e' - Mn'/Pn | = 0.001 < 0.001 (e' = e + Xp - dc = 562.681058 mm)

- 축방향력 및 휨에대한 검토

(max) Pn = 0.80 x { 0.85 fck x (Ag - Ast) + fy x Ast} : 13270024.800 N ≥ Pn = 2890857.751

ΦPn = 2023600.426 > ΦPb = 4060505.400 , 0.1 x fck x Ag = 1800000.000

∴ Φ = 0.700

ΦPn = 0.70 x 2890857.751 = 2023.600 kN ≥ Pu = 440.690 kN ------- O.K!!!

ΦMn = ΦPn x 368.263 = 745.218 kN.m ≥ Mu = 162.290 kN.m ------ O.K!!!

○ 전단력 검토

$\phi Vc = 0.85 \times 1/6 \times (1 + Pu / (14 \times Ag)) \times \sqrt{fck} \times bo \times d$ = 408324.260 N

여기서 , Vu < 1/2φVc 이므로 전단철근보강 불필요

○ 사용성 검토 (균열방지 인장철근 간격검토)

- 응력산정

$fs = M / [As \times (d - \chi/3)]$

$= 101.43 \times 1000000 / [2292 \times (500 - 111.633/3)]$

= 95.624 Mpa

$\chi = -nAs/b + nAs/b\sqrt{[1 + 2bd/(nAs)]}$

$= -7 \times 2292/1000 + 7 \times 2292/1000 \times \sqrt{[(1 + 2 \times 1000 \times 500/(7 \times 2292)]}$

= 111.633 mm

사용철근량 = 2292.000 mm^2 (철근도심 : 100 mm)

1단 H19 @ 125 (= 2292 ㎟)

- 철근의 최대 중심간격

Cc = 100 - 19 / 2 = 90.50 mm

여기서 Cc ; 인장철근이나 긴장재의 표면과 콘크리트 표면사이의 두께(mm)

Smin : 375 x (210 / fs) - 2.5 x Cc = 375 × (210 / 95.624) - 2.5 × 90.5 = 597.28 mm

300 x (210 / fs) = 300 × (210 / 95.624) = 658.83 mm

Sa는 작은 값인 597.28 mm 를 적용

S = 125.00 ≤ Sa (= 597.284 mm) ------ ∴ O.K.

⑨ 벽체 하단부 - Pmax 일 경우

설계축력	:	Pu	=	531.27	(kN) ,	설계모멘트	:	Mu	=	228.29	(kN·m)	
설계전단력	:	Vu	=	260.17	(kN) ,	사용 모멘트	:	M	=	27.68	(kN.m)	
부 재 높 이	:	H	=	600.0	(mm) ,	f_y	=	400	MPa	f_{ck}	=	30 MPa
폭	:	b	=	1000	(mm) ,	ϕ_f	=	0.90	,	ϕ_v	=	0.85
유효높이(휨)	:	d	=	500.0	(mm) ,	d'	=	100	(mm),	ϕc	=	0.70
유효높이(전단)	:	d	=	500.0	(mm) ,	k_1	=	0.836	,	e	=	429.71 (mm)

○ 휨철근량 계산

- 철근비검토

As = H 19 @ 8 EA = 22.920 cm^2 , d1 = 10.0 cm

Σ = 22.920 cm^2

Asf = H 19 @ 4 EA = 11.460 cm^2 , d'1 = 10.0 cm

Pmin (0.0015) < Puse (0.0057) < Pmax (0.0800) ---------- O.K!!!

- 평형하중 산정

소성중심 계산

Cc = 0.84 x 30 x 600.00 x 1000.00 = 15048000.000 N

Cs = As x fy = 916800.00 N , Cs' = Asf x fy = 458400.000 N

Xp = (15048000.00 x 300.0 + 916800.0 x 100.0 + 458400.0 x 500.0) / 16423200.000

= 294.418 mm

- 평형상태 계산

Cb = 600 / (600 + fy) x d = 300.000 mm, ab = k1 x cb = 250.800 mm

fs' = 600 x (300.000 - 100.0) / 300.0(= 400 Mpa (fs' ≤ fy)

Cc = 0.836 x 30 x 250.800 x 1000 = 6290064.000 N

Cs = As' x (fs' - 0.9 x fck) = 427458.000 N

Ts = As x fs = 916800.000 N

Pb = 6290064.000 + 427458.000 - 916800.000 = 5800722.000 N

Mb = 6290064.000x(500.0-250.800/2)+427458.000x(500.0-100.0)-5800722.000x(294.418-100.0)

= 1399478417.013 N.mm

eb < e → 인장파괴 (eb = Mb / Pb = 241.259 mm)

- 공칭강도 계산 : 반복계산을 통해 c = 139.740 mm , a = k1 x c = 116.822 mm 사용

fs = 600 x (500.000 - 139.740) / 139.740 = 400 Mpa (fs ≤ fy)

fs' = 600 x (139.740 - 100.000) / 139.740 = 170.6306 Mpa (fs ≤ fy)

Cc = 0.836 x 30 x 116.822 x 1000 = 2929907.618 N

Cs = 1146.000 x (170.631 - 0.836 x 30) = 166800.939 N

Ts = 2292.000 x 400.000 = 916800.000 N

Pn = 2929907.618 + 166800.939 - 916800.000 = 2179908.557 N

Mn' = 2929907.618 x (500.0 - 116.822 / 2) + 166800.939 x (500.0 - 100.0)

= 1360534658.044 N.mm

- 편심오차 : | e' - Mn'/Pn | = 0.001 < 0.001 (e' = e + Xp - dc = 624.123829 mm)

- 축방향력 및 휨에대한 검토

(max) Pn = 0.80 x { 0.85 fck x (Ag - Ast) + fy x Ast} : 13270024.800 N ≥ Pn = 2179908.557

ΦPn = 1525935.990 < ΦPb = 4060505.400 , 0.1 x fck x Ag = 1800000.000

∴ Φ = 0.720

ΦPn = 0.72 x 2179908.557 = 1569.534 kN ≥ Pu = 531.270 kN ——— O.K!!!

ΦMn = ΦPn x 429.706 = 674.439 kN.m ≥ Mu = 228.290 kN.m ——— O.K!!!

○ 전단력 검토

$\phi Vc = 0.85 \times 1/6 \times (1 + Pu / (14 \times Ag)) \times \sqrt{fck} \times bo \times d$ = 412507.871 N

여기서 , $1/2\phi Vc < Vu \leq \phi Vc$ 이므로 최소 전단 철근 필요

- 계산된 스터럽 : min.Av = 0.35x(bo x s / fy)= 1.31㎠

- 배근할 스터럽 : H 13 다리수: N = 2 스터럽 간격 : s = 15 cm O.K !!!

Av(req)= 1.31㎠ < Av = 2.534 ㎠ O.K !!!

○ 사용성 검토 (균열방지 인장철근 간격검토)

- 응력산정

$fs = M / [As \times (d - \chi/3)]$

$= 27.68 \times 1000000 / [2292 \times (500 - 111.633/3)]$

= 26.096 Mpa

$\chi = -nAs/b + nAs/b\sqrt{[1 + 2bd/(nAs)]}$

$= -7 \times 2292/1000 + 7 \times 2292/1000 \times \sqrt{[(1 + 2 \times 1000 \times 500/(7 \times 2292)]}$

= 111.633 ㎜

사용철근량 = 2292.000 $㎜^2$ (철근도심 : 100 ㎜)

1단 H19 @ 125 (= 2292 ㎟)

- 철근의 최대 중심간격

Cc = 100 - 19 / 2 = 90.50 ㎜

여기서 Cc ; 인장철근이나 긴장재의 표면과 콘크리트 표면사이의 두께(㎜)

Smin : 375 x (210 / fs) - 2.5 x Cc = 375 × (210 / 26.096) - 2.5 × 90.5 = 2791.49 ㎜

300 x (210 / fs) = 300 × (210 / 26.096) = 2414.19 ㎜

Sa는 작은 값인 2414.19 ㎜ 를 적용

S = 125.00 ≤ Sa (= 2414.194 ㎜) ----- ∴ O.K.

⑩ 벽체 하단부 - Mmax 일 경우

설계축력	:	Pu	=	482.59	(kN) ,	설계모멘트	:	Mu	=	283.12	(kN · m)	
설계전단력	:	Vu	=	260.17	(kN) ,	사용 모멘트	:	M	=	176.95	(kN.m)	
부 재 높 이	:	H	=	600.0	(mm) ,	f_y	=	400	MPa	f_{ck}	=	30 MPa
폭	:	b	=	1000	(mm) ,	ϕ_f	=	0.90	,	ϕ_v	=	0.85
유효높이(휨)	:	d	=	500.0	(mm) ,	d'	=	100	(mm),	ϕc	=	0.70
유효높이(전단)	:	d	=	500.0	(mm) ,	k_1	=	0.836	,	e	=	586.67 (mm)

○ 휨철근량 계산

- 철근비검토

As = H 19 @ 8 EA = 22.920 cm^2 , d1 = 10.0 cm

Σ = 22.920 cm^2

Asf = H 19 @ 4 EA = 11.460 cm^2 , d'1 = 10.0 cm

Pmin (0.0015) < Puse (0.0057) < Pmax (0.0800) ———— O.K!!!

- 평형하중 산정

소성중심 계산

Cc = 0.84 x 30 x 600.00 x 1000.00 = 15048000.000 N

Cs = As x fy = 916800.00 N , Cs' = Asf x fy = 458400.000 N

Xp = (15048000.00 x 300.0 + 916800.0 x 100.0 + 458400.0 x 500.0) / 16423200.000

= 294.418 mm

- 평형상태 계산

Cb = 600 / (600 + fy) x d = 300.000 mm, ab = k1 x cb = 250.800 mm

fs' = 600 x (300.000 - 100.0) / 300.0(= 400 Mpa (fs' ≤ fy)

Cc = 0.836 x 30 x 250.800 x 1000 = 6290064.000 N

Cs = As' x (fs' - 0.9 x fck) = 427458.000 N

Ts = As x fs = 916800.000 N

Pb = 6290064.000 + 427458.000 - 916800.000 = 5800722.000 N

Mb = 6290064.000x(500.0-250.800/2)+427458.000x(500.0-100.0)-5800722.000x(294.418-100.0)

= 1399478417.013 N.mm

eb < e → 인장파괴 (eb = Mb / Pb = 241.259 mm)

- 공칭강도 계산 : 반복계산을 통해 c = 104.914 mm , a = k1 x c = 87.708 mm 사용

fs = 600 x (500.000 - 104.914) / 104.914 = 400 Mpa (fs ≤ fy)

fs' = 600 x (104.914 - 100.000) / 104.914 = 28.10411 Mpa (fs ≤ fy)

Cc = 0.836 x 30 x 87.708 x 1000 = 2199723.442 N

Cs = 1146.000 x (28.104 - 0.836 x 30) = 3465.628 N

Ts = 2292.000 x 400.000 = 916800.000 N

Pn = 2199723.442 + 3465.628 - 916800.000 = 1286389.069 N

Mn' = 2199723.442 x (500.0 - 87.708 / 2) + 3465.628 x (500.0 - 100.0)

= 1004781001.828 N.mm

- 편심오차 : | e' - Mn'/Pn | = 0.001 < 0.001 (e' = e + Xp - dc = 781.085425 mm)

- 축방향력 및 휨에대한 검토

(max) Pn = 0.80 x { 0.85 fck x (Ag - Ast) + fy x Ast} : 13270024.800 N ≥ Pn = 1286389.069

ΦPn = 900472.349 < ΦPb = 4060505.400 , 0.1 x fck x Ag = 1800000.000

∴ Φ = 0.770

ΦPn = 0.77 x 1286389.069 = 990.520 kN ≥ Pu = 482.590 kN ------- O.K!!!

ΦMn = ΦPn x 586.668 = 581.106 kN.m ≥ Mu = 283.120 kN.m ------- O.K!!!

○ 전단력 검토

$\phi Vc = 0.85 \times 1/6 \times (1 + Pu / (14 \times Ag)) \times \sqrt{fck} \times bo \times d$ = 410259.492 N

여기서 , $1/2\phi Vc < Vu \leq \phi Vc$ 이므로 최소 전단 철근 필요

- 계산된 스터럽 : min.Av = 0.35x(bo x s / fy)= 1.31㎠

- 배근할 스터럽 : H 13 다리수: N = 2 스터럽 간격 : s = 15 cm O.K !!!

Av(req)= 1.31㎠ < Av = 2.534 ㎠ O.K !!!

○ 사용성 검토 (균열방지 인장철근 간격검토)

- 응력산정

$fs = M / [As \times (d - \chi/3)]$

$= 176.95 \times 1000000 / [2292 \times (500 - 111.633/3)]$

= 166.822 Mpa

$\chi = -nAs/b + nAs/b\sqrt{[1 + 2bd/(nAs)]}$

$= -7 \times 2292/1000 + 7 \times 2292/1000 \times \sqrt{[(1 + 2 \times 1000 \times 500/(7 \times 2292)]}$

= 111.633 mm

사용철근량 = 2292.000 mm^2 (철근도심 : 100 mm)

1단 H19 @ 125 (= 2292 ㎟)

- 철근의 최대 중심간격

Cc = 100 - 19 / 2 = 90.50 mm

여기서 Cc ; 인장철근이나 긴장재의 표면과 콘크리트 표면사이의 두께(mm)

Smin : 375 x (210 / fs) - 2.5 x Cc = 375 × (210 / 166.822) - 2.5 × 90.5 = 245.810 mm

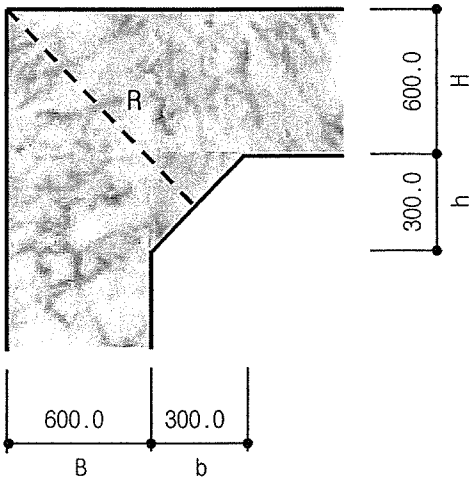
300 x (210 / fs) = 300 × (210 / 166.822) = 377.648 mm

Sa는 작은 값인 245.810 mm 를 적용

S = 125.00 ≤ Sa (= 245.81 mm) ------ ∴ O.K.

12. 우각부 검토

1) 상부 슬래브



CON'C 설계기준강도(fck)	:	30.0	MPa
CON'C 허용휨인장응력(fta) = 0.13√fck Mpa			
	:	0.712	MPa
철근 항복강도(fy)	:	400.0	MPa
철근 허용응력	:	180.0	MPa
사용 모멘트 Mo	:	152.60	kN · m

$R = \sqrt{2} \times b / (b+h) \times [B + h + (H \times h/b)]$

$= 1060.66$ mm

① 보강철근 필요여부 판정

$$f_{tmax} = \frac{5 \times Mo}{R^2 \times W} = \frac{5 \times 152600000}{1060.66^2 \times 1000.0} = 0.678 \text{ MPa}$$

$f_{tmax} =$ 0.678 MPa < $f_{ta} =$ 0.712 MPa 이므로 보강철근 필요없음.

② 소요 철근량

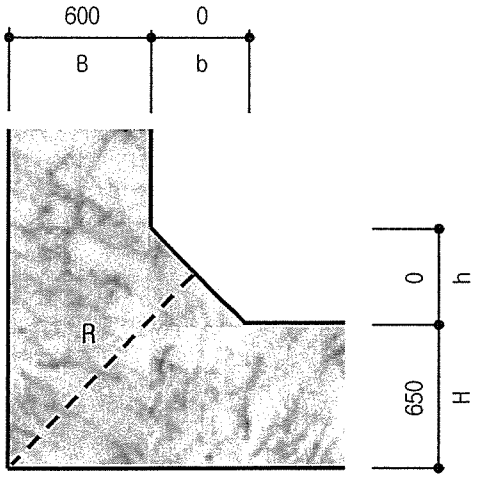
외측인장에 대한 보강 필요철근량(Asf)

$$Asf = \frac{2 \times Mo}{R \times fsa} = \frac{2 \times 0}{1060.66 \times 180.0} = 0.00 \text{ ㎟}$$

▶ 보강 As = Asf - 주철근사용 As = 0.00 - 1146 = -1146.00 ㎟

----- 우각부 보강철근 필요없음

2) 하부 슬래브



CON'C 설계기준강도(fck)	:	30.0	MPa
CON'C 허용휨인장응력(fta) = 0.13√fck Mpa			
	:	0.712	MPa
철근 항복강도(fy)	:	400.0	MPa
철근 허용응력	:	180.0	MPa
사용 모멘트 Mo	:	176.95	kN · m

R = √ (B2 + H2) = 884.59 mm

① 보강철근 필요여부 판정

$$f_{tmax} = \frac{5 \times Mo}{R^2 \times W} = \frac{5 \times 176950000}{884.59^2 \times 1000.0} = 1.131 \text{ MPa}$$

f_{tmax} = 1.131 MPa > f_{ta} = 0.712 MPa 이므로 보강철근 필요.

② 소요 철근량

외측인장에 대한 보강 필요철근량(Asf)

$$Asf = \frac{2 \times Mo}{R \times fsa} = \frac{2 \times 176950000}{884.59 \times 180.0} = 2222.62 \text{ ㎟}$$

▶ 보강 As = Asf - 주철근사용 As = 2222.62 - 1146 = 1076.62 ㎟

----- 우각부 보강철근 필요

외측인장에 대한 보강 사용철근량(As)

As = H22 @ 250 - 1 단 = 1548.40 ㎟

Asf = 1076.62 ㎟ < As = 1548.40 ㎟ ----- ∴ O.K.

13. 배력철근 검토

1) 구조상세 - 철도설계기준(노반편) p.5-19

다. 종방향으로 영향을 받는 경우로써 상부슬래브, 하부슬래브와 벽체에 있어서 종방향 최소철근량은 복토의 깊이가 3.0 m 이하인 경우에는 콘크리트 단면적의 0.4%, 복토가 3.0m 이상인 경우에는 복토 깊이가 30m인 경우의 사용량인 1.0%를 기준으로 선형변화량을 사용하되, 종방향 철근량은 주철근량 미만이어야 한다.

라. 단단한 지반 위에 놓인 경우와 말뚝기초로 지지되는 경우로써 종방향 부등침하가 우려되지 않은 경우에는 다.항의 기준을 적용하지 않는다. 따라서 어느 정도 견고한 지반위에 놓이는 일반적인 구교로써 적적한 신축이음매가 설치되어 상세한 종방향해석이 필요하지 않다고 판단되는 경우 종방향 철근량은 슬래브의 경우 콘크리트단면적의 0.25%, 벽체의 경우 0.3%를 적용한다.

마. 배력철근은 단위폭주변의 인장 주철근량의 1/5 이상으로 하여 종단방향에 계산외의 응력이 발생하는 것을 고려하여야 한다.

2) 배력철근의 최소 철근비

슬래브의 배력 철근비 = 0.25 %　　벽체의 배력 철근비 = 0.30 %

① 상부슬래브

배력철근 최소 철근비 (Asreq) = 1,000.0 × 600.0 × 0.25 = 1500.00 ㎟

사용철근 인장측 ; H 16 @ 150 = 1324.00 ㎟

압축측 ; H 16 @ 300 = 662.00 ㎟

∑ As = 1986.00 ㎟

따라서, As = 1986.00 ㎟ > Asreq = 1500.00 ㎟ ------ ∴ O.K.

사용 주철근량의 1/5 = 458.400 ㎟

따라서, As = 1324.00 ㎟ > Asreq = 458.40 ㎟ ------ ∴ O.K.

② 하부슬래브

배력철근 최소 철근비 (Asreq) = 1,000.0 × 650.0 × 0.25 = 1625.00 ㎟

사용철근 인장측 ; H 16 @ 150 = 1324.00 ㎟

압축측 ; H 16 @ 300 = 662.00 ㎟

∑ As = 1986.00 ㎟

따라서, As = 1986.00 ㎟ > Asreq = 1625.00 ㎟ ------ ∴ O.K.

사용 주철근량의 1/5 = 458.400 ㎟

따라서, As = 1324.00 ㎟ > Asreq = 458.40 ㎟ ------ ∴ O.K.

③ 벽체

배력철근 최소 철근비 (Asreq) = 1,000.0 × 600.0 × 0.30 = 1800.00 ㎟

사용철근 인장측 ; H 16 @ 150 = 1324.00 ㎟

압축측 ; H 16 @ 300 = 662.00 ㎟

∑ As = 1986.00 ㎟

따라서, As = 1986.00 ㎟ > Asreq = 1800.00 ㎟ ------ ∴ O.K.

사용 주철근량의 1/5 = 458.400 ㎟

따라서, As = 1324.00 ㎟ > Asreq = 458.40 ㎟ ------ ∴ O.K.

14. 사용성검토

1) 상부슬래브 최소 두께

1.2(L+3)/30 = 1.2 × (4.610 + 3) / 30 = 304.4 mm

상부슬래브 두께 = 600.0 mm

Tuse = 600.0 mm > Tmin = 304.4 mm ----- ∴ O.K.

2) 철근 피로검토

피로응력한계 : 사용하중하에서 활하중과 충격에 의해 야기되는 직선철근의 최대 인장응력과 최소 응력 상이의 범위는 다음 값을 초과할수 없다.

$f_f = 165 - 0.33fmin$

여기서, f_f : 응력범위(Mpa)

fmin : 최소응력 수준으로 인장은 정(+), 압축은 부(-)의 값(Mpa)

① 상부슬래브 단부

4.61 m 지간에서의 모멘트 변화에 의한 피로검토

Mmax = 0.371 kN · m Mmin = -10.879 kN · m

- 사용철근량 = H19 × 8ea = 2292.000 ㎟

n = 7

p = As / bd = 2292.00 / (1000 × 600) = 0.00382

$K = -np + \sqrt{(np)^2 + 2np}$

$= -7 \times 0.00382 + \sqrt{(7 \times 0.00382)^2 + 2 \times 7 \times 0.00382}$

= 0.206

J = 1 - K / 3 = 1 - 0.206 / 3 = 0.931

$$fs\ max = \frac{M}{As \times j \times d} = \frac{0.371 \times 10^6}{2292.00 \times 0.931 \times 600} = 0.290 \text{ Mpa}$$

$$fs\ min = \frac{-10.879 \times 10^6}{2292.00 \times 0.931 \times 600} = -8 \text{ Mpa}$$

$\Delta f = fs\ max - fs\ min$ = 8.784 Mpa

$f_f = 165 - 0.33fmin$

= 165 - 0.33 × -8.49 = 167.803 Mpa > 8.784 Mpa O.K.

② 상부슬래브 중앙부

4.61 m 지간에서의 모멘트 변화에 의한 피로검토

Mmax = 46.512 kN · m Mmin = 41.391 kN · m

- 사용철근량 = H19 × 8ea = 2292.000 ㎟

n = 7

p = As / bd = 2292.00 / (1000 × 500) = 0.00458

$K = -np + \sqrt{\{(np)^2 + 2np\}}$

$= -7 \times 0.00458 + \sqrt{\{ (7 \times 0.00458)^2 + 2 \times 7 \times 0.00458 \}}$

= 0.223

J = 1 - K / 3 = 1 - 0.223 / 3 = 0.926

$$fs\ max = \frac{M}{As \times j \times d} = \frac{46.512 \times 10^6}{2292.00 \times 0.926 \times 500} = 43.850\ Mpa$$

$$fs\ min = \frac{41.391 \times 10^6}{2292.00 \times 0.926 \times 500} = 39\ Mpa$$

Δf = fs max - fs min = 4.828 Mpa

$f_f = 165 - 0.33 fmin$

= 165 - 0.33 × 39.02 = 152.123 Mpa > 4.828 Mpa O.K.

15. 기초지지력 검토

1) 구체자중

-	5.200	x	0.650	x	24.500				=	82.810	kN/m
-	5.200	x	0.600	x	24.500				=	76.440	kN/m
-	4.000	x	0.600	x	24.500				=	58.800	kN/m
-	4.000	x	0.600	x	24.500				=	58.800	kN/m
-	0.300	x	0.300	x	1/2	x	2	x 24.500	=	2.205	kN/m
								∴ Total	=	279.055	kN/m

279.055 / 5.200 = 53.664 kN/m²

2) 상부연직하중

= 78.84 kN/m²

3) 활하중

= 21.019 kN/m²

4) 최대 지반 반력

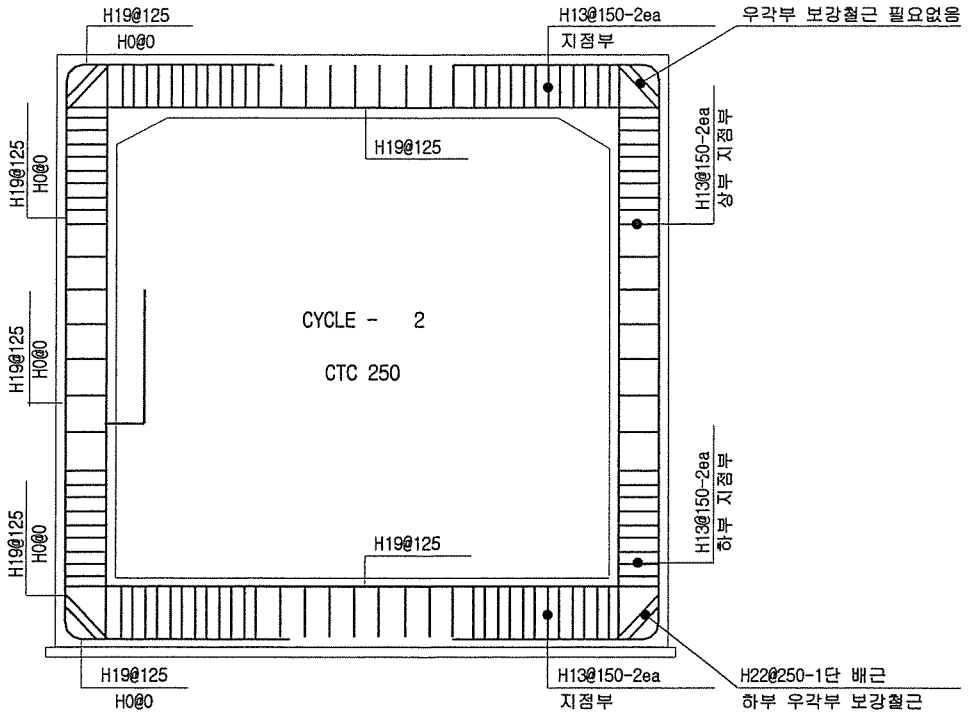
Qmax = 53.664 + 78.840 + 21.019

= 153.523 kN/m²

5) 지지력 검토

Qmax = 153.523 kN/m² < 300.00 kN/m² --- ∴ O.K.

16. 주철근 조립도



▶ 배력철근

- 상부 지점부 : H16, 인장측:150, 압축측:300
- 하부 지점부 : H16, 인장측:150, 압축측:300
- 벽체부 : H16, 인장측:150, 압축측:300

17.날개벽 설계

17.1 W1~W4

17.1.1 설 계 조 건

① 날개벽 형식 : 평 행 날 개 벽

② 단 위 중 량 : γ_t = 20.0 kN/㎥

③ 내부 마찰각 : ϕ = 35.0 °

④ 토 압 계 수 : K_o = (1 - sinϕ) × (1 + sinβ) = 0.634

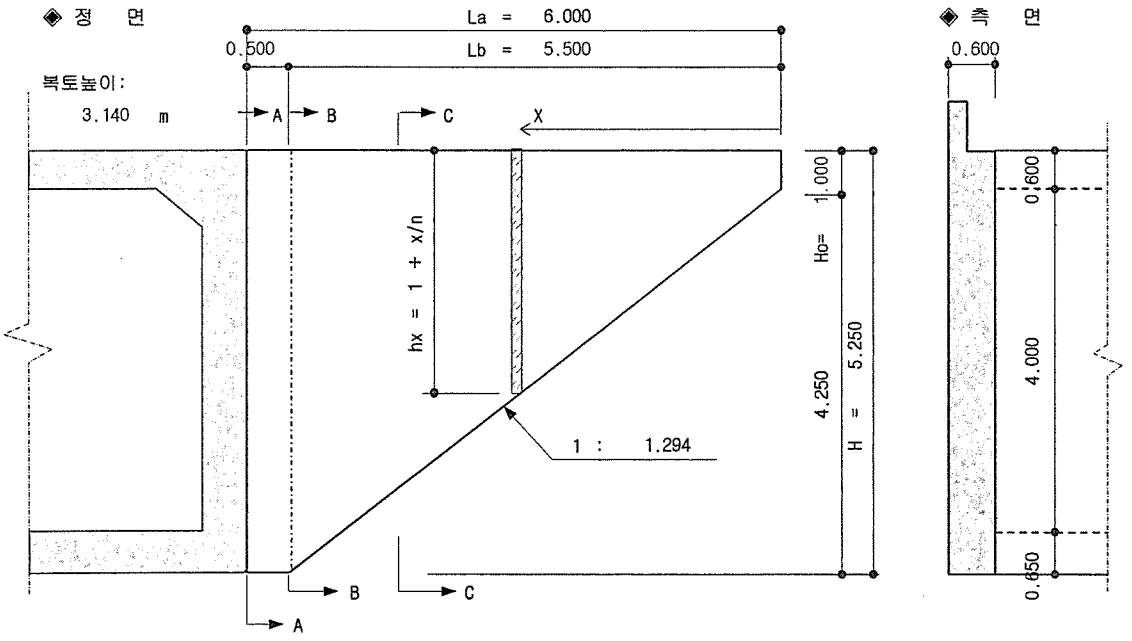
⑤ 면벽 기울기 : 1 : 1.294 (평균구배 적용)

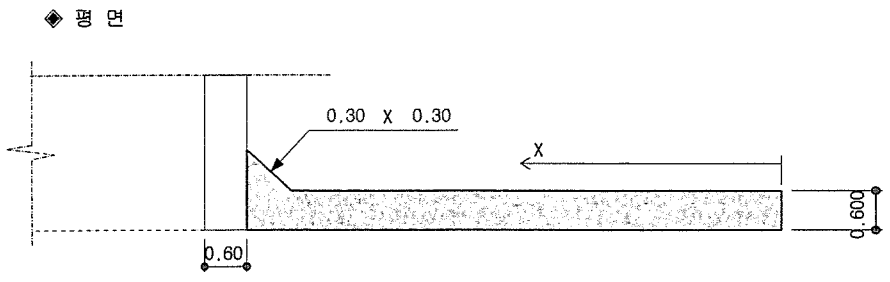
⑥ 콘크리트 강도 : f_{ck} = 30 MPa

⑦ 철근 항복응력 : f_y = 400 MPa

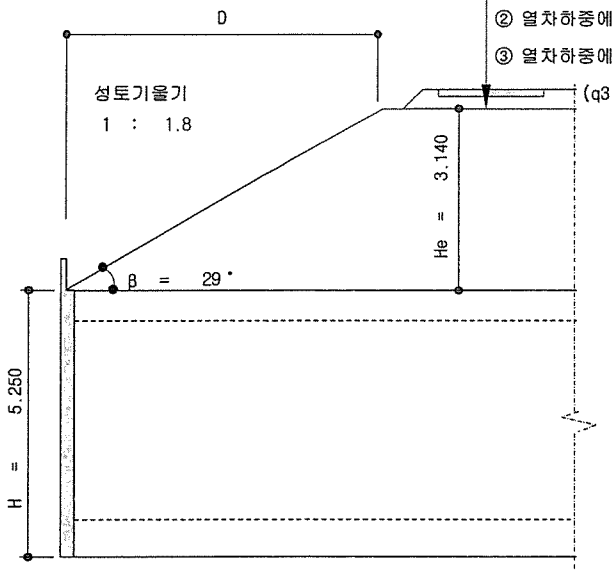
17.1.2 날개벽 단면

; 범용계산을 위하여 단면가정이 일반도와 상이할 수 있으나, 적용치수는 일반도와 같이 적용됨.





17.1.3 하 중 계 산 (상재하중 : q)



① 궤도중량에 의한 상재하중 (q_1 = 15.00 kN/㎡)
② 열차하중에 의한 상재하중 (q_2 = 35.00 kN/㎡)
③ 열차하중에 의한 상재하중 (q_3 = 80/B kN/㎡)
(q3 = 궤도가 근접해 있는 경우, 열차하중에 의한 상재하중)

1) 옹벽으로부터 궤도까지의 거리
- B = 2.100 > 2.00 ∴ q_3 = 0.00
- D = 3.140 × 1.8 = 5.652

2) 평행날개벽에 작용하는 상재하중(q)

① 기타 상재하중	=	15.000	kN/㎡
② 궤도중량에 의한 상재하중	=	35.000	kN/㎡
③ 열차하중에 의한 상재하중	=	0.000	kN/㎡

∴ TOTAL = 50.000 kN/㎡

17.1.4 설계단면력계산

1) 단 면 A-A [x = La = 6.000 m]

① Moment

$$-Ma = \frac{1}{2}Ko \cdot \gamma \left(\frac{x^4}{12n^2} + \frac{x^3 \cdot Ho}{3n} + \frac{x^2 \cdot Ho^2}{2} \right) + Ko \cdot q \left(\frac{x^3}{6n} + \frac{x^2 \cdot Ho}{2} \right)$$

$$= \frac{1}{2} \times 0.63 \times 20.0 \left(\frac{6.000^4}{12 \times 1.29^2} + \frac{6.000^3 \times 1.000}{3 \times 1.29} + \frac{6.000^2 \times 1.000^2}{2} \right)$$

$$+ 0.63 \times 50.00 \left(\frac{6.000^3}{6 \times 1.29} + \frac{6.000^2 \times 1.000}{2} \right) = 2328.142 \text{ kN} \cdot \text{m}$$

② Shear Force

$$-Sa = \frac{1}{2}Ko \cdot \gamma \left(\frac{x^3}{3n^2} + \frac{x^2 \cdot Ho}{n} + x \cdot Ho^2 \right) + Ko \cdot q \left(\frac{x^2}{2n} + x \cdot Ho \right)$$

$$= \frac{1}{2} \times 0.63 \times 20.0 \left(\frac{6.000^3}{3 \times 1.29^2} + \frac{6.000^2 \times 1.000}{1.294} + 6.000 \times 1.000^2 \right)$$

$$+ 0.63 \times 50.00 \left(\frac{6.000^2}{2 \times 1.29^2} + 6.000 \times 1.000 \right) = 1118.093 \text{ kN}$$

∴ USD : Ma = 1.6 × 2328.142 ÷ 5.250 × 1.2 = 851.435 kN·m/m
WSD : Ma = 1.0 × 2328.142 ÷ 5.250 × 1.2 = 532.147 kN·m/m
USD : Sa = 1.6 × 1118.093 ÷ 5.250 × 1.2 = 408.903 kN/m

적용위치(x)	La	Lb / 4				비 고
	6.000	5.500	4.125	2.750	1.375	
hx	5.250	5.250	4.200	3.100	2.100	[hx=Ho+x/n]
Moment	2328.142	1814.965	816.151	280.748	51.946	kN · m
Mx[USD]	851.435	663.759	373.098	144.902	39.578	kN · m/m
Mx[WSD]	532.147	414.849	233.186	90.564	24.736	kN · m/m
Shear Force	1118.0930	937.858	537.25	260.526	88.004	kN
Sx[USD]	408.903	342.988	245.600	134.465	67.051	kN/m

2) 단 면 B-B [x = Lb = 5.500 m]
: 위의 표17-1 참조

3) 단 면 C-C [x = 4.125 m]
: 위의 표17-1 참조

17.1.5 단면설계(날개벽 단면A-A)

1) 단면계산 조건

- 단 면 폭 : b_w = 1000 mm
- 단 면 높 이 : h = 600 mm
- 헌 치 : H = 300 mm
- 유 효 높 이 : d_1 = 600 mm (단면계산시)
  d_2 = 500 mm (전단계산시)
- 피 복 두 께 : d_1' = 100 mm (인장1단)
- 피 복 두 께 : d_2' = 0 mm (인장2단)
- 계수 모멘트 : USD : Mu = 851.435 kN · m
  WSD : Ms = 532.147 kN · m
- 계수전단강도: USD : Vu = 408.903 kN

- 콘크리트 강도 : f_{ck} = 30.0 MPa
- 철근 항복응력 : f_y = 400 MPa
- 강도 감소계수 : ϕ = 0.9 (휨)
  ϕ = 0.85 (전단)

2) 단면 계산

(1) 철근량 산정

- 최소철근량(A_S) : (1.4 / fy · b · d) = 2100 ㎟
- 필요철근량(A_S) : $[d-\sqrt{(d^2-4Mu/1.7 \cdot fck \cdot b \cdot \Phi)}] / [2 \cdot fy / 1.7 \cdot fck \cdot b]$ = 4169 ㎟
- 최대철근량(A_S) : $0.75 \cdot 0.85 \cdot \beta \cdot fck \cdot 600 / [fy \cdot (600+fy)] \cdot b \cdot d$ = 14631 ㎟
- 4/3 (요구 철근량 (A_S)) = 5558.667 ㎟

(2) 사용 철근량 (A_S)

- 인장 철근량 : 1단 : H 29 @ 125 - 8 ea = 5139 ㎟
  2단 : H @ 0 - ea = 0 ㎟ ; Total: 5,139 ㎟

(3) 철근비검토

- 최소철근비: $\rho_{min} = 0.25 \times \sqrt{(f_{ck})}/f_y$ = 0.00342 < 1.4 / f_y = 0.00350
- 균형철근비: $\rho_b = 0.85 \times \beta_1 \times (f_{ck} / f_y) \times (600 / (600 + f_y))$ = 0.03198 (β_1= 0.836)

∴ ρ_{min} = 0.00350 < ρ = 0.00857 < ρ_{max} = 0.02283 == OK ==

(3) 단면 검토

- 등가응력 깊이 : a = As · fy / (0.85 · fck · b) = 80.61 mm
- 극한 모멘트 : Mu = 851.43 kN · m
- 공칭 모멘트 : Mn = As · fy (d-a/2) = 1150.55 kN · m
- 설계 모멘트 : Md = Φ · Mn = 1035.50 kN · m

∴ Md > Mu == OK ==

3) 전단 검토

- Vc = $1/6 \times \sqrt{(f_{ck})} \times b_w \times d$ = 456.44 kN

- Φ · Vc	= 387.974 kN	- Req Vs	= (Vu - ϕVc) / ϕ	=	24.622 kN
- 0.5 · Φ · Vc	= 193.99 kN	- Vs	= Av · fy · d / s	=	337.867 kN
- Min Av	= 131.25 ㎟	- Max Vs	= 2/3 · √fck · bw · d	=	1825.742 kN

∴ Vu > Φ · Vc === 전단철근 필요 !!!

(1) 사용 전단철근

- 전단 철근 간격 : s = 150 mm
- 전단 철근 직경 : H 13 - 2.0
- 전단 철근 단면적 : Av = 253 ㎟

∴ Req'd Vs < Vs < Max. Vs == OK ==

(2) 단면력 검토 (shear force)

- 공칭 전단강도 : Vn = 794.307 kN
- 설계 전단강도 : Vd = 675.161 kN ∴ Vd > Vu == OK ==

4) 균열 검토

- 콘크리트 피복 두께 (dc) = 100 mm
- 인장철근 도심까지의 거리 (dc') = 100 mm
- d = 700 - 100 = 600 mm

- fs = M / {As (d - x/3)}
  = 532146743 ÷ (5139.2 × (600 - 175 ÷ 3)) = 191.2 N/㎟
- 철근 유효단면적 : A = 1000 × 100 × 2 ÷ 8 = 25000 ㎟
- 압축응력 깊이 : x = k · d = 175 mm
- 중 립 축 비 : k = $-np + \sqrt{(np)^2 + 2np}$ = 0.29155 (n = 7)
- 철 근 비 : p = As / [b · d]
  = 5139 ÷ (1000 × 600) = 0.00857
- 인장철근의 간격 검토

Cc = 100 - 29 / 2 = 85.5 mm

sa1 = 375 x (210 / fs) - 2.5 x Cc
= 375 x (210 / 191.2) - 2.5 x 86 = 198.2 mm

sa2 = 300 x (210 / fs)
= 300 x (210 / 191.2) = 329.6 mm

sa = Min (198.2 , 329.6) = 198.2 mm

s = 125 mm < sa = 198.2 mm == OK ==

5) 배력철근 계산

- 주철근량의 1/5 : A_{min1} = 1/5 × 5139.2 = 1028 ㎟
- 단면적의 0.30% : A_{min2} = 0.003 × Ag = 0.003 × 1000 600 = 1800 ㎟
- 배 력 철 근 량 : H 16 , 인장측 : 150 mm , 압축측 : 300 mm
  * 인장측 배력철근량 : 198.6 × (1000 ÷ 150) × 1 = 1390 ㎟
  * 압축측 배력철근량 : 198.6 × (1000 ÷ 300) = 596 ㎟
- 배 력 철 근 량 : 1986 ㎟ > 1800 ㎟ = Amin == 0.K ==
- 인장측 배력철근량 : 1390 ㎟ < 5139 ㎟ = 인장측 주철근량 == 0.K ==

17.1.6 단면설계(날개벽 단면B-B)

1) 단면계산 조건

- 단 면 폭 :	b_w	=	1000	mm	- 콘크리트 강도 :	f_{ck}	=	30.0	MPa
- 단 면 높 이 :	h	=	600	mm	- 철근 항복응력 :	f_y	=	400	MPa
- 유 효 높 이 :	d_1	=	500	mm (단면계산시)	- 강도 감소계수 :	ϕ	=	0.9	(휨)
	d_2	=	500	mm (전단계산시)		ϕ	=	0.85	(전단)
- 피 복 두 께 :	d_1'	=	100	mm (인장1단)					
- 피 복 두 께 :	d_2'	=	0	mm (인장2단)					

- 계수 모멘트 : USD : Mu = 663.76 kN·m
  WSD : Ms = 414.85 kN·m
- 계수전단강도: USD : Vu = 342.99 kN

---

2) 단면 계산

(1) 철근량 산정

- 최소철근량(A_S) : (1.4 / fy·b·d) = 1750 ㎟
- 필요철근량(A_S) : $[d-\sqrt{(d^2-4Mu/1.7\cdot fck\cdot b\cdot \Phi)}] / [2\cdot fy / 1.7\cdot fck\cdot b]$ = 3930 ㎟
- 최대철근량(A_S) : $0.75\cdot 0.85\cdot \beta\cdot fck\cdot 600 / [fy\cdot (600+fy)]\cdot b\cdot d$ = 12192 ㎟
- 4/3 (요구 철근량 (A_S)) = 5240 ㎟

(2) 사용 철근량 (A_S)

- 인장 철근량 : 1단 : H 29 @ 125 - 8 ea = 5139 ㎟
  2단 : H 0 @ 0 - 0 ea = 0 ㎟ ; Total: 5,139 ㎟

(3) 철근비검토

- 최소철근비: $\rho_{min} = 0.25\times\sqrt{(f_{ck})}/f_y$ = 0.00342 < 1.4 / f_y = 0.00350
- 균형철근비: $\rho_b = 0.85\times\beta_1\times(f_{ck}/f_y)\times(600/(600+f_y))$ = 0.03198 (β_1= 0.836)

∴ ρ_{min} = 0.00350 < ρ = 0.01028 < ρ_{max} = 0.02283 == OK ==

(3) 단면 검토

- 등가응력 깊이 : a = As·fy / (0.85·fck·b) = 80.61 mm
- 극한 모멘트 : Mu = 663.76 kN·m
- 공칭 모멘트 : Mn = As·fy (d-a/2) = 944.99 kN·m
- 설계 모멘트 : Md = Φ· Mn = 850.49 kN·m

∴ Md > Mu == OK ==

3) 전단 검토

- Vc = $1/6\times\sqrt{(f_{ck})}\times b_w\times d$ = 456.44 kN
- Φ·Vc = 387.974 kN

∴ Vu < Φ·Vc === 전단철근 불필요 !!!

4) 균열 검토

- 콘크리트 피복 두께 (dc) = 100 mm
- 인장철근 도심까지의 거리 (dc') = 100 mm
- d = 600 - 100 = 500 mm

- fs = M / {As (d - x/3)}
  = 414849143 ÷ (5139.2 × (500 - 157 ÷ 3)) = 180.3 N/㎟
- 철근 유효단면적 : A = 1000 × 100 × 2 ÷ 8 = 25000 ㎟
- 압축응력 깊이 : x = k · d = 157 mm
- 중 립 축 비 : k = -np + √ ((np)² + 2np) = 0.31417 (n = 7)
- 철 근 비 : p = As / [b · d]
  = 5139 ÷ (1000 × 500) = 0.01028
- 인장철근의 간격 검토

Cc = 100 - 29 / 2 = 85.5 mm

sa1 = 375 x (210 / fs) - 2.5 x Cc
= 375 x (210 / 180.3) - 2.5 x 86 = 222.9 mm
sa2 = 300 x (210 / fs)
= 300 x (210 / 180.3) = 349.4 mm

sa = Min (222.9 , 349.4) = 222.9 mm
s = 125 mm < sa = 222.9 mm == OK ==

5) 배력철근 계산

- 주철근량의 1/5 : A_{min1} = 1/5 × 5139.2 = 1028 ㎟
- 단면적의 0.30% : A_{min2} = 0.003 × Ag = 0.003 × 1000 × 600 = 1800 ㎟
- 배 력 철 근 량 : H 16 , 인장측 : 150 mm , 압축측 : 300 mm
  * 인장측 배력철근량 : 198.6 × (1000 ÷ 150) × 1 = 1390 ㎟
  * 압축측 배력철근량 : 198.6 × (1000 ÷ 300) = 596 ㎟
- 배 력 철 근 량 : 1986 ㎟ > 1800 ㎟ = Amin == O.K ==
- 인장측 배력철근량 : 1390 ㎟ < 5139 ㎟ = 인장측 주철근량 == O.K ==

17.1.7 단면설계(날개벽 단면C-C)

1) 단면계산 조건

- 단 면 폭 : b_w = 1000 mm
- 단 면 높 이 : h = 600 mm
- 유 효 높 이 : d_1 = 500 mm (단면계산시)
  d_2 = 500 mm (전단계산시)
- 피 복 두 께 : d_1' = 100 mm (인장1단)
- 피 복 두 께 : d_2' = 0 mm (인장2단)
- 계수 모멘트 : USD : Mu = 373.10 kN · m
  WSD : Ms = 233.19 kN · m
- 계수전단강도: USD : Vu = 245.60 kN

- 콘크리트 강도 : f_{ck} = 30.0 MPa
- 철근 항복응력 : f_y = 400 MPa
- 강도 감소계수 : ϕ = 0.9 (휨)
  ϕ = 0.85 (전단)

2) 단면 계산

(1) 철근량 산정

- 최소철근량(A_S) : $(1.4 / fy \cdot b \cdot d)$ = 1750 ㎟
- 필요철근량(A_S) : $[d-\sqrt{(d^2-4Mu/1.7 \cdot fck \cdot b \cdot \Phi)}] / [2 \cdot fy / 1.7 \cdot fck \cdot b]$ = 2145 ㎟
- 최대철근량(A_S) : $0.75 \cdot 0.85 \cdot \beta \cdot fck \cdot 600 / [fy \cdot (600+fy)] \cdot b \cdot d$ = 12192 ㎟
- 4/3 (요구 철근량 (A_S)) = 2860 ㎟

(2) 사용 철근량 (A_S)

- 인장 철근량 : 1단 : H 29 @ 125 - 8 ea = 5139 ㎟
  2단 : H @ 0 - ea = 0 ㎟ ; Total: 5,139 ㎟

(3) 철근비검토

- 최소철근비: $\rho_{min} = 0.25 \times \sqrt{(f_{ck})}/f_y$ = 0.00342 < $1.4 / f_y$ = 0.00350
- 균형철근비: $\rho_b = 0.85 \times \beta_1 \times (f_{ck} / f_y) \times (600 / (600 + f_y))$ = 0.03198 (β_1= 0.836)

∴ ρ_{min} = 0.00350 < ρ = 0.01028 < ρ_{max} = 0.02283 == OK ==

(3) 단면 검토

- 등가응력 깊이 : $a = As \cdot fy / (0.85 \cdot fck \cdot b)$ = 80.61 mm
- 극한 모멘트 : Mu = 373.10 kN·m
- 공칭 모멘트 : $Mn = As \cdot fy (d-a/2)$ = 944.99 kN·m
- 설계 모멘트 : $Md = \Phi \cdot Mn$ = 850.49 kN·m

∴ Md > Mu == OK ==

3) 전단 검토

- $Vc = 1/6 \times \sqrt{(f_{ck})} \times b_w \times d$ = 456.44 kN
- $\Phi \cdot Vc$ = 387.974 kN

∴ $Vu < \Phi \cdot Vc$ === 전단철근 불필요 !!!

4) 균열 검토

- 콘크리트 피복 두께 (dc) = 100 mm
- 인장철근 도심까지의 거리 (dc') = 100 mm
- d = 600 - 100 = 500 mm

- fs = M / {As (d - x/3)}
  = 233186000 ÷ (5139.2 × (500 - 157 ÷ 3)) = 101.4 N/㎟
- 철근 유효단면적 : A = 1000 × 100 × 2 ÷ 8 = 25000 ㎟
- 압축응력 깊이 : x = k · d = 157 mm
- 중 립 축 비 : k = $-np + \sqrt{((np)^2 + 2np)}$ = 0.31417 (n = 7)
- 철 근 비 : p = As / [b · d]
  = 5139 ÷ (1000 × 500) = 0.01028
- 인장철근의 간격 검토

  Cc = 100 - 29 / 2 = 86 mm

  sa1 = 375 x (210 / fs) - 2.5 x Cc
  = 375 x (210 / 101.4) - 2.5 x 86 = 563.2 mm

  sa2 = 300 x (210 / fs)
  = 300 x (210 / 101.4) = 621.5 mm

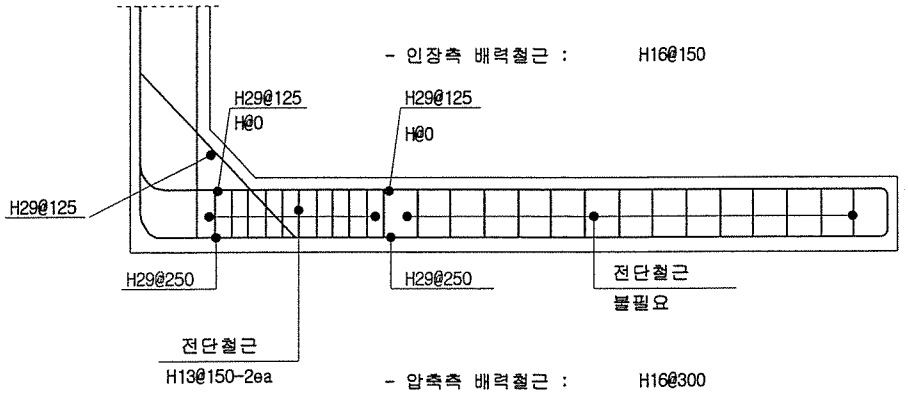
  sa = Min (563.2 , 621.5) = 563.2 mm

  s = 125 mm < sa = 563.2 mm == OK ==

5) 배력철근 계산

- 주철근량의 1/5 : A_{min1} = 1/5 × 5139.2 = 1028 ㎟
- 단면적의 0.30% : A_{min2} = 0.003 × Ag = 0.003 × 1000 × 600 = 1800 ㎟
- 배 력 철 근 량 : H 16 , 인장측 : 150 mm , 압축측 : 300 mm
  - * 인장측 배력철근량 : 198.6 × (1000 ÷ 150) × 1 = 2582 ㎟
  - * 압축측 배력철근량 : 198.6 × (1000 ÷ 300) = 596 ㎟
- 배 력 철 근 량 : 3178 ㎟ > 1800 ㎟ = Amin == O.K ==
- 인장측 배력철근량 : 1800 ㎟ < 5139 ㎟ = 인장측 주철근량 == O.K ==

17.1.8 날개벽 주철근조립도



C(함) 탑리제3

- 4.0 x 4.50 x 1
- 토피 = 0.8m 이하

1. 설 계 조 건
2. 단 면 가 정
3. 해석모델 및 단면제원
4. 하중산정
5. 하중재하도
6. 하중계수 및 하중조합
7. INPUT DATA
8. OUTPUT
9. 단면력요약
10. 단 면 력 도
11. 단 면 검 토
12. 우각부 검토
13. 배력철근 검토
14. 사용성 검토
15. 기초지지력 검토
16. 주철근조립도
17. 날개벽 설계

1. 설계 조건

1) 구조물명 : c (함)

2) 구조형식 : 철근 콘크리트 구조

3) 설계하중 : KRL2012 (복 선)

4) 재료중량

- 철근 콘크리트(γ_c)	=	24.5	kN/m^3
- 무근 콘크리트(γ_{con})	=	23.0	kN/m^3
- 뒷채움 토사(γ_t)	=	20.0	kN/m^3
- 뒷채움 토사(γ_{sub})	=	11.0	kN/m^3
- 지하수(γ_w)	=	10.0	kN/m^3

5) 사용재료의 성질

- 콘크리트 설계기준 강도(fck)	=	30.0	MPa
- 콘크리트 탄성계수(Ec)	=	27537	MPa
- 철근의 항복강도(fy)	=	400.0	MPa
- 철근의 탄성계수(Es)	=	200000	MPa

6) 토 사

- 흙의 내부마찰각 (ϕ)	=	35.0	°
- 정지 토압계수 (Ko)	=	0.426	

7) 기 초 형 식 : 직접기초

8) 사 각(Skew) : 90.00 ° 연 장 (L) : 22.00 m

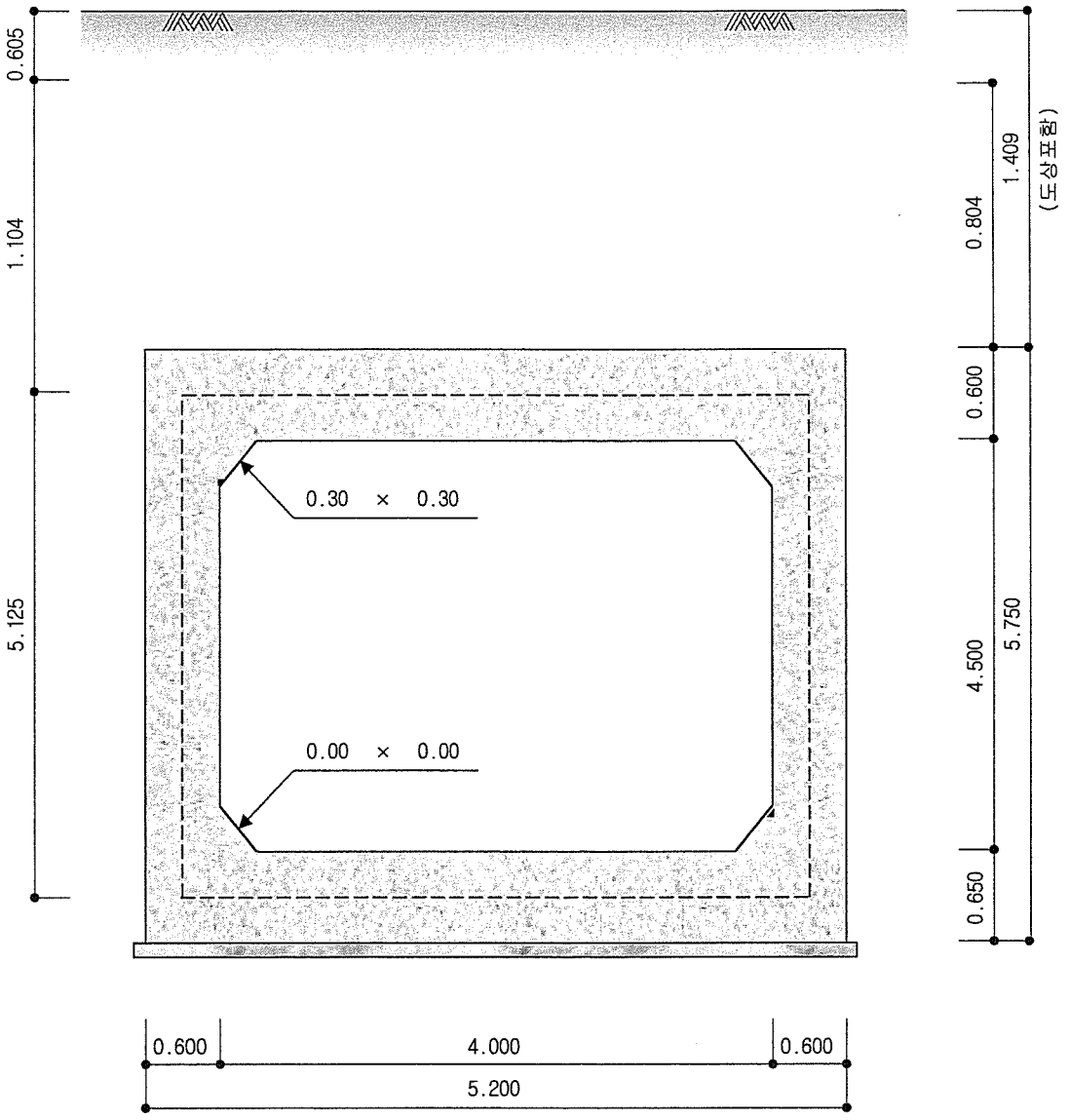
9) 설계방법

- 강도 설계법 : 부재 단면검토(슬래브, 벽체, 보, 기둥 등)
- 허용응력 설계법 : 사용성 검토(처짐, 균열, 우각부 검토)

10) 참고문헌

- 철도설계기준(노반편), 국토해양부, 2013
- 콘크리트 구조설계기준해설, 한국콘크리트 학회, 2012

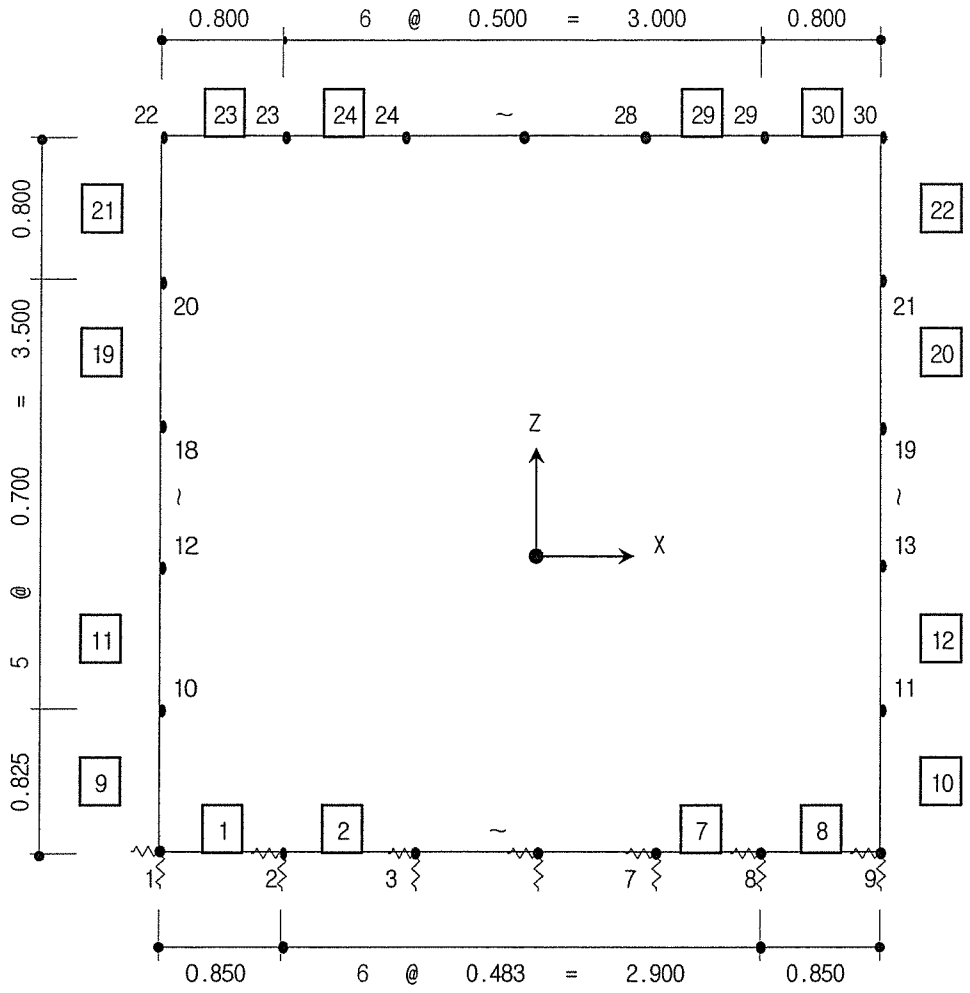
2. 단면 가정



※ 유효경간

Skew =	90.0	°				
Ln =	4.600	m				
Ls =	4.600	m				
Ls/B =	4.600	/	22.000	=	0.209	< 1.500
L =	4.600	m				

3. 해석모델 및 단면제원



1) 절점 좌표

Joint	좌 표			Joint	좌 표		
	X	Y	Z		X	Y	Z
1	0.000	0.000	0.000	13	4.600	0.000	1.525
2	0.850	0.000	0.000	14	0.000	0.000	2.225
3	1.333	0.000	0.000	15	4.600	0.000	2.225
4	1.817	0.000	0.000	16	0.000	0.000	2.925
5	2.300	0.000	0.000	17	4.600	0.000	2.925
6	2.783	0.000	0.000	18	0.000	0.000	3.625
7	3.267	0.000	0.000	19	4.600	0.000	3.625
8	3.750	0.000	0.000	20	0.000	0.000	4.325
9	4.600	0.000	0.000	21	4.600	0.000	4.325
10	0.000	0.000	0.825	22	0.000	0.000	5.125
11	4.600	0.000	0.825	23	0.800	0.000	5.125
12	0.000	0.000	1.525	24	1.300	0.000	5.125

Joint	좌 표			Joint	좌 표		
	X	Y	Z		X	Y	Z
25	1.800	0.000	5.125	28	3.300	0.000	5.125
26	2.300	0.000	5.125	29	3.800	0.000	5.125
27	2.800	0.000	5.125	30	4.600	0.000	5.125

2) 경계 조건

joint	spring계수 (kN/m²)		joint	spring계수 (kN/m²)	
	z방향(수직)	x방향(수평)		z방향(수직)	x방향(수평)
1 . 9	22705		3 ~ 7	15137	
2 . 8	20878				

3) 단면제원

Element	두께	폭	비 고
23 ~ 30	0.600	1.000	상부슬래브
1 ~ 8	0.650	1.000	하부슬래브
9 ~ 22	0.600	1.000	벽 체

4) 강역설정

(1) 강역설정기준(콘크리트구조설계기준 2012)

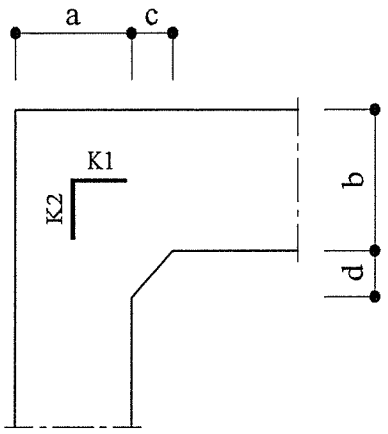
CASE 1 : 부재단부가 다른 부재와 접합할 때는 부재단에서 부재두께의 1/4 안쪽점에서 절점까지

CASE 2 : 부재가 그 축선에 대해 25° 이상 60° 미만인 경사진 헌치를 갖는 경우에는 부재두께가 1.5배가 되는 점에서 부터 절점까지

CASE 3 : 헌치의 경사가 60° 이상의 경우는 헌치의 시점에서 부재두께의 1/4 안쪽 점에서부터 절점까지

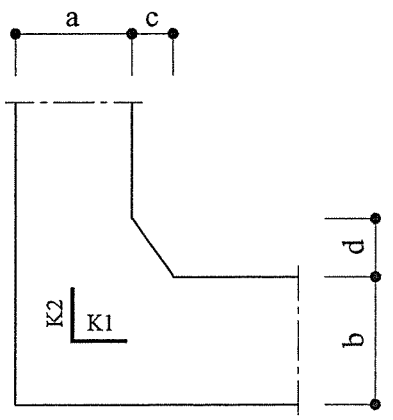
(2) 강역설정

- 절점 22 , 30



a =	600	mm	c =	300	mm
b =	600	mm	d =	300	mm
K1 =	300	mm	K2 =	300	mm

- 절점 1 , 9

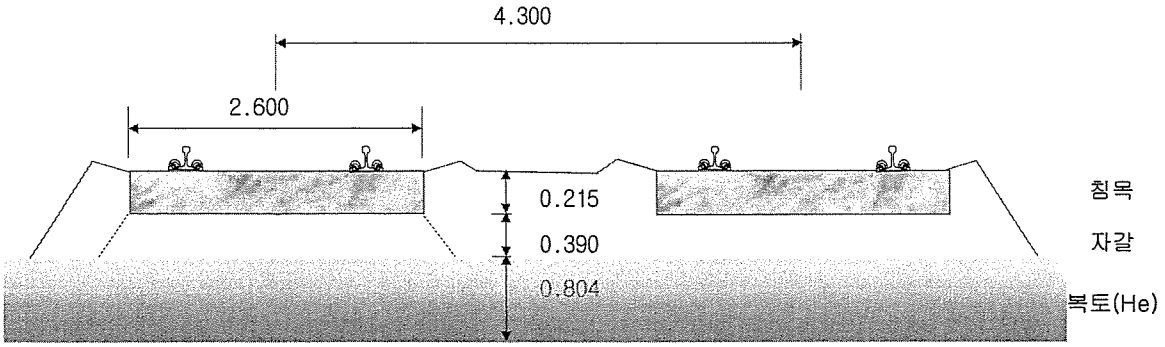


a =	600	mm	c =	0	mm
b =	650	mm	d =	0	mm
K1 =	138	mm	K2 =	175	mm

4. 하중산정

4.1 상시

1) 상부 고정하중(지하수 無)



① 하중 분포폭 산정 (b')

① He < 0.5m 경우 : b + d

b_1 = 2.600 + 0.390 = 2.990 m

② He ≥ 0.5m 경우 : c + b + (d + He)

b_2 = 4.300 + 2.600 + (0.390 + 0.804) = 14.590 m

여기서, He : 시공기면에서의 토피고(m)

a : 동륜간 축간거리(m) c : 복선선로 중심간격(m)

b : 침목길이(m) d : 침목하면의 도상두께(m)

H : 상부슬래브 두께

He ≥ 0.5 m

∴ b' = 14.590 m

② 구조물 자중 : 프로그램 상에서 Self Weight 기능을 이용하여 자동 고려

③ 궤도 중량

- 레일 : 레일당 1.5kN/m를 적용

q_1 = 4 × 1.500 / 14.590 = 0.411 kN/㎡

- 침목 : 고속철도용 5.0kN/m

q_2 = 5.000 × 2 / 14.590 = 0.685 kN/㎡

= 1.096 kN/㎡

④ 도상 (q_2)

TCL = 0.215 × 19.000 × 1.3 = 5.311 kN/㎡

HSB = 0.390 × 19.000 × 1.3 = 9.633 kN/㎡

= 14.944 kN/㎡

⑤ 복토하중 (q_3) = 20.000 × 0.804 = 16.080 kN/㎡

∴ $q_1 + q_2 + q_3$ = 1.096 + 14.944 + 16.080 = 32.120 kN/㎡

2) 활하중

① 활하중 산정 : KRL 2012

$$W_{HL} = \frac{2P}{a \times b'} = \frac{2\times(220+80x3)}{3.000 \times 14.590} = 21.019 \text{ kN/㎡}$$

∴ W = 21.019 kN/㎡

② 충격계수

1) 단선 (i_0) (철도설계기준 노반편(2013) p.5-7)

지 간 L (m)	0	5	10	20	30	40	50	70	100
충격계수 (i)	0.60	0.48	0.43	0.37	0.34	0.32	0.30	0.27	0.24

* 상기표에 없는 지간의 충격 계수는 보간법으로 구한다.

지 간 L (m) = 4.600 m

따라서 i_0 = 0.490 (보간법에 의하여 산정된 충격계수)

2) 구조물 상면의 복토높이에 따른 충격 계수

H ≥ 1.0일 경우 $i = io \cdot \{(2.5 - H)/1.5\}$

여기서, H ≤ 1.0 m 에서는 $i = i_o$

H ≥ 2.5 m 에서는 i = 0

따라서, 본 구조물의 H = 1.409 m i = 0.356

W_L = 21.019 ×(1 + 0.356) = 28.510 kN/㎡

③ 활하중에 의한 측압 (충격비고려)(철도설계기준 노반편(2013) p.5-6)

W_{LH} = 21.019 × 0.4 = 8.408 kN/㎡

3) 토 압

- 지하수가 없는 경우 작용 토압

q_1 = 0.426 ×(16.040 + 20.000 × 1.104) = 16.239 kN/㎡

q_2 = 16.239 + 0.426 ×(20.000 × 0.800) = 23.055 kN/㎡

q_3 = 23.055 + 0.426 ×(20.000 × 0.700) = 29.019 kN/㎡

q_4 = 29.019 + 0.426 ×(20.000 × 0.700) = 34.983 kN/㎡

q_5 = 34.983 + 0.426 ×(20.000 × 0.700) = 40.947 kN/㎡

q_6 = 40.947 + 0.426 ×(20.000 × 0.700) = 46.911 kN/㎡

q_7 = 46.911 + 0.426 ×(20.000 × 0.700) = 52.875 kN/㎡

q_8 = 52.875 + 0.426 ×(20.000 × 0.825) = 59.904 kN/㎡

- 시공중 편토압 산정 (지하수가 없는 경우 작용 토압)

q_1 = 0.426 ×(0.000 + 20.000 × 0.300) = 2.556 kN/㎡

q_2 = 2.556 + 0.426 ×(20.000 × 0.800) = 9.372 kN/㎡

q_3 = 9.372 + 0.426 ×(20.000 × 0.700) = 15.336 kN/㎡

q_4 = 15.336 + 0.426 ×(20.000 × 0.700) = 21.300 kN/㎡

q_5 = 21.300 + 0.426 ×(20.000 × 0.700) = 27.264 kN/㎡

q_6 = 27.264 + 0.426 ×(20.000 × 0.700) = 33.228 kN/㎡

q_7 = 33.228 + 0.426 ×(20.000 × 0.700) = 39.192 kN/㎡

q_8 = 39.192 + 0.426 ×(20.000 × 0.825) = 46.221 kN/㎡

4) 온도하중

토피가 1.0m 이상일 경우에는 온도변화를 고려치 않으며, 토피가 1.0m 이하일 경우에는 다음식을 따른다.

$t = a \times t_0$ = 0.196 × 15.0 = 2.940 ℃

t : 박스 구조물의 상부 슬래브에 작용하는 온도변화

a : 토피심도(m)에 따른 저감률 $a=1-h_0$ (h_0:토피심도)

t_0 : 지표면에서의 기본온도 변화

상부슬래브의 두께가 700mm 이상인 경우 $t_0 = \pm 10$℃

상부슬래브의 두께가 700mm 미만인 경우 $t_0 = \pm 15$℃

토피고 H < 1.0m 이하이므로 to = ±15℃(슬래브두께=600mm)

5) 건조수축

$$\Delta Tx = \frac{\varepsilon}{\alpha} = \frac{-0.00015}{0.00001} = -15\ ^\circ C$$

6) 장대레일 하중

장대레일 종하중은 필요시에 고려하여야 하며, 1궤도당 10 kN/m로 하고 작용위치는 상부슬래브 축선으로 한다. (단, 토피가 1.0m 이상인 경우는 이를 무시한다.)

토피가 1.409 m 이므로 장대레일 하중을 무시한다.

H_r = 0.000 × 4 / 14.590 = 0.000 kN/㎡

7) 상시 지반반력 계수

지지 지반 N치 = 26

Eo = 2800 × N = 2800 × 26 = 72800

Kvo = 1 / 0.3 x α x Eo = 1 / 0.3 × 1 x 72800 = 242667

Bv = √ Av = √ (4.600 × 4.600) = 4.600

Kv = Kvo (Bv/0.3)^-3/4 = 31317 kN/㎡

31317 × (0.600 / 2 + 0.850 / 2) = 22705 kN/m² - 저판 단부 스프링

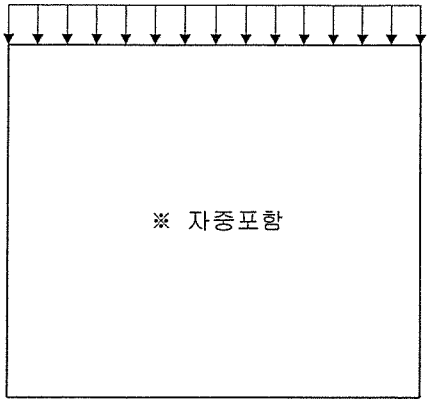
31317 × (0.850 / 2 + 0.483 / 2) = 20878 kN/m² - 저판 전단검토위치

31317 × (0.483 / 2 + 0.483 / 2) = 15137 kN/m² - 저판 중앙부 스프링

5. 하중재하도

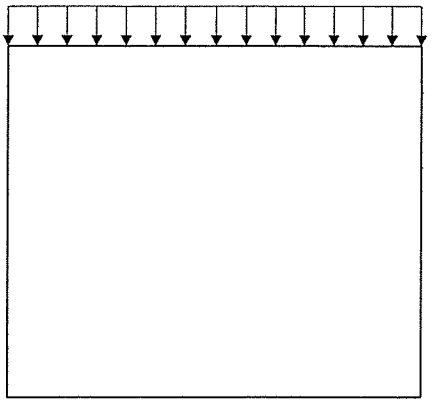
① 고정하중

W_D = 32.120 kN/m²



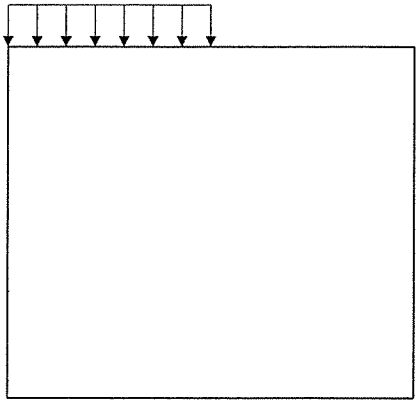
② 활하중(만재하)

W_L = 28.510 kN/m²



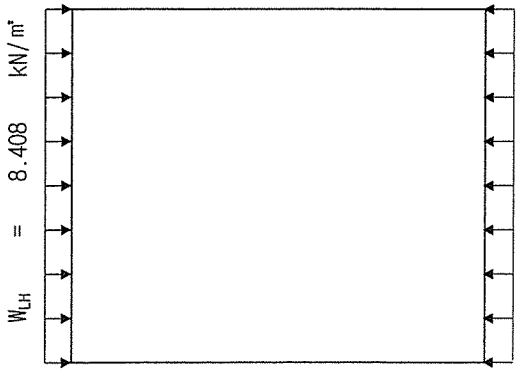
③ 활하중(편재하)

W_L = 28.510 kN/m²



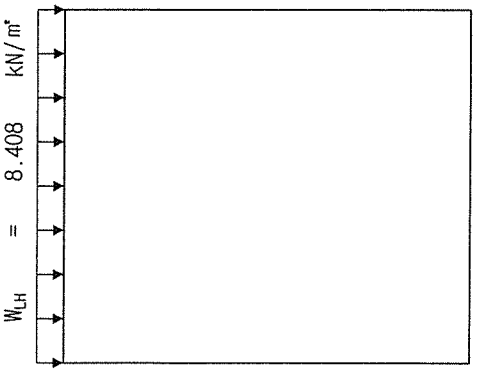
④ 활하중에 의한 측압(만재하)

W_{LH} = 8.408 kN/m²

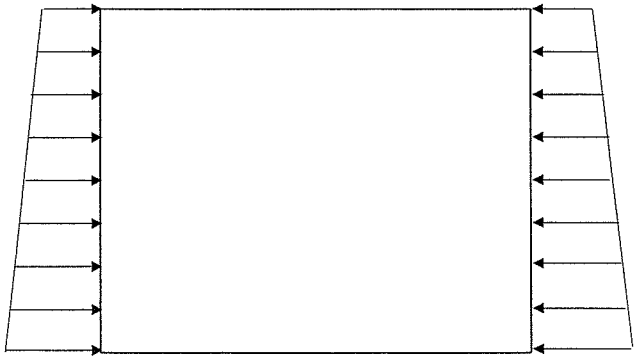


⑤ 활하중에 의한 측압(편재하)

W_{LH} = 8.408 kN/m²



⑥ 수평토압(지하수 없는 경우)

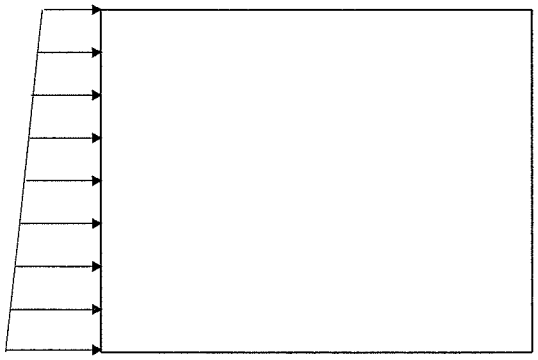


q_1 = 16.239 kN/㎡

q_7 = 59.904 kN/㎡

⑦ 편측토압(지하수 없는 경우)

q_1 = 2.556 kN/㎡



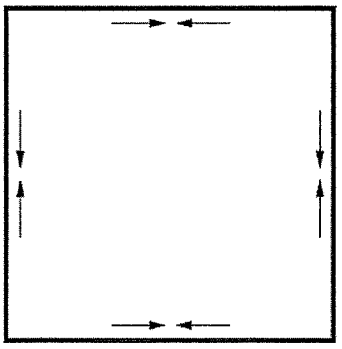
q_7 = 46.221 kN/㎡

⑧ 온도하중

△T = 2.94 °

⑨ 건조수축

△T = -15 °



⑩ 장대레일 종하중

Hr = 0.000 kN/m²

6. 하중계수 및 하중조합

1) 극한하중 검토시

구분	고정하중	활하중		활하중 측압		수평토압 (지하수無)		온도하중		건조수축	장대레일	비고
				양측재하	편측재하	양측재하	편측재하					
		전경간	1/2	수평	수평	수평	수평	온도상승	온도하강			
	LC1	LC2	LC3	LC4	LC5	LC6	LC7	LC8	LC9	LC10	LC11	
1	1.35	1.85		1.85		1.6						
2	1.35	1.85		1.85		0.6						
3	1.35		1.85		1.85	1.6						
4	1.35		1.85		1.85	0.6						
5	1.6	1.60		1.60		1.6						
6	1.6	1.60		1.60		0.6						
7	1.6		1.6		1.6	1.6						
8	1.6		1.6		1.6	0.6						
9	1.35	1.40		1.40		1.6		1.35		1.35		
10	1.35	1.40		1.40		0.6		1.35		1.35		
11	1.35	1.40		1.40		1.6			1.35	1.35	1.40	
12	1.35	1.40		1.40		0.6			1.35	1.35	1.40	
13	1.35		1.40		1.40	1.6		1.35		1.35		
14	1.35		1.40		1.40	0.6		1.35		1.35		
15	1.35		1.40		1.40	1.6			1.35	1.35	1.4	
16	1.35		1.40		1.40	0.6			1.35	1.35	1.4	
17	1.35		1.85		1.85		1.60					
18	1.35		1.85		1.85		0.60					
19	1.60		1.60		1.60		1.60					
20	1.60		1.60		1.60		0.60					

2) 사용하중 검토시

구분	고정하중	활하중		활하중 측압		수평토압 (지하수無)		온도하중		건조수축	장대레일	비고
				양측재하	편측재하	양측재하	편측재하					
		전경간	1/2	수평	수평	수평	수평	온도상승	온도하강			
	LC1	LC2	LC3	LC4	LC5	LC6	LC7	LC8	LC9	LC10	LC11	
21	1.0	1.0		1.0		1.0						
22	1.0	1.0		1.0		0.5						
23	1.0		1.0		1.0	1.0						
24	1.0		1.0		1.0	0.5						
25	1.0	1.0		1.0		1.0		1.0			1.0	
26	1.0	1.0		1.0		0.5		1.0			1.0	
27	1.0	1.0		1.0		1.0			1.0	1.0	1.0	
28	1.0	1.0		1.0		0.5			1.0	1.0	1.0	
29	1.0		1.0		1.0	1.0		1.0			1.0	
30	1.0		1.0		1.0	0.5		1.0			1.0	
31	1.0		1.0		1.0	1.0			1.0	1.0	1.0	
32	1.0		1.0		1.0	0.5			1.0	1.0	1.0	
33	1.0					1.0						
34	1.0		1.0		1.0		1.0					
35	1.0		1.0		1.0		0.5					

7. INPUT DATA

```
*VERSION
   8.3.1

*UNIT    ; Unit System
; FORCE, LENGTH, HEAT, TEMPER
   KN   , M, J, C

*STRUCTYPE    ; Structure Type
; iSTYP, iMASS, iSMAS, bMASSOFFSET, bSELFWEIGHT, GRAV, TEMPER, bALIGNBEAM, bALIGNSLAB, bROTRIGID
     1, 1, 1, NO, YES, 9.806, 0, NO, NO, NO

*REBAR-MATL-CODE    ; Rebar Material Code
; CONC_CODE, CONC_MDB, SRC_CODE, SRC_MDB
 KS01-Civil(RC), SD300, KS01-Civil(RC), SD300

*NODE    ; Nodes
; iNO, X, Y, Z
     1, 0, 0, 0
     2, 0.85, 0, 0
     3, 1.742, 0, 0
     4, 2.633, 0, 0
     5, 3.525, 0, 0
     6, 4.417, 0, 0
     7, 5.308, 0, 0
     8, 6.2, 0, 0
     9, 7.05, 0, 0
    10, 0, 0, 0.825
    11, 7.05, 0, 0.825
    12, 0, 0, 1.525
    13, 7.05, 0, 1.525
    14, 0, 0, 2.225
    15, 7.05, 0, 2.225
    16, 0, 0, 2.925
    17, 7.05, 0, 2.925
    18, 0, 0, 3.625
    19, 7.05, 0, 3.625
    20, 0, 0, 4.325
    21, 7.05, 0, 4.325
    22, 0, 0, 5.125
    23, 0.8, 0, 5.125
    24, 1.708, 0, 5.125
    25, 2.617, 0, 5.125
    26, 3.525, 0, 5.125
    27, 4.433, 0, 5.125
    28, 5.342, 0, 5.125
    29, 6.25, 0, 5.125
    30, 7.05, 0, 5.125

*ELEMENT    ; Elements
; iEL, TYPE, iMAT, iPRO, iN1, iN2, ANGLE, iSUB, EXVAL, iOPT(EXVAL2) ; Frame  Element
; iEL, TYPE, iMAT, iPRO, iN1, iN2, ANGLE, iSUB, EXVAL, EXVAL2, bLMT ; Comp/Tens Truss
; iEL, TYPE, iMAT, iPRO, iN1, iN2, iN3, iN4, iSUB, iWID             ; Planar Element
; iEL, TYPE, iMAT, iPRO, iN1, iN2, iN3, iN4, iN5, iN6, iN7, iN8     ; Solid  Element
; iEL, TYPE, iMAT, iPRO, iN1, iN2, REF, RPX, RPY, RPZ, iSUB, EXVAL  ; Frame(Ref. Point)
     1, BEAM  ,    2,    2,    1,    2,   180
     2, BEAM  ,    2,    2,    2,    3,   180
     3, BEAM  ,    2,    2,    3,    4,   180
     4, BEAM  ,    2,    2,    4,    5,   180
     5, BEAM  ,    2,    2,    5,    6,   180
     6, BEAM  ,    2,    2,    6,    7,   180
     7, BEAM  ,    2,    2,    7,    8,   180
     8, BEAM  ,    2,    2,    8,    9,   180
     9, BEAM  ,    2,    3,    1,   10,   180
    10, BEAM  ,    2,    3,    9,   11,     0
    11, BEAM  ,    2,    3,   10,   12,   180
    12, BEAM  ,    2,    3,   11,   13,     0
    13, BEAM  ,    2,    3,   12,   14,   180
    14, BEAM  ,    2,    3,   13,   15,     0
    15, BEAM  ,    2,    3,   14,   16,   180
    16, BEAM  ,    2,    3,   15,   17,     0
    17, BEAM  ,    2,    3,   16,   18,   180
    18, BEAM  ,    2,    3,   17,   19,     0
    19, BEAM  ,    2,    3,   18,   20,   180
    20, BEAM  ,    2,    3,   19,   21,     0
    21, BEAM  ,    2,    3,   20,   22,   180
    22, BEAM  ,    2,    3,   21,   30,     0
    23, BEAM  ,    2,    1,   22,   23,     0
    24, BEAM  ,    2,    1,   23,   24,     0
    25, BEAM  ,    2,    1,   24,   25,     0
    26, BEAM  ,    2,    1,   25,   26,     0
    27, BEAM  ,    2,    1,   26,   27,     0
    28, BEAM  ,    2,    1,   27,   28,     0
    29, BEAM  ,    2,    1,   28,   29,     0
```

```
    30, BEAM  ,    2,     1,    29,    30,     0

*MATERIAL    ; Material
; iMAT, TYPE, MNAME, SPHEAT, HEATCO, PLAST, TUNIT, bMASS, DAMPRATIO, [DATA1]          ; STEEL, CONC, USER
; iMAT, TYPE, MNAME, SPHEAT, HEATCO, PLAST, TUNIT, bMASS, DAMPRATIO, [DATA2], [DATA2] ; SRC
; [DATA1] : 1, DB, NAME, CODE
; [DATA1] : 2, ELAST, POISN, THERMAL, DEN, MASS
; [DATA1] : 3, Ex, Ey, Ez, Tx, Ty, Tz, Sxy, Sxz, Syz, Pxy, Pxz, Pyz, DEN, MASS   ; Orthotropic
; [DATA2] : 1, DB, NAME, CODE or 2, ELAST, POISN, THERMAL, DEN, MASS
    1, USER , STEEL              , 0, 0, , C, NO, 0, 2, 2.0000e+008,   0.3, 1.1700e-005, 76.8196,     0
    2, USER , CONC               , 0, 0, , C, NO, 0, 2, 2.7537e+007,  0.18, 1.0000e-005,  24.5,     0

*MATL-COLOR
; iMAT, W_R, W_G, W_B, HF_R, HF_G, HF_B, HE_R, HE_G, HE_B, bBLEND, FACT
    1, 255,   0,   0,    0, 255,   0,    0,   0, 255,  NO, 0.5
    2, 255,   0,   0,    0, 255,   0,    0,   0, 255,  NO, 0.5


*SECTION    ; Section
; iSEC, TYPE, SNAME, [OFFSET], bSD, SHAPE, [DATA1], [DATA2]                    ; 1st line - DB/USER
; iSEC, TYPE, SNAME, [OFFSET], bSD, SHAPE, BLT, D1, ..., D8, iCEL              ; 1st line - VALUE
;       AREA, ASy, ASz, Ixx, Iyy, Izz                                         ; 2nd line
;       CyP, CyM, CzP, CzM, QyB, QzB, PERI_OUT, PERI_IN, Cy, Cz               ; 3rd line
;       Y1, Y2, Y3, Y4, Z1, Z2, Z3, Z4, Zyy, Zzz                              ; 4th line
; iSEC, TYPE, SNAME, [OFFSET], bSD, SHAPE, ELAST, DEN, POIS, POIC, SF         ; 1st line - SRC
;       D1, D2, [SRC]                                                         ; 2nd line
; iSEC, TYPE, SNAME, [OFFSET], bSD, SHAPE, 1, DB, NAME1, NAME2, D1, D2        ; 1st line - COMBINED
; iSEC, TYPE, SNAME, [OFFSET], bSD, SHAPE, 2, D11, D12, D13, D14, D15, D21, D22, D23, D24
; iSEC, TYPE, SNAME, [OFFSET2], bSD, SHAPE, iyVAR, izVAR, STYPE               ; 1st line - TAPERED
;       DB, NAME1, NAME2                                                      ; 2nd line(STYPE=DB)
;       [DIM1], [DIM2]                                                        ; 2nd line(STYPE=USER)
;       D11, D12, D13, D14, D15, D16, D17, D18                                ; 2nd line(STYPE=VALUE)
;       AREA1, ASy1, ASz1, Ixx1, Iyy1, Izz1                                   ; 3rd line(STYPE=VALUE)
;       CyP1, CyM1, CzP1, CzM1, QyB1, QzB1, PERI_OUT1, PERI_IN1, Cy1, Cz1     ; 4th line(STYPE=VALUE)
;       Y11, Y12, Y13, Y14, Z11, Z12, Z13, Z14, Zyy1, Zyy2                    ; 5th line(STYPE=VALUE)
;       D21, D22, D23, D24, D25, D26, D27, D28                                ; 6th line(STYPE=VALUE)
;       AREA2, ASy2, ASz2, Ixx2, Iyy2, Izz2                                   ; 7th line(STYPE=VALUE)
;       CyP2, CyM2, CzP2, CzM2, QyB2, QzB2, PERI_OUT2, PERI_IN2, Cy2, Cz2     ; 8th line(STYPE=VALUE)
;       Y21, Y22, Y23, Y24, Z21, Z22, Z23, Z24, Zyy2, Zzz2                    ; 9th line(STYPE=VALUE)
;       OPT1, OPT2, [JOINT]                                                   ; 2nd line(STYPE=PSC)
;       ELAST, DEN, POIS, POIC                                                ; 2nd line(STYPE=PSC-CMPW)
;       bSHEARCHK, [SCHK-I], [SCHK-J], [WT-I], [WT-J], WI, WJ, bSYM, bSIDEHOLE ; 3rd line(STYPE=PSC)
;       bSHEARCHK, bSYM, bHUNCH, [CMPWEB-I], [CMPWEB-J]                       ; 3rd line(STYPE=PSC-CMPW)
;       bUSERDEFMESHSIZE, MESHSIZE, bUSERINPSTIFF, [STIFF-I], [STIFF-J]       ; 4th line(STYPE=PSC)
;       [SIZE-A]-i                                                            ; 5th line(STYPE=PSC)
;       [SIZE-B]-i                                                            ; 6th line(STYPE=PSC)
;       [SIZE-C]-i                                                            ; 7th line(STYPE=PSC)
;       [SIZE-D]-i                                                            ; 8th line(STYPE=PSC)
;       [SIZE-A]-i                                                            ; 9th line(STYPE=PSC)
;       [SIZE-B]-i                                                            ; 10th line(STYPE=PSC)
;       [SIZE-C]-i                                                            ; 11th line(STYPE=PSC)
;       [SIZE-D]-i                                                            ; 12th line(STYPE=PSC)
;       GN, CTC, Bc, Tc, Hh, EsEc, DsDc, Ps, Pc, bMULTI, EsEc-L, EsEc-S       ; 2nd line(STYPE=CMP-B/I)
;       SW_i, Hw_i, tw_i, B_i, Bf1_i, tf1_i, B2_i, Bf2_i, tf2_i               ; 3rd line(STYPE=CMP-B/I)
;       SW_i, Hw_i, tw_i, B_i, Bf1_i, tf1_i, B2_i, Bf2_i, tf2_i               ; 4th line(STYPE=CMP-B/I)
;       N1, N2, Hr, Hr2, tr1, tr2                                             ; 5th line(STYPE=CMP-B)
;       GN, CTC, Bc, Tc, Hh, EqdEsb, DqdDsb, Pqd, Psb, bSYM, SW_i, SW_i       ; 2nd line(STYPE=CMP-CI/CT)
;       OPT1, OPT2, [JOINT]                                                   ; 3rd line(STYPE=CMP-CI/CT)
;       [SIZE-A]-i                                                            ; 4th line(STYPE=CMP-CI/CT)
;       [SIZE-B]-i                                                            ; 5th line(STYPE=CMP-CI/CT)
;       [SIZE-C]-i                                                            ; 6th line(STYPE=CMP-CI/CT)
;       [SIZE-D]-i                                                            ; 7th line(STYPE=CMP-CI/CT)
;       [SIZE-A]-i                                                            ; 8th line(STYPE=CMP-CI/CT)
;       [SIZE-B]-i                                                            ; 9th line(STYPE=CMP-CI/CT)
;       [SIZE-C]-i                                                            ; 10th line(STYPE=CMP-CI/CT)
;       [SIZE-D]-i                                                            ; 11th line(STYPE=CMP-CI/CT)
; iSEC, TYPE, SNAME, [OFFSET], bSD, STYPE1, STYPE2                            ; 1st line - CONSTRUCT
;       SHAPE, ...(same with other type data from shape)                      ; Before (STYPE1)
;       SHAPE, ...(same with other type data from shape)                      ; After  (STYPE2)
; iSEC, TYPE, SNAME, [OFFSET], bSD, SHAPE                                     ; 1st line - COMPOSITE-SB
;       Hw, tw, B, Bf1, tf1, B2, Bf2, tf2                                     ; 2nd line
;       N1, N2, Hr, Hr2, tr1, tr2                                             ; 3rd line
;       SW, GN, CTC, Bc, Tc, Hh, EsEc, DsDc, Ps, Pc, bMulti, Elong, Esh       ; 4th line
; iSEC, TYPE, SNAME, [OFFSET], bSD, SHAPE                                     ; 1st line - COMPOSITE-SI
;       Hw, tw, B, tf1, B2, tf2                                               ; 2nd line
;       SW, GN, CTC, Bc, Tc, Hh, EsEc, DsDc, Ps, Pc, bMulti, Elong, Esh       ; 3rd line
; iSEC, TYPE, SNAME, [OFFSET], bSD, SHAPE                                     ; 1st line - COMPOSITE-CI/CT
;       OPT1, OPT2, [JOINT]                                                   ; 2nd line
;       [SIZE-A]                                                              ; 3rd line
;       [SIZE-B]                                                              ; 4th line
;       [SIZE-C]                                                              ; 5th line
;       [SIZE-D]                                                              ; 6th line
;       SW, GN, CTC, Bc, Tc, Hh, EqdEsb, DqdDsb, Pqd, Psb                     ; 7th line
; iSEC, TYPE, SNAME, [OFFSET], bSD, SHAPE                                     ; 1st line - PSC
;       OPT1, OPT2, [JOINT]                                                   ; 2nd line
;       bSHEARCHK, [SCHK], [WT], WIDTH, bSYM, bSIDEHOLE                       ; 3rd line
;       bUSERDEFMESHSIZE, MESHSIZE, bUSERINPSTIFF, [STIFF]                    ; 4th line
```

```
;       [SIZE-A]                                                                ; 5th line
;       [SIZE-B]                                                                ; 6th line
;       [SIZE-C]                                                                ; 7th line
;       [SIZE-D]                                                                ; 8th line
; [DATA1] : 1, DB, NAME or 2, D1, D2, D3, D4, D5, D6, D7, D8, D9, D10
; [DATA2] : CCSHAPE or iCEL or iN1, iN2
; [SRC]  : 1, DB, NAME1, NAME2 or 2, D1, D2, D3, D4, D5, D6, D7, D8, D9, D10, iN1, iN2
; [DIM1], [DIM2] : D1, D2, D3, D4, D5, D6, D7, D8
; [OFFSET] : OFFSET, iCENT, iREF, iHORZ, HUSER, iVERT, VUSER
; [OFFSET2]: OFFSET, iCENT, iREF, iHORZ, HUSERI, HUSERJ, iVERT, VUSERI, VUSERJ
; [JOINT]  :  8(1CELL, 2CELL), 13(3CELL),  9(PSCM),  8(PSCH), 9(PSCT),  2(PSCB), 0(nCELL),  2(nCEL2)
; [SIZE-A] :  6(1CELL, 2CELL), 10(3CELL), 10(PSCM),  6(PSCH), 8(PSCT), 10(PSCB), 5(nCELL), 11(nCEL2)
; [SIZE-B] :  6(1CELL, 2CELL), 12(3CELL),  6(PSCM),  6(PSCH), 8(PSCT),  6(PSCB), 8(nCELL), 18(nCEL2)
; [SIZE-C] : 10(1CELL, 2CELL), 13(3CELL),  9(PSCM), 10(PSCH), 7(PSCT),  8(PSCB), 0(nCELL), 11(nCEL2)
; [SIZE-D] :  8(1CELL, 2CELL), 13(3CELL),  6(PSCM),  7(PSCH), 8(PSCT),  5(PSCB), 0(nCELL), 18(nCEL2)
; [STIFF]  : AREA, ASy, ASz, Ixx, Iyy, Izz
; [SCHK]   : bAUTO_Z1, Z1, bAUTO_Z3, Z3
; [WT]     : bAUTO_TOR, TOR, bAUTO_SHR1, SHR1, bAUTO_SHR2, SHR2, bAUTO_SHR3, SHR3
; [CMPWEB] : EFD, LRF, A, B, H, T
   1, DBUSER    , TOPSLAB          , CC, 0, 0, 0, 0, 0, 0, YES, SB , 2, 0.6, 1, 0, 0, 0, 0, 0, 0, 0, 0
   2, DBUSER    , BOTSLAB          , CC, 0, 0, 0, 0, 0, 0, YES, SB , 2, 0.65, 1, 0, 0, 0, 0, 0, 0, 0, 0
   3, DBUSER    , WALL             , CC, 0, 0, 0, 0, 0, 0, YES, SB , 2, 0.6, 1, 0, 0, 0, 0, 0, 0, 0, 0

*SECT-COLOR
; iSEC, W_R, W_G, W_B, HF_R, HF_G, HF_B, HE_R, HE_G, HE_B, bBLEND, FACT
   1, 255,   0,   0,    0, 255,   0,    0,   0, 255,  NO, 0.5
   2, 255,   0,   0,    0, 255,   0,    0,   0, 255,  NO, 0.5
   3, 255,   0,   0,    0, 255,   0,    0,   0, 255,  NO, 0.5

*DGN-SECT
; iSEC, TYPE, SNAME, [OFFSET], bSD, SHAPE, [DATA1], [DATA2]                    ; 1st line - DB/USER
; iSEC, TYPE, SNAME, [OFFSET], bSD, SHAPE, BLT, D1, ..., D8, iCEL             ; 1st line - VALUE
;       AREA, ASy, ASz, Ixx, Iyy, Izz                                         ; 2nd line
;       CyP, CyM, CzP, CzM, QyB, QzB, PERI_OUT, PERI_IN, Cy, Cz               ; 3rd line
;       Y1, Y2, Y3, Y4, Z1, Z2, Z3, Z4, Zyy, Zzz                              ; 4th line
; iSEC, TYPE, SNAME, [OFFSET], bSD, SHAPE, ELAST, DEN, POIS, POIC, SF         ; 1st line - SRC
;       D1, D2, [SRC]                                                         ; 2nd line
; iSEC, TYPE, SNAME, [OFFSET], bSD, SHAPE, 1, DB, NAME1, NAME2, D1, D2        ; 1st line - COMBINED
; iSEC, TYPE, SNAME, [OFFSET], bSD, SHAPE, 2, D11, D12, D13, D14, D15, D21, D22, D23, D24
; iSEC, TYPE, SNAME, [OFFSET2], bSD, SHAPE, iyVAR, izVAR, STYPE               ; 1st line - TAPERED
;       DB, NAME1, NAME2                                                      ; 2nd line(STYPE=DB)
;       [DIM1], [DIM2]                                                        ; 2nd line(STYPE=USER)
;       D11, D12, D13, D14, D15, D16, D17, D18                                ; 2nd line(STYPE=VALUE)
;       AREA1, ASy1, ASz1, Ixx1, Iyy1, Izz1                                   ; 3rd line(STYPE=VALUE)
;       CyP1, CyM1, CzP1, CzM1, QyB1, QzB1, PERI_OUT1, PERI_IN1, Cy1, Cz1     ; 4th line(STYPE=VALUE)
;       Y11, Y12, Y13, Y14, Z11, Z12, Z13, Z14, Zyy1, Zyy2                    ; 5th line(STYPE=VALUE)
;       D21, D22, D23, D24, D25, D26, D27, D28                                ; 6th line(STYPE=VALUE)
;       AREA2, ASy2, ASz2, Ixx2, Iyy2, Izz2                                   ; 7th line(STYPE=VALUE)
;       CyP2, CyM2, CzP2, CzM2, QyB2, QzB2, PERI_OUT2, PERI_IN2, Cy2, Cz2     ; 8th line(STYPE=VALUE)
;       Y21, Y22, Y23, Y24, Z21, Z22, Z23, Z24, Zyy2, Zzz2                    ; 9th line(STYPE=VALUE)
;       OPT1, OPT2, [JOINT]                                                   ; 2nd line(STYPE=PSC)
;       ELAST, DEN, POIS, POIC                                                ; 2nd line(STYPE=PSC-CMPW)
;       bSHEARCHK, [SCHK-I], [SCHK-J], [WT-I], [WT-J], WI, WJ, bSYM, bSIDEHOLE ; 3rd line(STYPE=PSC)
;       bSHEARCHK, bSYM, bHUNCH, [CMPWEB-I], [CMPWEB-J]                       ; 3rd line(STYPE=PSC-CMPW)
;       bUSERDEFMESHSIZE, MESHSIZE, bUSERINPSTIFF, [STIFF-I], [STIFF-J]       ; 4th line(STYPE=PSC)
;       [SIZE-A]-i                                                            ; 5th line(STYPE=PSC)
;       [SIZE-B]-i                                                            ; 6th line(STYPE=PSC)
;       [SIZE-C]-i                                                            ; 7th line(STYPE=PSC)
;       [SIZE-D]-i                                                            ; 8th line(STYPE=PSC)
;       [SIZE-A]-i                                                            ; 9th line(STYPE=PSC)
;       [SIZE-B]-i                                                            ; 10th line(STYPE=PSC)
;       [SIZE-C]-i                                                            ; 11th line(STYPE=PSC)
;       [SIZE-D]-i                                                            ; 12th line(STYPE=PSC)
;       GN, CTC, Bc, Tc, Hh, EsEc, DsDc, Ps, Pc, bMULTI, EsEc-L, EsEc-S       ; 2nd line(STYPE=CMP-B/I)
;       SW_i, Hw_i, tw_i, B_i, Bf1_i, tf1_i, B2_i, Bf2_i, tf2_i               ; 3rd line(STYPE=CMP-B/I)
;       SW_i, Hw_i, tw_i, B_i, Bf1_i, tf1_i, B2_i, Bf2_i, tf2_i               ; 4th line(STYPE=CMP-B/I)
;       N1, N2, Hr, Hr2, tr1, tr2                                             ; 5th line(STYPE=CMP-B)
;       GN, CTC, Bc, Tc, Hh, EgdEsb, DgdDsb, Pgd, Psb, bSYM, SW_i, SW_i       ; 2nd line(STYPE=CMP-CI/CT)
;       OPT1, OPT2, [JOINT]                                                   ; 3rd line(STYPE=CMP-CI/CT)
;       [SIZE-A]-i                                                            ; 4th line(STYPE=CMP-CI/CT)
;       [SIZE-B]-i                                                            ; 5th line(STYPE=CMP-CI/CT)
;       [SIZE-C]-i                                                            ; 6th line(STYPE=CMP-CI/CT)
;       [SIZE-D]-i                                                            ; 7th line(STYPE=CMP-CI/CT)
;       [SIZE-A]-i                                                            ; 8th line(STYPE=CMP-CI/CT)
;       [SIZE-B]-i                                                            ; 9th line(STYPE=CMP-CI/CT)
;       [SIZE-C]-i                                                            ; 10th line(STYPE=CMP-CI/CT)
;       [SIZE-D]-i                                                            ; 11th line(STYPE=CMP-CI/CT)
; iSEC, TYPE, SNAME, [OFFSET], bSD, STYPE1, STYPE2                            ; 1st line - CONSTRUCT
;       SHAPE, ...(same with other type data from shape)                      ; Before (STYPE1)
;       SHAPE, ...(same with other type data from shape)                      ; After  (STYPE2)
; iSEC, TYPE, SNAME, [OFFSET], bSD, SHAPE                                     ; 1st line - COMPOSITE-SB
;       Hw, tw, B, Bf1, tf1, B2, Bf2, tf2                                     ; 2nd line
;       N1, N2, Hr, Hr2, tr1, tr2                                             ; 3rd line
;       SW, GN, CTC, Bc, Tc, Hh, EsEc, DsDc, Ps, Pc, bMulti, Elong, Esh       ; 4th line
; iSEC, TYPE, SNAME, [OFFSET], bSD, SHAPE                                     ; 1st line - COMPOSITE-SI
;       Hw, tw, B, tf1, B2, tf2                                               ; 2nd line
;       SW, GN, CTC, Bc, Tc, Hh, EsEc, DsDc, Ps, Pc, bMulti, Elong, Esh       ; 3rd line
```

```
; iSEC, TYPE, SNAME, [OFFSET], bSD, SHAPE                                  ; 1st line - COMPOSITE-CI/CT
;       OPT1, OPT2, [JOINT]                                               ; 2nd line
;       [SIZE-A]                                                          ; 3rd line
;       [SIZE-B]                                                          ; 4th line
;       [SIZE-C]                                                          ; 5th line
;       [SIZE-D]                                                          ; 6th line
;       SW, GN, CTC, Bc, Tc, Hh, EqdEsb, DqdDsb, Pqd, Psb                 ; 7th line
; iSEC, TYPE, SNAME, [OFFSET], bSD, SHAPE                                  ; 1st line - PSC
;       OPT1, OPT2, [JOINT]                                               ; 2nd line
;       bSHEARCHK, [SCHK], [WT], WIDTH, bSYM, bSIDEHOLE                   ; 3rd line
;       bUSERDEFMESHSIZE, MESHSIZE, bUSERINPSTIFF, [STIFF]                ; 4th line
;       [SIZE-A]                                                          ; 5th line
;       [SIZE-B]                                                          ; 6th line
;       [SIZE-C]                                                          ; 7th line
;       [SIZE-D]                                                          ; 8th line
; [DATA1] : 1, DB, NAME or 2, D1, D2, D3, D4, D5, D6, D7, D8, D9, D10
; [DATA2] : CCSHAPE or iCEL or iN1, iN2
; [SRC]   : 1, DB, NAME1, NAME2 or 2, D1, D2, D3, D4, D5, D6, D7, D8, D9, D10, iN1, iN2
; [DIM1], [DIM2] : D1, D2, D3, D4, D5, D6, D7, D8
; [OFFSET] : OFFSET, iCENT, iREF, iHORZ, HUSER, iVERT, VUSER
; [OFFSET2]: OFFSET, iCENT, iREF, iHORZ, HUSERI, HUSERJ, iVERT, VUSERI, VUSERJ
; [JOINT]  :  8(1CELL, 2CELL), 13(3CELL),  9(PSCM),  8(PSCH), 9(PSCT),  2(PSCB), 0(nCELL),  2(nCEL2)
; [SIZE-A] :  6(1CELL, 2CELL), 10(3CELL), 10(PSCM),  6(PSCH), 8(PSCT), 10(PSCB), 5(nCELL), 11(nCEL2)
; [SIZE-B] :  6(1CELL, 2CELL), 12(3CELL),  6(PSCM),  6(PSCH), 8(PSCT),  6(PSCB), 8(nCELL), 18(nCEL2)
; [SIZE-C] : 10(1CELL, 2CELL), 13(3CELL),  9(PSCM), 10(PSCH), 7(PSCT),  8(PSCB), 0(nCELL), 11(nCEL2)
; [SIZE-D] :  8(1CELL, 2CELL), 13(3CELL),  6(PSCM),  7(PSCH), 8(PSCT),  5(PSCB), 0(nCELL), 18(nCEL2)
; [STIFF]  : AREA, ASy, ASz, Ixx, Iyy, Izz
; [SCHK]   : bAUTO_Z1, Z1, bAUTO_Z3, Z3
; [WT]     : bAUTO_TOR, TOR, bAUTO_SHR1, SHR1, bAUTO_SHR2, SHR2, bAUTO_SHR3, SHR3
; [CMPWEB] : EFD, LRF, A, B, H, T
   1, DBUSER    , TOPSLAB          , CC, 0, 0, 0, 0, 0, 0, YES, SB , 2, 0.6, 1, 0, 0, 0, 0, 0, 0, 0, 0
   2, DBUSER    , BOTSLAB          , CC, 0, 0, 0, 0, 0, 0, YES, SB , 2, 0.65, 1, 0, 0, 0, 0, 0, 0, 0, 0
   3, DBUSER    , WALL             , CC, 0, 0, 0, 0, 0, 0, YES, SB , 2, 0.6, 1, 0, 0, 0, 0, 0, 0, 0, 0


*STLDCASE    ; Static Load Cases
; LCNAME, LCTYPE, DESC
  LC1  , USER,
  LC2  , USER,
  LC3  , USER,
  LC4  , USER,
  LC5  , USER,
  LC6  , USER,
  LC7  , USER,
  LC8  , USER,
  LC9  , USER,
  LC10 , USER,
  LC11 , USER,
  NCOMB1, USER,
  NCOMB2, USER,
  NCOMB3, USER,
  NCOMB4, USER,
  NCOMB5, USER,
  NCOMB6, USER,
  NCOMB7, USER,
  NCOMB8, USER,
  NCOMB9, USER,
  NCOMB10, USER,
  NCOMB11, USER,
  NCOMB12, USER,
  NCOMB13, USER,
  NCOMB14, USER,
  NCOMB15, USER,
  NCOMB16, USER,
  NCOMB17, USER,
  NCOMB18, USER,
  NCOMB19, USER,
  NCOMB20, USER,
  NCOMB21, USER,
  NCOMB22, USER,
  NCOMB23, USER,
  NCOMB24, USER,
  NCOMB25, USER,
  NCOMB26, USER,
  NCOMB27, USER,
  NCOMB28, USER,
  NCOMB29, USER,
  NCOMB30, USER,
  NCOMB31, USER,
  NCOMB32, USER,
  NCOMB33, USER,
  NCOMB34, USER,
  NCOMB35, USER,


*SPRING    ; Point Spring Supports
; NODE_LIST, Type, SDx, SDy, SDz, SRx, SRy, SRz, GROUP, FROMTYPE, EFFAREA, Kx, Ky, Kz
```

```
; NODE_LIST, Type, Direction, Vx, Vy, Vz, Stiffness, GROUP, FROMTYPE, EFFAREA
; NODE_LIST, Type, Multi-Linear Type, Direction, Vx, Vy, Vz, ax, ay, bx, by, cx, cy, dx, dy, ex, ey, fx, fy, GROUP, FROMTYPE, EFFAREA
   1, LINEAR, 1e+014, 0, 0, 0, 0, 0, NO, 0, 0, 0, 0, 0, 0, 0, , 0, 0, 0, 0, 0
   3to7, COMP  ,  5, 0, 0, 0, 14815, , 0, 0, 0, 0, 0, 0
   2 8, COMP  ,  5, 0, 0, 0, 14469, , 0, 0, 0, 0, 0, 0
   1 9, COMP  ,  5, 0, 0, 0, 12046, , 0, 0, 0, 0, 0, 0

*OFFSET    ; Beam End Offsets
; ELEM_LIST, TYPE, RGDXi, RGDYi, RGDZi, RGDXj, RGDYj, RGDZj, GROUP  ; TYPE=GLOBAL
; ELEM_LIST, TYPE, RGDi, RGDj, GROUP                                ; TYPE=ELEMENT
     1, ELEMENT, 0.1375, 0,
     8, ELEMENT, 0, 0.1375,
     9, ELEMENT, 0.175, 0,
    10, ELEMENT, 0.175, 0,
    21, ELEMENT, 0, 0.3,
    22, ELEMENT, 0, 0.3,
    23, ELEMENT, 0.3, 0,
    30, ELEMENT, 0, 0.3,

*USE-STLD, LC1

; *SELFWEIGHT, X, Y, Z, GROUP
*SELFWEIGHT, 0, 0, -1,

*BEAMLOAD    ; Element Beam Loads
; ELEM_LIST, CMD, TYPE, DIR, bPROJ, [ECCEN], [VALUE], GROUP
; ELEM_LIST, CMD, TYPE, TYPE, DIR, VX, VY, VZ, bPROJ, [ECCEN], [VALUE], GROUP
; [VALUE]       : D1, P1, D2, P2, D3, P3, D4, P4
; [ECCEN]       : bECCEN, ECCDIR, I-END, J-END, bJ-END
; [ADDITIONAL]  : bADDITIONAL, ADDITIONAL_I-END, ADDITIONAL_J-END, bADDITIONAL_J-END
    23, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -28.24, 1, -28.24, 0, 0, 0, 0, , NO, 0, 0, NO
    24, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -28.24, 1, -28.24, 0, 0, 0, 0, , NO, 0, 0, NO
    25, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -28.24, 1, -28.24, 0, 0, 0, 0, , NO, 0, 0, NO
    26, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -28.24, 1, -28.24, 0, 0, 0, 0, , NO, 0, 0, NO
    27, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -28.24, 1, -28.24, 0, 0, 0, 0, , NO, 0, 0, NO
    28, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -28.24, 1, -28.24, 0, 0, 0, 0, , NO, 0, 0, NO
    29, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -28.24, 1, -28.24, 0, 0, 0, 0, , NO, 0, 0, NO
    30, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -28.24, 1, -28.24, 0, 0, 0, 0, , NO, 0, 0, NO

; End of data for load case [LC1] ------------------------

*USE-STLD, LC2

*BEAMLOAD    ; Element Beam Loads
; ELEM_LIST, CMD, TYPE, DIR, bPROJ, [ECCEN], [VALUE], GROUP
; ELEM_LIST, CMD, TYPE, TYPE, DIR, VX, VY, VZ, bPROJ, [ECCEN], [VALUE], GROUP
; [VALUE]       : D1, P1, D2, P2, D3, P3, D4, P4
; [ECCEN]       : bECCEN, ECCDIR, I-END, J-END, bJ-END
; [ADDITIONAL]  : bADDITIONAL, ADDITIONAL_I-END, ADDITIONAL_J-END, bADDITIONAL_J-END
    23, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -29.302, 1, -29.302, 0, 0, 0, 0, , NO, 0, 0, NO
    24, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -29.302, 1, -29.302, 0, 0, 0, 0, , NO, 0, 0, NO
    25, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -29.302, 1, -29.302, 0, 0, 0, 0, , NO, 0, 0, NO
    26, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -29.302, 1, -29.302, 0, 0, 0, 0, , NO, 0, 0, NO
    27, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -29.302, 1, -29.302, 0, 0, 0, 0, , NO, 0, 0, NO
    28, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -29.302, 1, -29.302, 0, 0, 0, 0, , NO, 0, 0, NO
    29, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -29.302, 1, -29.302, 0, 0, 0, 0, , NO, 0, 0, NO
    30, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -29.302, 1, -29.302, 0, 0, 0, 0, , NO, 0, 0, NO

; End of data for load case [LC2] ------------------------

*USE-STLD, LC3

*BEAMLOAD    ; Element Beam Loads
; ELEM_LIST, CMD, TYPE, DIR, bPROJ, [ECCEN], [VALUE], GROUP
; ELEM_LIST, CMD, TYPE, TYPE, DIR, VX, VY, VZ, bPROJ, [ECCEN], [VALUE], GROUP
; [VALUE]       : D1, P1, D2, P2, D3, P3, D4, P4
; [ECCEN]       : bECCEN, ECCDIR, I-END, J-END, bJ-END
; [ADDITIONAL]  : bADDITIONAL, ADDITIONAL_I-END, ADDITIONAL_J-END, bADDITIONAL_J-END
    23, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -29.302, 1, -29.302, 0, 0, 0, 0, , NO, 0, 0, NO
    24, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -29.302, 1, -29.302, 0, 0, 0, 0, , NO, 0, 0, NO
    25, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -29.302, 1, -29.302, 0, 0, 0, 0, , NO, 0, 0, NO
    26, BEAM   , UNILOAD, GZ, NO , NO, aDir[1], , , , 0, -29.302, 1, -29.302, 0, 0, 0, 0, , NO, 0, 0, NO

; End of data for load case [LC3] ------------------------

*USE-STLD, LC4

*BEAMLOAD    ; Element Beam Loads
; ELEM_LIST, CMD, TYPE, DIR, bPROJ, [ECCEN], [VALUE], GROUP
; ELEM_LIST, CMD, TYPE, TYPE, DIR, VX, VY, VZ, bPROJ, [ECCEN], [VALUE], GROUP
; [VALUE]       : D1, P1, D2, P2, D3, P3, D4, P4
; [ECCEN]       : bECCEN, ECCDIR, I-END, J-END, bJ-END
; [ADDITIONAL]  : bADDITIONAL, ADDITIONAL_I-END, ADDITIONAL_J-END, bADDITIONAL_J-END
     9, BEAM   , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 8.408, 1, 8.408, 0, 0, 0, 0, , NO, 0, 0, NO
    10, BEAM   , UNILOAD, GX, NO , NO, aDir[1], , , , 0, -8.408, 1, -8.408, 0, 0, 0, 0, , NO, 0, 0, NO
    11, BEAM   , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 8.408, 1, 8.408, 0, 0, 0, 0, , NO, 0, 0, NO
    12, BEAM   , UNILOAD, GX, NO , NO, aDir[1], , , , 0, -8.408, 1, -8.408, 0, 0, 0, 0, , NO, 0, 0, NO
```

```
    13, BEAM   , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 8.408, 1, 8.408, 0, 0, 0, 0, , NO, 0, 0, NO
    14, BEAM   , UNILOAD, GX, NO , NO, aDir[1], , , , 0, -8.408, 1, -8.408, 0, 0, 0, 0, , NO, 0, 0, NO
    15, BEAM   , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 8.408, 1, 8.408, 0, 0, 0, 0, , NO, 0, 0, NO
    16, BEAM   , UNILOAD, GX, NO , NO, aDir[1], , , , 0, -8.408, 1, -8.408, 0, 0, 0, 0, , NO, 0, 0, NO
    17, BEAM   , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 8.408, 1, 8.408, 0, 0, 0, 0, , NO, 0, 0, NO
    18, BEAM   , UNILOAD, GX, NO , NO, aDir[1], , , , 0, -8.408, 1, -8.408, 0, 0, 0, 0, , NO, 0, 0, NO
    19, BEAM   , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 8.408, 1, 8.408, 0, 0, 0, 0, , NO, 0, 0, NO
    20, BEAM   , UNILOAD, GX, NO , NO, aDir[1], , , , 0, -8.408, 1, -8.408, 0, 0, 0, 0, , NO, 0, 0, NO
    21, BEAM   , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 8.408, 1, 8.408, 0, 0, 0, 0, , NO, 0, 0, NO
    22, BEAM   , UNILOAD, GX, NO , NO, aDir[1], , , , 0, -8.408, 1, -8.408, 0, 0, 0, 0, , NO, 0, 0, NO

; End of data for load case [LC4] ----------

*USE-STLD, LC5

*BEAMLOAD    ; Element Beam Loads
; ELEM_LIST, CMD, TYPE, DIR, bPROJ, [ECCEN], [VALUE], GROUP
; ELEM_LIST, CMD, TYPE, TYPE, DIR, VX, VY, VZ, bPROJ, [ECCEN], [VALUE], GROUP
; [VALUE]       : D1, P1, D2, P2, D3, P3, D4, P4
; [ECCEN]       : bECCEN, ECCDIR, I-END, J-END, bJ-END
; [ADDITIONAL]  : bADDITIONAL, ADDITIONAL_I-END, ADDITIONAL_J-END, bADDITIONAL_J-END
     9, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 8.408, 1, 8.408, 0, 0, 0, 0, , NO, 0, 0, NO
    11, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 8.408, 1, 8.408, 0, 0, 0, 0, , NO, 0, 0, NO
    13, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 8.408, 1, 8.408, 0, 0, 0, 0, , NO, 0, 0, NO
    15, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 8.408, 1, 8.408, 0, 0, 0, 0, , NO, 0, 0, NO
    17, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 8.408, 1, 8.408, 0, 0, 0, 0, , NO, 0, 0, NO
    19, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 8.408, 1, 8.408, 0, 0, 0, 0, , NO, 0, 0, NO
    21, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 8.408, 1, 8.408, 0, 0, 0, 0, , NO, 0, 0, NO

; End of data for load case [LC5] ----------

*USE-STLD, LC6

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST, CMD, TYPE, DIR, bPROJ, [ECCEN], [VALUE], GROUP
; ELEM LIST, CMD, TYPE, TYPE, DIR, VX, VY, VZ, bPROJ, [ECCEN], [VALUE], GROUP
; [VALUE]       : D1, P1, D2, P2, D3, P3, D4, P4
; [ECCEN]       : bECCEN, ECCDIR, I-END, J-END, bJ-END
; [ADDITIONAL]  : bADDITIONAL, ADDITIONAL I-END, ADDITIONAL J-END, bADDITIONAL J-END
     9, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 58.251, 1, 51.222, 0, 0, 0, 0, , NO, 0, 0, NO
    10, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, -58.251, 1, -51.222, 0, 0, 0, 0, , NO, 0, 0, NO
    11, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 51.222, 1, 45.258, 0, 0, 0, 0, , NO, 0, 0, NO
    12, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, -51.222, 1, -45.258, 0, 0, 0, 0, , NO, 0, 0, NO
    13, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 45.258, 1, 39.294, 0, 0, 0, 0, , NO, 0, 0, NO
    14, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, -45.258, 1, -39.294, 0, 0, 0, 0, , NO, 0, 0, NO
    15, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 39.294, 1, 33.33, 0, 0, 0, 0, , NO, 0, 0, NO
    16, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, -39.294, 1, -33.33, 0, 0, 0, 0, , NO, 0, 0, NO
    17, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 33.33, 1, 27.366, 0, 0, 0, 0, , NO, 0, 0, NO
    18, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, -33.33, 1, -27.366, 0, 0, 0, 0, , NO, 0, 0, NO
    19, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 27.366, 1, 21.402, 0, 0, 0, 0, , NO, 0, 0, NO
    20, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, -27.366, 1, -21.402, 0, 0, 0, 0, , NO, 0, 0, NO
    21, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 21.402, 1, 14.586, 0, 0, 0, 0, , NO, 0, 0, NO
    22, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, -21.402, 1, -14.586, 0, 0, 0, 0, , NO, 0, 0, NO

; End of data for load case [LC6] ----------

*USE-STLD, LC7

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST, CMD, TYPE, DIR, bPROJ, [ECCEN], [VALUE], GROUP
; ELEM LIST, CMD, TYPE, TYPE, DIR, VX, VY, VZ, bPROJ, [ECCEN], [VALUE], GROUP
; [VALUE]       : D1, P1, D2, P2, D3, P3, D4, P4
; [ECCEN]       : bECCEN, ECCDIR, I-END, J-END, bJ-END
; [ADDITIONAL]  : bADDITIONAL, ADDITIONAL I-END, ADDITIONAL J-END, bADDITIONAL J-END
     9, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 46.221, 1, 39.192, 0, 0, 0, 0, , NO, 0, 0, NO
    11, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 39.192, 1, 33.228, 0, 0, 0, 0, , NO, 0, 0, NO
    13, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 33.228, 1, 27.264, 0, 0, 0, 0, , NO, 0, 0, NO
    15, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 27.264, 1, 21.3, 0, 0, 0, 0, , NO, 0, 0, NO
    17, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 21.3, 1, 15.336, 0, 0, 0, 0, , NO, 0, 0, NO
    19, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 15.336, 1, 9.372, 0, 0, 0, 0, , NO, 0, 0, NO
    21, BEAM    , UNILOAD, GX, NO , NO, aDir[1], , , , 0, 9.372, 1, 2.556, 0, 0, 0, 0, , NO, 0, 0, NO

; End of data for load case [LC7] ----------

*USE-STLD, LC8

*ELTEMPER    ; Element Temperatures
; ELEM LIST, TEMPER, GROUP
    23, 5.85,
    24, 5.85,
    25, 5.85,
    26, 5.85,
    27, 5.85,
    28, 5.85,
    29, 5.85,
    30, 5.85,
```

```
; End of data for load case [LC8] ------------------------

*USE-STLD, LC9

*ELTEMPER    ; Element Temperatures
; ELEM LIST, TEMPER, GROUP
    23, -5.85,
    24, -5.85,
    25, -5.85,
    26, -5.85,
    27, -5.85,
    28, -5.85,
    29, -5.85,
    30, -5.85,

; End of data for load case [LC9] ------------------------

*USE-STLD, LC10

*ELTEMPER    ; Element Temperatures
; ELEM LIST, TEMPER, GROUP
     1, -15,
     2, -15,
     3, -15,
     4, -15,
     5, -15,
     6, -15,
     7, -15,
     8, -15,
     9, -15,
    10, -15,
    11, -15,
    12, -15,
    13, -15,
    14, -15,
    15, -15,
    16, -15,
    17, -15,
    18, -15,
    19, -15,
    20, -15,
    21, -15,
    22, -15,
    23, -15,
    24, -15,
    25, -15,
    26, -15,
    27, -15,
    28, -15,
    29, -15,
    30, -15,

; End of data for load case [LC10] ------------------------

*USE-STLD, NCOMB1

; *SELFWEIGHT, X, Y, Z, GROUP
*SELFWEIGHT, 0, 0, -1.35,

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST, CMD, TYPE, DIR, bPROJ, [ECCEN], [VALUE], GROUP
; ELEM LIST, CMD, TYPE, TYPE, DIR, VX, VY, VZ, bPROJ, [ECCEN], [VALUE], GROUP
; [VALUE]       : D1, P1, D2, P2, D3, P3, D4, P4
; [ECCEN]       : bECCEN, ECCDIR, I-END, J-END, bJ-END
; [ADDITIONAL]  : bADDITIONAL, ADDITIONAL I-END, ADDITIONAL J-END, bADDITIONAL J-END
     9, BEAM    , UNILOAD, GX, NO , NO, aDir[1],    ,    ,    , 0, 93.2016, 1, 81.9552, 0, 0, 0, 0, , NO, 0, 0, NO
     9, BEAM    , UNILOAD, GX, NO , NO, aDir[1],    ,    ,    , 0, 15.5548, 1, 15.5548, 0, 0, 0, 0, , NO, 0, 0, NO
    10, BEAM    , UNILOAD, GX, NO , NO, aDir[1],    ,    ,    , 0, -15.5548, 1, -15.5548, 0, 0, 0, 0, , NO, 0, 0, NO
    10, BEAM    , UNILOAD, GX, NO , NO, aDir[1],    ,    ,    , 0, -93.2016, 1, -81.9552, 0, 0, 0, 0, , NO, 0, 0, NO
    11, BEAM    , UNILOAD, GX, NO , NO, aDir[1],    ,    ,    , 0, 81.9552, 1, 72.4128, 0, 0, 0, 0, , NO, 0, 0, NO
    11, BEAM    , UNILOAD, GX, NO , NO, aDir[1],    ,    ,    , 0, 15.5548, 1, 15.5548, 0, 0, 0, 0, , NO, 0, 0, NO
    12, BEAM    , UNILOAD, GX, NO , NO, aDir[1],    ,    ,    , 0, -81.9552, 1, -72.4128, 0, 0, 0, 0, , NO, 0, 0, NO
    12, BEAM    , UNILOAD, GX, NO , NO, aDir[1],    ,    ,    , 0, -15.5548, 1, -15.5548, 0, 0, 0, 0, , NO, 0, 0, NO
    13, BEAM    , UNILOAD, GX, NO , NO, aDir[1],    ,    ,    , 0, 72.4128, 1, 62.8704, 0, 0, 0, 0, , NO, 0, 0, NO
    13, BEAM    , UNILOAD, GX, NO , NO, aDir[1],    ,    ,    , 0, 15.5548, 1, 15.5548, 0, 0, 0, 0, , NO, 0, 0, NO
    14, BEAM    , UNILOAD, GX, NO , NO, aDir[1],    ,    ,    , 0, -72.4128, 1, -62.8704, 0, 0, 0, 0, , NO, 0, 0, NO
    14, BEAM    , UNILOAD, GX, NO , NO, aDir[1],    ,    ,    , 0, -15.5548, 1, -15.5548, 0, 0, 0, 0, , NO, 0, 0, NO
    15, BEAM    , UNILOAD, GX, NO , NO, aDir[1],    ,    ,    , 0, 62.8704, 1, 53.328, 0, 0, 0, 0, , NO, 0, 0, NO
    15, BEAM    , UNILOAD, GX, NO , NO, aDir[1],    ,    ,    , 0, 15.5548, 1, 15.5548, 0, 0, 0, 0, , NO, 0, 0, NO
    16, BEAM    , UNILOAD, GX, NO , NO, aDir[1],    ,    ,    , 0, -15.5548, 1, -15.5548, 0, 0, 0, 0, , NO, 0, 0, NO
    16, BEAM    , UNILOAD, GX, NO , NO, aDir[1],    ,    ,    , 0, -62.8704, 1, -53.328, 0, 0, 0, 0, , NO, 0, 0, NO
    17, BEAM    , UNILOAD, GX, NO , NO, aDir[1],    ,    ,    , 0, 15.5548, 1, 15.5548, 0, 0, 0, 0, , NO, 0, 0, NO
    17, BEAM    , UNILOAD, GX, NO , NO, aDir[1],    ,    ,    , 0, 53.328, 1, 43.7856, 0, 0, 0, 0, , NO, 0, 0, NO
    18, BEAM    , UNILOAD, GX, NO , NO, aDir[1],    ,    ,    , 0, -53.328, 1, -43.7856, 0, 0, 0, 0, , NO, 0, 0, NO
    18, BEAM    , UNILOAD, GX, NO , NO, aDir[1],    ,    ,    , 0, -15.5548, 1, -15.5548, 0, 0, 0, 0, , NO, 0, 0, NO
    19, BEAM    , UNILOAD, GX, NO , NO, aDir[1],    ,    ,    , 0, 43.7856, 1, 34.2432, 0, 0, 0, 0, , NO, 0, 0, NO
    19, BEAM    , UNILOAD, GX, NO , NO, aDir[1],    ,    ,    , 0, 15.5548, 1, 15.5548, 0, 0, 0, 0, , NO, 0, 0, NO
```

```
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -43.7856. 1. -34.2432. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -15.5548. 1. -15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 34.2432. 1. 23.3376. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -34.2432. 1. -23.3376. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -15.5548. 1. -15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -54.2087. 1. -54.2087. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -54.2087. 1. -54.2087. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -54.2087. 1. -54.2087. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -54.2087. 1. -54.2087. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -54.2087. 1. -54.2087. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -54.2087. 1. -54.2087. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -54.2087. 1. -54.2087. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -54.2087. 1. -54.2087. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO

; End of data for load case [NCOMB1] ------------------------

*USE-STLD. NCOMB2

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.35.

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. [ECCEN]. [VALUE]. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. [ECCEN]. [VALUE]. GROUP
; [VALUE]       : D1. P1. D2. P2. D3. P3. D4. P4
; [ECCEN]       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; [ADDITIONAL]  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 34.9506. 1. 30.7332. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -15.5548. 1. -15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -34.9506. 1. -30.7332. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 30.7332. 1. 27.1548. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -30.7332. 1. -27.1548. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -15.5548. 1. -15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 27.1548. 1. 23.5764. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -15.5548. 1. -15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -27.1548. 1. -23.5764. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 23.5764. 1. 19.998. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -23.5764. 1. -19.998. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -15.5548. 1. -15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 19.998. 1. 16.4196. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -19.998. 1. -16.4196. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -15.5548. 1. -15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 16.4196. 1. 12.8412. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -16.4196. 1. -12.8412. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -15.5548. 1. -15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 12.8412. 1. 8.7516. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -15.5548. 1. -15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -12.8412. 1. -8.7516. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -54.2087. 1. -54.2087. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -54.2087. 1. -54.2087. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -54.2087. 1. -54.2087. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -54.2087. 1. -54.2087. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -54.2087. 1. -54.2087. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -54.2087. 1. -54.2087. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -54.2087. 1. -54.2087. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -54.2087. 1. -54.2087. 0. 0. 0. 0. . NO. 0. 0. NO

; End of data for load case [NCOMB2] ------------------------

*USE-STLD. NCOMB3

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.35.
```

```
*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. [ECCEN]. [VALUE]. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. [ECCEN]. [VALUE]. GROUP
; [VALUE]       : D1. P1. D2. P2. D3. P3. D4. P4
; [ECCEN]       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; [ADDITIONAL]  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 93.2016. 1. 81.9552. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -93.2016. 1. -81.9552. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 81.9552. 1. 72.4128. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -81.9552. 1. -72.4128. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 72.4128. 1. 62.8704. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -72.4128. 1. -62.8704. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 62.8704. 1. 53.328. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -62.8704. 1. -53.328. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 53.328. 1. 43.7856. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -53.328. 1. -43.7856. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 43.7856. 1. 34.2432. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -43.7856. 1. -34.2432. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 34.2432. 1. 23.3376. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -34.2432. 1. -23.3376. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -54.2087. 1. -54.2087. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -54.2087. 1. -54.2087. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -54.2087. 1. -54.2087. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -54.2087. 1. -54.2087. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO

; End of data for load case [NCOMB3] ------------------------

*USE-STLD. NCOMB4

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.35.

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. [ECCEN]. [VALUE]. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. [ECCEN]. [VALUE]. GROUP
; [VALUE]       : D1. P1. D2. P2. D3. P3. D4. P4
; [ECCEN]       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; [ADDITIONAL]  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 34.9506. 1. 30.7332. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -34.9506. 1. -30.7332. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 30.7332. 1. 27.1548. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -30.7332. 1. -27.1548. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 27.1548. 1. 23.5764. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -27.1548. 1. -23.5764. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 23.5764. 1. 19.998. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -23.5764. 1. -19.998. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 19.998. 1. 16.4196. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -19.998. 1. -16.4196. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 16.4196. 1. 12.8412. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -16.4196. 1. -12.8412. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 12.8412. 1. 8.7516. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -12.8412. 1. -8.7516. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -54.2087. 1. -54.2087. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -54.2087. 1. -54.2087. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -54.2087. 1. -54.2087. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -54.2087. 1. -54.2087. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
```

```
; End of data for load case [NCOMB4] ------------------------

*USE-STLD. NCOMB5

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.6.

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. [ECCEN]. [VALUE]. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. [ECCEN]. [VALUE]. GROUP
; [VALUE]       : D1. P1. D2. P2. D3. P3. D4. P4
; [ECCEN]       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; [ADDITIONAL]  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 93.2016. 1. 81.9552. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -93.2016. 1. -81.9552. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -13.4528. 1. -13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 81.9552. 1. 72.4128. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -13.4528. 1. -13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -81.9552. 1. -72.4128. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 72.4128. 1. 62.8704. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -72.4128. 1. -62.8704. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -13.4528. 1. -13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 62.8704. 1. 53.328. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -62.8704. 1. -53.328. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -13.4528. 1. -13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 53.328. 1. 43.7856. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -53.328. 1. -43.7856. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -13.4528. 1. -13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 43.7856. 1. 34.2432. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -43.7856. 1. -34.2432. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -13.4528. 1. -13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 34.2432. 1. 23.3376. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -34.2432. 1. -23.3376. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -13.4528. 1. -13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.184. 1. -45.184. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -46.8832. 1. -46.8832. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -46.8832. 1. -46.8832. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.184. 1. -45.184. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -46.8832. 1. -46.8832. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.184. 1. -45.184. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -46.8832. 1. -46.8832. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.184. 1. -45.184. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.184. 1. -45.184. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -46.8832. 1. -46.8832. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.184. 1. -45.184. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -46.8832. 1. -46.8832. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.184. 1. -45.184. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -46.8832. 1. -46.8832. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.184. 1. -45.184. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -46.8832. 1. -46.8832. 0. 0. 0. 0. . NO. 0. 0. NO

; End of data for load case [NCOMB5] ------------------------

*USE-STLD. NCOMB6

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.6.

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. [ECCEN]. [VALUE]. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. [ECCEN]. [VALUE]. GROUP
; [VALUE]       : D1. P1. D2. P2. D3. P3. D4. P4
; [ECCEN]       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; [ADDITIONAL]  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 34.9506. 1. 30.7332. 0. 0. 0. 0. . NO. 0. 0. NO
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -34.9506. 1. -30.7332. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -13.4528. 1. -13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 30.7332. 1. 27.1548. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -13.4528. 1. -13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -30.7332. 1. -27.1548. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 27.1548. 1. 23.5764. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -27.1548. 1. -23.5764. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -13.4528. 1. -13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 23.5764. 1. 19.998. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -13.4528. 1. -13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
```

```
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -23.5764. 1. -19.998. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 19.998. 1. 16.4196. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -19.998. 1. -16.4196. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -13.4528. 1. -13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 16.4196. 1. 12.8412. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -13.4528. 1. -13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -16.4196. 1. -12.8412. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 12.8412. 1. 8.7516. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -12.8412. 1. -8.7516. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -13.4528. 1. -13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -46.8832. 1. -46.8832. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.184. 1. -45.184. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -46.8832. 1. -46.8832. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.184. 1. -45.184. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.184. 1. -45.184. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -46.8832. 1. -46.8832. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.184. 1. -45.184. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -46.8832. 1. -46.8832. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -46.8832. 1. -46.8832. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.184. 1. -45.184. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -46.8832. 1. -46.8832. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.184. 1. -45.184. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -46.8832. 1. -46.8832. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.184. 1. -45.184. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -46.8832. 1. -46.8832. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.184. 1. -45.184. 0. 0. 0. 0. . NO. 0. 0. NO

; End of data for load case [NCOMB6] ------------------------

*USE-STLD. NCOMB7

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.6.

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. [ECCEN]. [VALUE]. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. [ECCEN]. [VALUE]. GROUP
; [VALUE]       : D1. P1. D2. P2. D3. P3. D4. P4
; [ECCEN]       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; [ADDITIONAL]  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 93.2016. 1. 81.9552. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -93.2016. 1. -81.9552. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 81.9552. 1. 72.4128. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -81.9552. 1. -72.4128. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 72.4128. 1. 62.8704. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -72.4128. 1. -62.8704. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 62.8704. 1. 53.328. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -62.8704. 1. -53.328. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 53.328. 1. 43.7856. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -53.328. 1. -43.7856. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 43.7856. 1. 34.2432. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -43.7856. 1. -34.2432. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 34.2432. 1. 23.3376. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -34.2432. 1. -23.3376. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -46.8832. 1. -46.8832. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.184. 1. -45.184. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -46.8832. 1. -46.8832. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.184. 1. -45.184. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.184. 1. -45.184. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -46.8832. 1. -46.8832. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -46.8832. 1. -46.8832. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.184. 1. -45.184. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.184. 1. -45.184. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.184. 1. -45.184. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.184. 1. -45.184. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.184. 1. -45.184. 0. 0. 0. 0. . NO. 0. 0. NO

; End of data for load case [NCOMB7] ------------------------

*USE-STLD. NCOMB8

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.6.

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. [ECCEN]. [VALUE]. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. [ECCEN]. [VALUE]. GROUP
```

```
; [VALUE]       : D1. P1. D2. P2. D3. P3. D4. P4
; [ECCEN]       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; [ADDITIONAL]  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 34.9506. 1. 30.7332. 0. 0. 0. 0. . NO. 0. 0. NO
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -34.9506. 1. -30.7332. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 30.7332. 1. 27.1548. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -30.7332. 1. -27.1548. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 27.1548. 1. 23.5764. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -27.1548. 1. -23.5764. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 23.5764. 1. 19.998. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -23.5764. 1. -19.998. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 19.998. 1. 16.4196. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -19.998. 1. -16.4196. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 16.4196. 1. 12.8412. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -16.4196. 1. -12.8412. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 12.8412. 1. 8.7516. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -12.8412. 1. -8.7516. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.184. 1. -45.184. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -46.8832. 1. -46.8832. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -46.8832. 1. -46.8832. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.184. 1. -45.184. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -46.8832. 1. -46.8832. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.184. 1. -45.184. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.184. 1. -45.184. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -46.8832. 1. -46.8832. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.184. 1. -45.184. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.184. 1. -45.184. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.184. 1. -45.184. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.184. 1. -45.184. 0. 0. 0. 0. . NO. 0. 0. NO

; End of data for load case [NCOMB8] ----------------------------

*USE-STLD. NCOMB9

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.35.

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. [ECCEN]. [VALUE]. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. [ECCEN]. [VALUE]. GROUP
; [VALUE]       : D1. P1. D2. P2. D3. P3. D4. P4
; [ECCEN]       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; [ADDITIONAL]  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 93.2016. 1. 81.9552. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -93.2016. 1. -81.9552. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -11.7712. 1. -11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 81.9552. 1. 72.4128. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -81.9552. 1. -72.4128. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -11.7712. 1. -11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 72.4128. 1. 62.8704. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -72.4128. 1. -62.8704. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -11.7712. 1. -11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 62.8704. 1. 53.328. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -11.7712. 1. -11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -62.8704. 1. -53.328. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 53.328. 1. 43.7856. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -11.7712. 1. -11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -53.328. 1. -43.7856. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 43.7856. 1. 34.2432. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -43.7856. 1. -34.2432. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -11.7712. 1. -11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 34.2432. 1. 23.3376. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -34.2432. 1. -23.3376. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -11.7712. 1. -11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -41.0228. 1. -41.0228. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -41.0228. 1. -41.0228. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -41.0228. 1. -41.0228. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -41.0228. 1. -41.0228. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -41.0228. 1. -41.0228. 0. 0. 0. 0. . NO. 0. 0. NO
```

```
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -41.0228. 1. -41.0228. 0. 0. 0. 0. . NO. 0. 0. N(
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -41.0228. 1. -41.0228. 0. 0. 0. 0. . NO. 0. 0. N(
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -41.0228. 1. -41.0228. 0. 0. 0. 0. . NO. 0. 0. N(

*ELTEMPER    ; Element Temperatures
; ELEM LIST. TEMPER. GROUP
    23. 7.8975.
    24. 7.8975.
    25. 7.8975.
    26. 7.8975.
    27. 7.8975.
    28. 7.8975.
    29. 7.8975.
    30. 7.8975.

; End of data for load case [NCOMB9] ------------------------

*USE-STLD. NCOMB10

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.35.

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. [ECCEN]. [VALUE]. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. [ECCEN]. [VALUE]. GROUP
; [VALUE]       : D1. P1. D2. P2. D3. P3. D4. P4
; [ECCEN]       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; [ADDITIONAL]  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 34.9506. 1. 30.7332. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -34.9506. 1. -30.7332. 0. 0. 0. 0. . NO. 0. 0. N(
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -11.7712. 1. -11.7712. 0. 0. 0. 0. . NO. 0. 0. N(
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 30.7332. 1. 27.1548. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -11.7712. 1. -11.7712. 0. 0. 0. 0. . NO. 0. 0. N(
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -30.7332. 1. -27.1548. 0. 0. 0. 0. . NO. 0. 0. N(
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 27.1548. 1. 23.5764. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -11.7712. 1. -11.7712. 0. 0. 0. 0. . NO. 0. 0. N(
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -27.1548. 1. -23.5764. 0. 0. 0. 0. . NO. 0. 0. N(
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 23.5764. 1. 19.998. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -11.7712. 1. -11.7712. 0. 0. 0. 0. . NO. 0. 0. N(
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -23.5764. 1. -19.998. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 19.998. 1. 16.4196. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -11.7712. 1. -11.7712. 0. 0. 0. 0. . NO. 0. 0. N(
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -19.998. 1. -16.4196. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 16.4196. 1. 12.8412. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -16.4196. 1. -12.8412. 0. 0. 0. 0. . NO. 0. 0. N(
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -11.7712. 1. -11.7712. 0. 0. 0. 0. . NO. 0. 0. N(
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 12.8412. 1. 8.7516. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -12.8412. 1. -8.7516. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -11.7712. 1. -11.7712. 0. 0. 0. 0. . NO. 0. 0. N(
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -41.0228. 1. -41.0228. 0. 0. 0. 0. . NO. 0. 0. N(
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -41.0228. 1. -41.0228. 0. 0. 0. 0. . NO. 0. 0. N(
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -41.0228. 1. -41.0228. 0. 0. 0. 0. . NO. 0. 0. N(
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -41.0228. 1. -41.0228. 0. 0. 0. 0. . NO. 0. 0. N(
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -41.0228. 1. -41.0228. 0. 0. 0. 0. . NO. 0. 0. N(
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -41.0228. 1. -41.0228. 0. 0. 0. 0. . NO. 0. 0. N(
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -41.0228. 1. -41.0228. 0. 0. 0. 0. . NO. 0. 0. N(
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -41.0228. 1. -41.0228. 0. 0. 0. 0. . NO. 0. 0. N(
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO

*ELTEMPER    ; Element Temperatures
; ELEM LIST. TEMPER. GROUP
    23. 7.8975.
    24. 7.8975.
    25. 7.8975.
    26. 7.8975.
    27. 7.8975.
    28. 7.8975.
    29. 7.8975.
    30. 7.8975.
```

```
; End of data for load case [NCOMB10] ------------------------

*USE-STLD. NCOMB11

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.35.

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. [ECCEN]. [VALUE]. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. [ECCEN]. [VALUE]. GROUP
; [VALUE]       : D1. P1. D2. P2. D3. P3. D4. P4
; [ECCEN]       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; [ADDITIONAL]  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 93.2016. 1. 81.9552. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -93.2016. 1. -81.9552. 0. 0. 0. 0. . NO. 0. 0. N(
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -11.7712. 1. -11.7712. 0. 0. 0. 0. . NO. 0. 0. N(
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 81.9552. 1. 72.4128. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -81.9552. 1. -72.4128. 0. 0. 0. 0. . NO. 0. 0. N(
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -11.7712. 1. -11.7712. 0. 0. 0. 0. . NO. 0. 0. N(
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 72.4128. 1. 62.8704. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -72.4128. 1. -62.8704. 0. 0. 0. 0. . NO. 0. 0. N(
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -11.7712. 1. -11.7712. 0. 0. 0. 0. . NO. 0. 0. N(
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 62.8704. 1. 53.328. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -11.7712. 1. -11.7712. 0. 0. 0. 0. . NO. 0. 0. N(
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -62.8704. 1. -53.328. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 53.328. 1. 43.7856. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -11.7712. 1. -11.7712. 0. 0. 0. 0. . NO. 0. 0. N(
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -53.328. 1. -43.7856. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 43.7856. 1. 34.2432. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -43.7856. 1. -34.2432. 0. 0. 0. 0. . NO. 0. 0. N(
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -11.7712. 1. -11.7712. 0. 0. 0. 0. . NO. 0. 0. N(
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 34.2432. 1. 23.3376. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -34.2432. 1. -23.3376. 0. 0. 0. 0. . NO. 0. 0. N(
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -11.7712. 1. -11.7712. 0. 0. 0. 0. . NO. 0. 0. N(
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -41.0228. 1. -41.0228. 0. 0. 0. 0. . NO. 0. 0. N(
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -41.0228. 1. -41.0228. 0. 0. 0. 0. . NO. 0. 0. N(
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -41.0228. 1. -41.0228. 0. 0. 0. 0. . NO. 0. 0. N(
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -41.0228. 1. -41.0228. 0. 0. 0. 0. . NO. 0. 0. N(
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -41.0228. 1. -41.0228. 0. 0. 0. 0. . NO. 0. 0. N(
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -41.0228. 1. -41.0228. 0. 0. 0. 0. . NO. 0. 0. N(
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -41.0228. 1. -41.0228. 0. 0. 0. 0. . NO. 0. 0. N(
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -41.0228. 1. -41.0228. 0. 0. 0. 0. . NO. 0. 0. N(

*ELTEMPER    ; Element Temperatures
; ELEM LIST. TEMPER. GROUP
     1. -20.25.
     2. -20.25.
     3. -20.25.
     4. -20.25.
     5. -20.25.
     6. -20.25.
     7. -20.25.
     8. -20.25.
     9. -20.25.
    10. -20.25.
    11. -20.25.
    12. -20.25.
    13. -20.25.
    14. -20.25.
    15. -20.25.
    16. -20.25.
    17. -20.25.
    18. -20.25.
    19. -20.25.
    20. -20.25.
    21. -20.25.
    22. -20.25.
    23. -28.1475.
    24. -28.1475.
    25. -28.1475.
    26. -28.1475.
```

```
    27. -28.1475.
    28. -28.1475.
    29. -28.1475.
    30. -28.1475.

; End of data for load case [NCOMB11] ------------------------

*USE-STLD. NCOMB12

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.35.

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. [ECCEN]. [VALUE]. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. [ECCEN]. [VALUE]. GROUP
; [VALUE]       : D1. P1. D2. P2. D3. P3. D4. P4
; [ECCEN]       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; [ADDITIONAL]  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 34.9506. 1. 30.7332. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -34.9506. 1. -30.7332. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -11.7712. 1. -11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 30.7332. 1. 27.1548. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -11.7712. 1. -11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -30.7332. 1. -27.1548. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 27.1548. 1. 23.5764. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -11.7712. 1. -11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -27.1548. 1. -23.5764. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 23.5764. 1. 19.998. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -11.7712. 1. -11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -23.5764. 1. -19.998. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 19.998. 1. 16.4196. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -11.7712. 1. -11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -19.998. 1. -16.4196. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 16.4196. 1. 12.8412. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -16.4196. 1. -12.8412. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -11.7712. 1. -11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 12.8412. 1. 8.7516. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -12.8412. 1. -8.7516. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -11.7712. 1. -11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -41.0228. 1. -41.0228. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -41.0228. 1. -41.0228. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -41.0228. 1. -41.0228. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -41.0228. 1. -41.0228. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -41.0228. 1. -41.0228. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -41.0228. 1. -41.0228. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -41.0228. 1. -41.0228. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -41.0228. 1. -41.0228. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO

*ELTEMPER    ; Element Temperatures
; ELEM LIST. TEMPER. GROUP
     1. -20.25.
     2. -20.25.
     3. -20.25.
     4. -20.25.
     5. -20.25.
     6. -20.25.
     7. -20.25.
     8. -20.25.
     9. -20.25.
    10. -20.25.
    11. -20.25.
    12. -20.25.
    13. -20.25.
    14. -20.25.
    15. -20.25.
    16. -20.25.
    17. -20.25.
    18. -20.25.
    19. -20.25.
    20. -20.25.
    21. -20.25.
    22. -20.25.
```

```
    23. -28.1475.
    24. -28.1475.
    25. -28.1475.
    26. -28.1475.
    27. -28.1475.
    28. -28.1475.
    29. -28.1475.
    30. -28.1475.

; End of data for load case [NCOMB12] ----------------------------

*USE-STLD. NCOMB13

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.35.

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. [ECCEN]. [VALUE]. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. [ECCEN]. [VALUE]. GROUP
; [VALUE]       : D1. P1. D2. P2. D3. P3. D4. P4
; [ECCEN]       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; [ADDITIONAL]  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 93.2016. 1. 81.9552. 0. 0. 0. 0. . NO. 0. 0. NO
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -93.2016. 1. -81.9552. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 81.9552. 1. 72.4128. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -81.9552. 1. -72.4128. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 72.4128. 1. 62.8704. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -72.4128. 1. -62.8704. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 62.8704. 1. 53.328. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -62.8704. 1. -53.328. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 53.328. 1. 43.7856. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -53.328. 1. -43.7856. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 43.7856. 1. 34.2432. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -43.7856. 1. -34.2432. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 34.2432. 1. 23.3376. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -34.2432. 1. -23.3376. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -41.0228. 1. -41.0228. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -41.0228. 1. -41.0228. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -41.0228. 1. -41.0228. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -41.0228. 1. -41.0228. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO

*ELTEMPER    ; Element Temperatures
; ELEM LIST. TEMPER. GROUP
    23. 7.8975.
    24. 7.8975.
    25. 7.8975.
    26. 7.8975.
    27. 7.8975.
    28. 7.8975.
    29. 7.8975.
    30. 7.8975.

; End of data for load case [NCOMB13] ----------------------------

*USE-STLD. NCOMB14

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.35.

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. [ECCEN]. [VALUE]. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. [ECCEN]. [VALUE]. GROUP
; [VALUE]       : D1. P1. D2. P2. D3. P3. D4. P4
; [ECCEN]       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; [ADDITIONAL]  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 34.9506. 1. 30.7332. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -34.9506. 1. -30.7332. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 30.7332. 1. 27.1548. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -30.7332. 1. -27.1548. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
```

```
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 27.1548. 1. 23.5764. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -27.1548. 1. -23.5764. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 23.5764. 1. 19.998. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -23.5764. 1. -19.998. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 19.998. 1. 16.4196. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -19.998. 1. -16.4196. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 16.4196. 1. 12.8412. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -16.4196. 1. -12.8412. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 12.8412. 1. 8.7516. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -12.8412. 1. -8.7516. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -41.0228. 1. -41.0228. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -41.0228. 1. -41.0228. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -41.0228. 1. -41.0228. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -41.0228. 1. -41.0228. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO

*ELTEMPER    ; Element Temperatures
; ELEM LIST. TEMPER. GROUP
    23. 7.8975.
    24. 7.8975.
    25. 7.8975.
    26. 7.8975.
    27. 7.8975.
    28. 7.8975.
    29. 7.8975.
    30. 7.8975.

; End of data for load case [NCOMB14] ------------------------

*USE-STLD. NCOMB15

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.35.

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. [ECCEN]. [VALUE]. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. [ECCEN]. [VALUE]. GROUP
; [VALUE]       : D1. P1. D2. P2. D3. P3. D4. P4
; [ECCEN]       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; [ADDITIONAL]  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 93.2016. 1. 81.9552. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -93.2016. 1. -81.9552. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 81.9552. 1. 72.4128. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -81.9552. 1. -72.4128. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 72.4128. 1. 62.8704. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -72.4128. 1. -62.8704. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 62.8704. 1. 53.328. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -62.8704. 1. -53.328. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 53.328. 1. 43.7856. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -53.328. 1. -43.7856. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 43.7856. 1. 34.2432. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -43.7856. 1. -34.2432. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 34.2432. 1. 23.3376. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -34.2432. 1. -23.3376. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -41.0228. 1. -41.0228. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -41.0228. 1. -41.0228. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -41.0228. 1. -41.0228. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -41.0228. 1. -41.0228. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO

*ELTEMPER    ; Element Temperatures
; ELEM LIST. TEMPER. GROUP
```

```
     1. -20.25.
     2. -20.25.
     3. -20.25.
     4. -20.25.
     5. -20.25.
     6. -20.25.
     7. -20.25.
     8. -20.25.
     9. -20.25.
    10. -20.25.
    11. -20.25.
    12. -20.25.
    13. -20.25.
    14. -20.25.
    15. -20.25.
    16. -20.25.
    17. -20.25.
    18. -20.25.
    19. -20.25.
    20. -20.25.
    21. -20.25.
    22. -20.25.
    23. -28.1475.
    24. -28.1475.
    25. -28.1475.
    26. -28.1475.
    27. -28.1475.
    28. -28.1475.
    29. -28.1475.
    30. -28.1475.

; End of data for load case [NCOMB15] ------------------------

*USE-STLD. NCOMB16

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.35.

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. [ECCEN]. [VALUE]. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. [ECCEN]. [VALUE]. GROUP
; [VALUE]       : D1. P1. D2. P2. D3. P3. D4. P4
; [ECCEN]       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; [ADDITIONAL]  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 34.9506. 1. 30.7332. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -34.9506. 1. -30.7332. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 30.7332. 1. 27.1548. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -30.7332. 1. -27.1548. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 27.1548. 1. 23.5764. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -27.1548. 1. -23.5764. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 23.5764. 1. 19.998. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -23.5764. 1. -19.998. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 19.998. 1. 16.4196. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -19.998. 1. -16.4196. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 16.4196. 1. 12.8412. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -16.4196. 1. -12.8412. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 12.8412. 1. 8.7516. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 11.7712. 1. 11.7712. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -12.8412. 1. -8.7516. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -41.0228. 1. -41.0228. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -41.0228. 1. -41.0228. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -41.0228. 1. -41.0228. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -41.0228. 1. -41.0228. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO

*ELTEMPER    ; Element Temperatures
; ELEM LIST. TEMPER. GROUP
     1. -20.25.
     2. -20.25.
     3. -20.25.
     4. -20.25.
     5. -20.25.
     6. -20.25.
     7. -20.25.
```

```
     8. -20.25.
     9. -20.25.
    10. -20.25.
    11. -20.25.
    12. -20.25.
    13. -20.25.
    14. -20.25.
    15. -20.25.
    16. -20.25.
    17. -20.25.
    18. -20.25.
    19. -20.25.
    20. -20.25.
    21. -20.25.
    22. -20.25.
    23. -28.1475.
    24. -28.1475.
    25. -28.1475.
    26. -28.1475.
    27. -28.1475.
    28. -28.1475.
    29. -28.1475.
    30. -28.1475.

; End of data for load case 'NCOMB16' ------------------------

*USE-STLD. NCOMB17

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.35.

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. 'ECCEN'. 'VALUE'. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. 'ECCEN'. 'VALUE'. GROUP
; 'VALUE'       : D1. P1. D2. P2. D3. P3. D4. P4
; 'ECCEN'       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; 'ADDITIONAL'  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 73.9536. 1. 62.7072. 0. 0. 0. 0. . NO. 0. 0. NO
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 62.7072. 1. 53.1648. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 53.1648. 1. 43.6224. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 43.6224. 1. 34.08. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 34.08. 1. 24.5376. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 24.5376. 1. 14.9952. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 14.9952. 1. 4.0896. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -54.2087. 1. -54.2087. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -54.2087. 1. -54.2087. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -54.2087. 1. -54.2087. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -54.2087. 1. -54.2087. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO

; End of data for load case 'NCOMB17' ------------------------

*USE-STLD. NCOMB18

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.35.

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. 'ECCEN'. 'VALUE'. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. 'ECCEN'. 'VALUE'. GROUP
; 'VALUE'       : D1. P1. D2. P2. D3. P3. D4. P4
; 'ECCEN'       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; 'ADDITIONAL'  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 27.7326. 1. 23.5152. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 23.5152. 1. 19.9368. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 19.9368. 1. 16.3584. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 16.3584. 1. 12.78. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 12.78. 1. 9.2016. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
```

```
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 9.2016. 1. 5.6232. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 5.6232. 1. 1.5336. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.5548. 1. 15.5548. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -54.2087. 1. -54.2087. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -54.2087. 1. -54.2087. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -54.2087. 1. -54.2087. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -54.2087. 1. -54.2087. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -38.124. 1. -38.124. 0. 0. 0. 0. . NO. 0. 0. NO

; End of data for load case [NCOMB18] ------------------------

*USE-STLD. NCOMB19

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.6.

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. [ECCEN]. [VALUE]. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. [ECCEN]. [VALUE]. GROUP
; [VALUE]       : D1. P1. D2. P2. D3. P3. D4. P4
; [ECCEN]       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; [ADDITIONAL]  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 73.9536. 1. 62.7072. 0. 0. 0. 0. . NO. 0. 0. NO
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 62.7072. 1. 53.1648. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 53.1648. 1. 43.6224. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 43.6224. 1. 34.08. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 34.08. 1. 24.5376. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 24.5376. 1. 14.9952. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 14.9952. 1. 4.0896. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -46.8832. 1. -46.8832. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.184. 1. -45.184. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -46.8832. 1. -46.8832. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.184. 1. -45.184. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.184. 1. -45.184. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -46.8832. 1. -46.8832. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.184. 1. -45.184. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -46.8832. 1. -46.8832. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.184. 1. -45.184. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.184. 1. -45.184. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.184. 1. -45.184. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.184. 1. -45.184. 0. 0. 0. 0. . NO. 0. 0. NO

; End of data for load case [NCOMB19] ------------------------

*USE-STLD. NCOMB20

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.6.

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. [ECCEN]. [VALUE]. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. [ECCEN]. [VALUE]. GROUP
; [VALUE]       : D1. P1. D2. P2. D3. P3. D4. P4
; [ECCEN]       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; [ADDITIONAL]  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 27.7326. 1. 23.5152. 0. 0. 0. 0. . NO. 0. 0. NO
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 23.5152. 1. 19.9368. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 19.9368. 1. 16.3584. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 16.3584. 1. 12.78. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 12.78. 1. 9.2016. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 9.2016. 1. 5.6232. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.4528. 1. 13.4528. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 5.6232. 1. 1.5336. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -46.8832. 1. -46.8832. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.184. 1. -45.184. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -46.8832. 1. -46.8832. 0. 0. 0. 0. . NO. 0. 0. NO
```

```
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.184. 1. -45.184. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -46.8832. 1. -46.8832. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.184. 1. -45.184. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -46.8832. 1. -46.8832. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.184. 1. -45.184. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.184. 1. -45.184. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.184. 1. -45.184. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.184. 1. -45.184. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -45.184. 1. -45.184. 0. 0. 0. 0. . NO. 0. 0. NO

; End of data for load case [NCOMB20] ------------------------

*USE-STLD. NCOMB21

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. [ECCEN]. [VALUE]. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. [ECCEN]. [VALUE]. GROUP
; [VALUE]       : D1. P1. D2. P2. D3. P3. D4. P4
; [ECCEN]       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; [ADDITIONAL]  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 58.251. 1. 51.222. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -58.251. 1. -51.222. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 51.222. 1. 45.258. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -51.222. 1. -45.258. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 45.258. 1. 39.294. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -45.258. 1. -39.294. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 39.294. 1. 33.33. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -39.294. 1. -33.33. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 33.33. 1. 27.366. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -33.33. 1. -27.366. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 27.366. 1. 21.402. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -27.366. 1. -21.402. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 21.402. 1. 14.586. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -21.402. 1. -14.586. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.302. 1. -29.302. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.302. 1. -29.302. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.302. 1. -29.302. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.302. 1. -29.302. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.302. 1. -29.302. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.302. 1. -29.302. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.302. 1. -29.302. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.302. 1. -29.302. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO

; End of data for load case [NCOMB21] ------------------------

*USE-STLD. NCOMB22

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. [ECCEN]. [VALUE]. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. [ECCEN]. [VALUE]. GROUP
; [VALUE]       : D1. P1. D2. P2. D3. P3. D4. P4
; [ECCEN]       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; [ADDITIONAL]  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 29.1255. 1. 25.611. 0. 0. 0. 0. . NO. 0. 0. NO
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -29.1255. 1. -25.611. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 25.611. 1. 22.629. 0. 0. 0. 0. . NO. 0. 0. NO
```

```
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -25.611. 1. -22.629. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 22.629. 1. 19.647. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -22.629. 1. -19.647. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 19.647. 1. 16.665. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -19.647. 1. -16.665. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 16.665. 1. 13.683. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -16.665. 1. -13.683. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.683. 1. 10.701. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -13.683. 1. -10.701. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 10.701. 1. 7.293. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -10.701. 1. -7.293. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.302. 1. -29.302. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.302. 1. -29.302. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.302. 1. -29.302. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.302. 1. -29.302. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.302. 1. -29.302. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.302. 1. -29.302. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.302. 1. -29.302. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.302. 1. -29.302. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO

; End of data for load case [NCOMB22] ------------------------

*USE-STLD. NCOMB23

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. [ECCEN]. [VALUE]. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. [ECCEN]. [VALUE]. GROUP
; [VALUE]       : D1. P1. D2. P2. D3. P3. D4. P4
; [ECCEN]       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; [ADDITIONAL]  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 58.251. 1. 51.222. 0. 0. 0. 0. . NO. 0. 0. NO
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -58.251. 1. -51.222. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 51.222. 1. 45.258. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -51.222. 1. -45.258. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 45.258. 1. 39.294. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -45.258. 1. -39.294. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 39.294. 1. 33.33. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -39.294. 1. -33.33. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 33.33. 1. 27.366. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -33.33. 1. -27.366. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 27.366. 1. 21.402. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -27.366. 1. -21.402. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 21.402. 1. 14.586. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -21.402. 1. -14.586. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.302. 1. -29.302. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.302. 1. -29.302. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.302. 1. -29.302. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.302. 1. -29.302. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO

; End of data for load case [NCOMB23] ------------------------
```

```
*USE-STLD. NCOMB24

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. [ECCEN]. [VALUE]. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. [ECCEN]. [VALUE]. GROUP
; [VALUE]       : D1. P1. D2. P2. D3. P3. D4. P4
; [ECCEN]       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; [ADDITIONAL]  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 29.1255. 1. 25.611. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -29.1255. 1. -25.611. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 25.611. 1. 22.629. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -25.611. 1. -22.629. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 22.629. 1. 19.647. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -22.629. 1. -19.647. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 19.647. 1. 16.665. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -19.647. 1. -16.665. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 16.665. 1. 13.683. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -16.665. 1. -13.683. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.683. 1. 10.701. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -13.683. 1. -10.701. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 10.701. 1. 7.293. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -10.701. 1. -7.293. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.302. 1. -29.302. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.302. 1. -29.302. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.302. 1. -29.302. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.302. 1. -29.302. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO

; End of data for load case [NCOMB24] ------------------------

*USE-STLD. NCOMB25

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. [ECCEN]. [VALUE]. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. [ECCEN]. [VALUE]. GROUP
; [VALUE]       : D1. P1. D2. P2. D3. P3. D4. P4
; [ECCEN]       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; [ADDITIONAL]  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 58.251. 1. 51.222. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -58.251. 1. -51.222. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 51.222. 1. 45.258. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -51.222. 1. -45.258. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 45.258. 1. 39.294. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -45.258. 1. -39.294. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 39.294. 1. 33.33. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -39.294. 1. -33.33. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 33.33. 1. 27.366. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -33.33. 1. -27.366. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 27.366. 1. 21.402. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -27.366. 1. -21.402. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 21.402. 1. 14.586. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -21.402. 1. -14.586. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
```

```
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.302. 1. -29.302. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.302. 1. -29.302. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.302. 1. -29.302. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.302. 1. -29.302. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.302. 1. -29.302. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.302. 1. -29.302. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.302. 1. -29.302. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.302. 1. -29.302. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO

*ELTEMPER    ; Element Temperatures
; ELEM LIST. TEMPER. GROUP
    23. 5.85.
    24. 5.85.
    25. 5.85.
    26. 5.85.
    27. 5.85.
    28. 5.85.
    29. 5.85.
    30. 5.85.

; End of data for load case [NCOMB25] ------------------------

*USE-STLD. NCOMB26

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. [ECCEN]. [VALUE]. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. [ECCEN]. [VALUE]. GROUP
; [VALUE]       : D1. P1. D2. P2. D3. P3. D4. P4
; [ECCEN]       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; [ADDITIONAL]  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 29.1255. 1. 25.611. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -29.1255. 1. -25.611. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 25.611. 1. 22.629. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -25.611. 1. -22.629. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 22.629. 1. 19.647. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -22.629. 1. -19.647. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 19.647. 1. 16.665. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -19.647. 1. -16.665. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 16.665. 1. 13.683. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -16.665. 1. -13.683. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.683. 1. 10.701. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -13.683. 1. -10.701. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 10.701. 1. 7.293. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -10.701. 1. -7.293. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.302. 1. -29.302. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.302. 1. -29.302. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.302. 1. -29.302. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.302. 1. -29.302. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.302. 1. -29.302. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.302. 1. -29.302. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.302. 1. -29.302. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.302. 1. -29.302. 0. 0. 0. 0. . NO. 0. 0. NO

*ELTEMPER    ; Element Temperatures
```

```
; ELEM LIST. TEMPER. GROUP
    23. 5.85.
    24. 5.85.
    25. 5.85.
    26. 5.85.
    27. 5.85.
    28. 5.85.
    29. 5.85.
    30. 5.85.

; End of data for load case [NCOMB26] ------------------------

*USE-STLD. NCOMB27

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. [ECCEN]. [VALUE]. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. [ECCEN]. [VALUE]. GROUP
; [VALUE]       : D1. P1. D2. P2. D3. P3. D4. P4
; [ECCEN]       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; [ADDITIONAL]  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 58.251. 1. 51.222. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -58.251. 1. -51.222. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 51.222. 1. 45.258. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -51.222. 1. -45.258. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 45.258. 1. 39.294. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -45.258. 1. -39.294. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 39.294. 1. 33.33. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -39.294. 1. -33.33. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 33.33. 1. 27.366. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -33.33. 1. -27.366. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 27.366. 1. 21.402. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -27.366. 1. -21.402. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 21.402. 1. 14.586. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -21.402. 1. -14.586. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.302. 1. -29.302. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.302. 1. -29.302. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.302. 1. -29.302. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.302. 1. -29.302. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.302. 1. -29.302. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.302. 1. -29.302. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.302. 1. -29.302. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.302. 1. -29.302. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO

*ELTEMPER    ; Element Temperatures
; ELEM LIST. TEMPER. GROUP
     1. -15.
     2. -15.
     3. -15.
     4. -15.
     5. -15.
     6. -15.
     7. -15.
     8. -15.
     9. -15.
    10. -15.
    11. -15.
    12. -15.
    13. -15.
    14. -15.
    15. -15.
    16. -15.
    17. -15.
```

```
    18. -15.
    19. -15.
    20. -15.
    21. -15.
    22. -15.
    23. -20.85.
    24. -20.85.
    25. -20.85.
    26. -20.85.
    27. -20.85.
    28. -20.85.
    29. -20.85.
    30. -20.85.

; End of data for load case [NCOMB27] ------------------------

*USE-STLD. NCOMB28

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. [ECCEN]. [VALUE]. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. [ECCEN]. [VALUE]. GROUP
; [VALUE]       : D1. P1. D2. P2. D3. P3. D4. P4
; [ECCEN]       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; [ADDITIONAL]  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 29.1255. 1. 25.611. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -29.1255. 1. -25.611. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 25.611. 1. 22.629. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -25.611. 1. -22.629. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 22.629. 1. 19.647. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -22.629. 1. -19.647. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 19.647. 1. 16.665. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -19.647. 1. -16.665. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 16.665. 1. 13.683. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -16.665. 1. -13.683. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.683. 1. 10.701. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -13.683. 1. -10.701. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 10.701. 1. 7.293. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -8.408. 1. -8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -10.701. 1. -7.293. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.302. 1. -29.302. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.302. 1. -29.302. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.302. 1. -29.302. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.302. 1. -29.302. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.302. 1. -29.302. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.302. 1. -29.302. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.302. 1. -29.302. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.302. 1. -29.302. 0. 0. 0. 0. . NO. 0. 0. NO

*ELTEMPER    ; Element Temperatures
; ELEM LIST. TEMPER. GROUP
     1. -15.
     2. -15.
     3. -15.
     4. -15.
     5. -15.
     6. -15.
     7. -15.
     8. -15.
     9. -15.
    10. -15.
    11. -15.
    12. -15.
    13. -15.
```

```
    14. -15.
    15. -15.
    16. -15.
    17. -15.
    18. -15.
    19. -15.
    20. -15.
    21. -15.
    22. -15.
    23. -20.85.
    24. -20.85.
    25. -20.85.
    26. -20.85.
    27. -20.85.
    28. -20.85.
    29. -20.85.
    30. -20.85.

; End of data for load case [NCOMB28] ------------------------

*USE-STLD. NCOMB29

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. [ECCEN]. [VALUE]. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. [ECCEN]. [VALUE]. GROUP
; [VALUE]       : D1. P1. D2. P2. D3. P3. D4. P4
; [ECCEN]       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; [ADDITIONAL]  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 58.251. 1. 51.222. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -58.251. 1. -51.222. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 51.222. 1. 45.258. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -51.222. 1. -45.258. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 45.258. 1. 39.294. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -45.258. 1. -39.294. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 39.294. 1. 33.33. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -39.294. 1. -33.33. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 33.33. 1. 27.366. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -33.33. 1. -27.366. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 27.366. 1. 21.402. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -27.366. 1. -21.402. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 21.402. 1. 14.586. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -21.402. 1. -14.586. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.302. 1. -29.302. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.302. 1. -29.302. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.302. 1. -29.302. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.302. 1. -29.302. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO

*ELTEMPER    ; Element Temperatures
; ELEM LIST. TEMPER. GROUP
    23. 5.85.
    24. 5.85.
    25. 5.85.
    26. 5.85.
    27. 5.85.
    28. 5.85.
    29. 5.85.
    30. 5.85.

; End of data for load case [NCOMB29] ------------------------

*USE-STLD. NCOMB30

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. [ECCEN]. [VALUE]. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. [ECCEN]. [VALUE]. GROUP
; [VALUE]       : D1. P1. D2. P2. D3. P3. D4. P4
```

```
; [ECCEN]       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; [ADDITIONAL]  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
    9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 29.1255. 1. 25.611. 0. 0. 0. 0. . NO. 0. 0. NO
    9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
   10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -29.1255. 1. -25.611. 0. 0. 0. 0. . NO. 0. 0. NO
   11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
   11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 25.611. 1. 22.629. 0. 0. 0. 0. . NO. 0. 0. NO
   12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -25.611. 1. -22.629. 0. 0. 0. 0. . NO. 0. 0. NO
   13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
   13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 22.629. 1. 19.647. 0. 0. 0. 0. . NO. 0. 0. NO
   14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -22.629. 1. -19.647. 0. 0. 0. 0. . NO. 0. 0. NO
   15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 19.647. 1. 16.665. 0. 0. 0. 0. . NO. 0. 0. NO
   15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
   16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -19.647. 1. -16.665. 0. 0. 0. 0. . NO. 0. 0. NO
   17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 16.665. 1. 13.683. 0. 0. 0. 0. . NO. 0. 0. NO
   17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
   18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -16.665. 1. -13.683. 0. 0. 0. 0. . NO. 0. 0. NO
   19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
   19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.683. 1. 10.701. 0. 0. 0. 0. . NO. 0. 0. NO
   20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -13.683. 1. -10.701. 0. 0. 0. 0. . NO. 0. 0. NO
   21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 10.701. 1. 7.293. 0. 0. 0. 0. . NO. 0. 0. NO
   21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
   22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -10.701. 1. -7.293. 0. 0. 0. 0. . NO. 0. 0. NO
   23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.302. 1. -29.302. 0. 0. 0. 0. . NO. 0. 0. NO
   23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
   24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
   24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.302. 1. -29.302. 0. 0. 0. 0. . NO. 0. 0. NO
   25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
   25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.302. 1. -29.302. 0. 0. 0. 0. . NO. 0. 0. NO
   26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.302. 1. -29.302. 0. 0. 0. 0. . NO. 0. 0. NO
   26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
   27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
   28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
   29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
   30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO

*ELTEMPER    ; Element Temperatures
; ELEM LIST. TEMPER. GROUP
   23. 5.85.
   24. 5.85.
   25. 5.85.
   26. 5.85.
   27. 5.85.
   28. 5.85.
   29. 5.85.
   30. 5.85.

; End of data for load case [NCOMB30] ------------------------

*USE-STLD. NCOMB31

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. [ECCEN]. [VALUE]. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. [ECCEN]. [VALUE]. GROUP
; [VALUE]       : D1. P1. D2. P2. D3. P3. D4. P4
; [ECCEN]       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; [ADDITIONAL]  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
    9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 58.251. 1. 51.222. 0. 0. 0. 0. . NO. 0. 0. NO
    9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
   10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -58.251. 1. -51.222. 0. 0. 0. 0. . NO. 0. 0. NO
   11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
   11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 51.222. 1. 45.258. 0. 0. 0. 0. . NO. 0. 0. NO
   12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -51.222. 1. -45.258. 0. 0. 0. 0. . NO. 0. 0. NO
   13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
   13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 45.258. 1. 39.294. 0. 0. 0. 0. . NO. 0. 0. NO
   14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -45.258. 1. -39.294. 0. 0. 0. 0. . NO. 0. 0. NO
   15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
   15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 39.294. 1. 33.33. 0. 0. 0. 0. . NO. 0. 0. NO
   16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -39.294. 1. -33.33. 0. 0. 0. 0. . NO. 0. 0. NO
   17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 33.33. 1. 27.366. 0. 0. 0. 0. . NO. 0. 0. NO
   17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
   18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -33.33. 1. -27.366. 0. 0. 0. 0. . NO. 0. 0. NO
   19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 27.366. 1. 21.402. 0. 0. 0. 0. . NO. 0. 0. NO
   19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
   20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -27.366. 1. -21.402. 0. 0. 0. 0. . NO. 0. 0. NO
   21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
   21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 21.402. 1. 14.586. 0. 0. 0. 0. . NO. 0. 0. NO
   22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -21.402. 1. -14.586. 0. 0. 0. 0. . NO. 0. 0. NO
   23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.302. 1. -29.302. 0. 0. 0. 0. . NO. 0. 0. NO
   23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
   24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.302. 1. -29.302. 0. 0. 0. 0. . NO. 0. 0. NO
   24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
   25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.302. 1. -29.302. 0. 0. 0. 0. . NO. 0. 0. NO
   25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
```

```
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.302. 1. -29.302. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO

*ELTEMPER    ; Element Temperatures
; ELEM LIST. TEMPER. GROUP
     1. -15.
     2. -15.
     3. -15.
     4. -15.
     5. -15.
     6. -15.
     7. -15.
     8. -15.
     9. -15.
    10. -15.
    11. -15.
    12. -15.
    13. -15.
    14. -15.
    15. -15.
    16. -15.
    17. -15.
    18. -15.
    19. -15.
    20. -15.
    21. -15.
    22. -15.
    23. -20.85.
    24. -20.85.
    25. -20.85.
    26. -20.85.
    27. -20.85.
    28. -20.85.
    29. -20.85.
    30. -20.85.

; End of data for load case [NCOMB31] ------------------------

*USE-STLD. NCOMB32

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. [ECCEN]. [VALUE]. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. [ECCEN]. [VALUE]. GROUP
; [VALUE]       : D1. P1. D2. P2. D3. P3. D4. P4
; [ECCEN]       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; [ADDITIONAL]  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 29.1255. 1. 25.611. 0. 0. 0. 0. . NO. 0. 0. NO
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -29.1255. 1. -25.611. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 25.611. 1. 22.629. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -25.611. 1. -22.629. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 22.629. 1. 19.647. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -22.629. 1. -19.647. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 19.647. 1. 16.665. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -19.647. 1. -16.665. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 16.665. 1. 13.683. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -16.665. 1. -13.683. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.683. 1. 10.701. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -13.683. 1. -10.701. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 10.701. 1. 7.293. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -10.701. 1. -7.293. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.302. 1. -29.302. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.302. 1. -29.302. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.302. 1. -29.302. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.302. 1. -29.302. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
```

```
*ELTEMPER    ; Element Temperatures
; ELEM LIST. TEMPER. GROUP
      1. -15.
      2. -15.
      3. -15.
      4. -15.
      5. -15.
      6. -15.
      7. -15.
      8. -15.
      9. -15.
     10. -15.
     11. -15.
     12. -15.
     13. -15.
     14. -15.
     15. -15.
     16. -15.
     17. -15.
     18. -15.
     19. -15.
     20. -15.
     21. -15.
     22. -15.
     23. -20.85.
     24. -20.85.
     25. -20.85.
     26. -20.85.
     27. -20.85.
     28. -20.85.
     29. -20.85.
     30. -20.85.

; End of data for load case [NCOMB32] ------------------------

*USE-STLD. NCOMB33

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. [ECCEN]. [VALUE]. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. [ECCEN]. [VALUE]. GROUP
; [VALUE]       : D1. P1. D2. P2. D3. P3. D4. P4
; [ECCEN]       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; [ADDITIONAL]  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 58.251. 1. 51.222. 0. 0. 0. 0. . NO. 0. 0. NO
    10. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -58.251. 1. -51.222. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 51.222. 1. 45.258. 0. 0. 0. 0. . NO. 0. 0. NO
    12. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -51.222. 1. -45.258. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 45.258. 1. 39.294. 0. 0. 0. 0. . NO. 0. 0. NO
    14. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -45.258. 1. -39.294. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 39.294. 1. 33.33. 0. 0. 0. 0. . NO. 0. 0. NO
    16. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -39.294. 1. -33.33. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 33.33. 1. 27.366. 0. 0. 0. 0. . NO. 0. 0. NO
    18. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -33.33. 1. -27.366. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 27.366. 1. 21.402. 0. 0. 0. 0. . NO. 0. 0. NO
    20. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -27.366. 1. -21.402. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 21.402. 1. 14.586. 0. 0. 0. 0. . NO. 0. 0. NO
    22. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. -21.402. 1. -14.586. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM    . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO

; End of data for load case [NCOMB33] ------------------------

*USE-STLD. NCOMB34

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. [ECCEN]. [VALUE]. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. [ECCEN]. [VALUE]. GROUP
; [VALUE]       : D1. P1. D2. P2. D3. P3. D4. P4
; [ECCEN]       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; [ADDITIONAL]  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 46.221. 1. 39.192. 0. 0. 0. 0. . NO. 0. 0. NO
     9. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 39.192. 1. 33.228. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM    . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
```

```
    13. BEAM   . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 33.228. 1. 27.264. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM   . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 27.264. 1. 21.3. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM   . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM   . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 21.3. 1. 15.336. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM   . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM   . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM   . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 15.336. 1. 9.372. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM   . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM   . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 9.372. 1. 2.556. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM   . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.302. 1. -29.302. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM   . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM   . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.302. 1. -29.302. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM   . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM   . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.302. 1. -29.302. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM   . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM   . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.302. 1. -29.302. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM   . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM   . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM   . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM   . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM   . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO

; End of data for load case [NCOMB34] ------------------------

*USE-STLD. NCOMB35

; *SELFWEIGHT. X. Y. Z. GROUP
*SELFWEIGHT. 0. 0. -1.

*BEAMLOAD    ; Element Beam Loads
; ELEM LIST. CMD. TYPE. DIR. bPROJ. [ECCEN]. [VALUE]. GROUP
; ELEM LIST. CMD. TYPE. TYPE. DIR. VX. VY. VZ. bPROJ. [ECCEN]. [VALUE]. GROUP
; [VALUE]       : D1. P1. D2. P2. D3. P3. D4. P4
; [ECCEN]       : bECCEN. ECCDIR. I-END. J-END. bJ-END
; [ADDITIONAL]  : bADDITIONAL. ADDITIONAL I-END. ADDITIONAL J-END. bADDITIONAL J-END
     9. BEAM   . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
     9. BEAM   . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 23.1105. 1. 19.596. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM   . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    11. BEAM   . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 19.596. 1. 16.614. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM   . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    13. BEAM   . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 16.614. 1. 13.632. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM   . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    15. BEAM   . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 13.632. 1. 10.65. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM   . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 10.65. 1. 7.668. 0. 0. 0. 0. . NO. 0. 0. NO
    17. BEAM   . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM   . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    19. BEAM   . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 7.668. 1. 4.686. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM   . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 8.408. 1. 8.408. 0. 0. 0. 0. . NO. 0. 0. NO
    21. BEAM   . UNILOAD. GX. NO . NO. aDir[1]. . . . 0. 4.686. 1. 1.278. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM   . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    23. BEAM   . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.302. 1. -29.302. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM   . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.302. 1. -29.302. 0. 0. 0. 0. . NO. 0. 0. NO
    24. BEAM   . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM   . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    25. BEAM   . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.302. 1. -29.302. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM   . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -29.302. 1. -29.302. 0. 0. 0. 0. . NO. 0. 0. NO
    26. BEAM   . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    27. BEAM   . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    28. BEAM   . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    29. BEAM   . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO
    30. BEAM   . UNILOAD. GZ. NO . NO. aDir[1]. . . . 0. -28.24. 1. -28.24. 0. 0. 0. 0. . NO. 0. 0. NO

; End of data for load case [NCOMB35] ------------------------


*LOADCOMB    ; Combinations
; NAME=NAME. KIND. ACTIVE. bES. iTYPE. DESC. iSERV-TYPE. nLCOMTYPE   ; line 1
;      ANAL1. LCNAME1. FACT1. ...                                    ; from line 2
   NAME=COMB1. GEN. INACTIVE. 0. 0. . 0. 0
        ST. LC1. 1.35. ST. LC2. 1.85. ST. LC4. 1.85. ST. LC6. 1.6
   NAME=COMB2. GEN. INACTIVE. 0. 0. . 0. 0
        ST. LC1. 1.35. ST. LC2. 1.85. ST. LC4. 1.85. ST. LC6. 0.6
   NAME=COMB3. GEN. INACTIVE. 0. 0. . 0. 0
        ST. LC1. 1.35. ST. LC3. 1.85. ST. LC5. 1.85. ST. LC6. 1.6
   NAME=COMB4. GEN. INACTIVE. 0. 0. . 0. 0
        ST. LC1. 1.35. ST. LC3. 1.85. ST. LC5. 1.85. ST. LC6. 0.6
   NAME=COMB5. GEN. INACTIVE. 0. 0. . 0. 0
        ST. LC1. 1.6. ST. LC2. 1.6. ST. LC4. 1.6. ST. LC6. 1.6
   NAME=COMB6. GEN. INACTIVE. 0. 0. . 0. 0
        ST. LC1. 1.6. ST. LC2. 1.6. ST. LC4. 1.6. ST. LC6. 0.6
   NAME=COMB7. GEN. INACTIVE. 0. 0. . 0. 0
        ST. LC1. 1.6. ST. LC3. 1.6. ST. LC5. 1.6. ST. LC6. 1.6
   NAME=COMB8. GEN. INACTIVE. 0. 0. . 0. 0
        ST. LC1. 1.6. ST. LC3. 1.6. ST. LC5. 1.6. ST. LC6. 0.6
   NAME=COMB9. GEN. INACTIVE. 0. 0. . 0. 0
        ST. LC1. 1.35. ST. LC2. 1.4. ST. LC4. 1.4. ST. LC6. 1.6. ST. LC8. 1.35
        ST. LC11. 1.35
```

```
NAME=COMB10. GEN. INACTIVE. 0. 0. . 0. 0
     ST. LC1. 1.35. ST. LC2. 1.4. ST. LC4. 1.4. ST. LC6. 0.6. ST. LC8. 1.35
     ST. LC11. 1.35
NAME=COMB11. GEN. INACTIVE. 0. 0. . 0. 0
     ST. LC1. 1.35. ST. LC2. 1.4. ST. LC4. 1.4. ST. LC6. 1.6. ST. LC9. 1.35
     ST. LC10. 1.35. ST. LC11. 1.4
NAME=COMB12. GEN. INACTIVE. 0. 0. . 0. 0
     ST. LC1. 1.35. ST. LC2. 1.4. ST. LC4. 1.4. ST. LC6. 0.6. ST. LC9. 1.35
     ST. LC10. 1.35. ST. LC11. 1.4
NAME=COMB13. GEN. INACTIVE. 0. 0. . 0. 0
     ST. LC1. 1.35. ST. LC3. 1.4. ST. LC5. 1.4. ST. LC6. 1.6. ST. LC8. 1.35
     ST. LC11. 1.35
NAME=COMB14. GEN. INACTIVE. 0. 0. . 0. 0
     ST. LC1. 1.35. ST. LC3. 1.4. ST. LC5. 1.4. ST. LC6. 0.6. ST. LC8. 1.35
     ST. LC11. 1.35
NAME=COMB15. GEN. INACTIVE. 0. 0. . 0. 0
     ST. LC1. 1.35. ST. LC3. 1.4. ST. LC5. 1.4. ST. LC6. 1.6. ST. LC9. 1.35
     ST. LC10. 1.35. ST. LC11. 1.4
NAME=COMB16. GEN. INACTIVE. 0. 0. . 0. 0
     ST. LC1. 1.35. ST. LC3. 1.4. ST. LC5. 1.4. ST. LC6. 0.6. ST. LC9. 1.35
     ST. LC10. 1.35. ST. LC11. 1.4
NAME=COMB17. GEN. INACTIVE. 0. 0. . 0. 0
     ST. LC1. 1.35. ST. LC3. 1.85. ST. LC5. 1.85. ST. LC7. 1.6
NAME=COMB18. GEN. INACTIVE. 0. 0. . 0. 0
     ST. LC1. 1.35. ST. LC3. 1.85. ST. LC5. 1.85. ST. LC7. 0.6
NAME=COMB19. GEN. INACTIVE. 0. 0. . 0. 0
     ST. LC1. 1.6. ST. LC3. 1.6. ST. LC5. 1.6. ST. LC7. 1.6
NAME=COMB20. GEN. INACTIVE. 0. 0. . 0. 0
     ST. LC1. 1.6. ST. LC3. 1.6. ST. LC5. 1.6. ST. LC7. 0.6
NAME=COMB21. GEN. INACTIVE. 0. 0. . 0. 0
     ST. LC1. 1. ST. LC2. 1. ST. LC4. 1. ST. LC6. 1
NAME=COMB22. GEN. INACTIVE. 0. 0. . 0. 0
     ST. LC1. 1. ST. LC2. 1. ST. LC4. 1. ST. LC6. 0.5
NAME=COMB23. GEN. INACTIVE. 0. 0. . 0. 0
     ST. LC1. 1. ST. LC3. 1. ST. LC5. 1. ST. LC6. 1
NAME=COMB24. GEN. INACTIVE. 0. 0. . 0. 0
     ST. LC1. 1. ST. LC3. 1. ST. LC5. 1. ST. LC6. 0.5
NAME=COMB25. GEN. INACTIVE. 0. 0. . 0. 0
     ST. LC1. 1. ST. LC2. 1. ST. LC4. 1. ST. LC6. 1. ST. LC8. 1. ST. LC11. 1
NAME=COMB26. GEN. INACTIVE. 0. 0. . 0. 0
     ST. LC1. 1. ST. LC2. 1. ST. LC4. 1. ST. LC6. 0.5. ST. LC8. 1
     ST. LC11. 1
NAME=COMB27. GEN. INACTIVE. 0. 0. . 0. 0
     ST. LC1. 1. ST. LC2. 1. ST. LC4. 1. ST. LC6. 1. ST. LC9. 1. ST. LC10. 1
     ST. LC11. 1
NAME=COMB28. GEN. INACTIVE. 0. 0. . 0. 0
     ST. LC1. 1. ST. LC2. 1. ST. LC4. 1. ST. LC6. 0.5. ST. LC9. 1
     ST. LC10. 1. ST. LC11. 1
NAME=COMB29. GEN. INACTIVE. 0. 0. . 0. 0
     ST. LC1. 1. ST. LC3. 1. ST. LC5. 1. ST. LC6. 1. ST. LC8. 1. ST. LC11. 1
NAME=COMB30. GEN. INACTIVE. 0. 0. . 0. 0
     ST. LC1. 1. ST. LC3. 1. ST. LC5. 1. ST. LC6. 0.5. ST. LC8. 1
     ST. LC11. 1
NAME=COMB31. GEN. INACTIVE. 0. 0. . 0. 0
     ST. LC1. 1. ST. LC3. 1. ST. LC5. 1. ST. LC6. 1. ST. LC9. 1. ST. LC10. 1
     ST. LC11. 1
NAME=COMB32. GEN. INACTIVE. 0. 0. . 0. 0
     ST. LC1. 1. ST. LC3. 1. ST. LC5. 1. ST. LC6. 0.5. ST. LC9. 1
     ST. LC10. 1. ST. LC11. 1
NAME=COMB33. GEN. INACTIVE. 0. 0. . 0. 0
     ST. LC1. 1. ST. LC6. 1
NAME=COMB34. GEN. INACTIVE. 0. 0. . 0. 0
     ST. LC1. 1. ST. LC3. 1. ST. LC5. 1. ST. LC7. 1
NAME=COMB35. GEN. INACTIVE. 0. 0. . 0. 0
     ST. LC1. 1. ST. LC3. 1. ST. LC5. 1. ST. LC7. 0.5
NAME=USD. GEN. ACTIVE. 0. 1. . 0. 0
     ST. NCOMB1. 1. ST. NCOMB2. 1. ST. NCOMB3. 1. ST. NCOMB4. 1
     ST. NCOMB5. 1. ST. NCOMB6. 1. ST. NCOMB7. 1. ST. NCOMB8. 1
     ST. NCOMB9. 1. ST. NCOMB10. 1. ST. NCOMB11. 1. ST. NCOMB12. 1
     ST. NCOMB13. 1. ST. NCOMB14. 1. ST. NCOMB15. 1. ST. NCOMB16. 1
     ST. NCOMB17. 1. ST. NCOMB18. 1. ST. NCOMB19. 1. ST. NCOMB20. 1
NAME=WSD. GEN. ACTIVE. 0. 1. . 0. 0
     ST. NCOMB21. 1. ST. NCOMB22. 1. ST. NCOMB23. 1. ST. NCOMB24. 1
     ST. NCOMB25. 1. ST. NCOMB26. 1. ST. NCOMB27. 1. ST. NCOMB28. 1
     ST. NCOMB29. 1. ST. NCOMB30. 1. ST. NCOMB31. 1. ST. NCOMB32. 1
     ST. NCOMB33. 1. ST. NCOMB34. 1. ST. NCOMB35. 1
NAME=NCOMB1. CONC. STRENGTH. 0. 0. . 0. 0
     ST. NCOMB1. 1
NAME=NCOMB2. CONC. STRENGTH. 0. 0. . 0. 0
     ST. NCOMB2. 1
NAME=NCOMB3. CONC. STRENGTH. 0. 0. . 0. 0
     ST. NCOMB3. 1
NAME=NCOMB4. CONC. STRENGTH. 0. 0. . 0. 0
     ST. NCOMB4. 1
NAME=NCOMB5. CONC. STRENGTH. 0. 0. . 0. 0
     ST. NCOMB5. 1
NAME=NCOMB6. CONC. STRENGTH. 0. 0. . 0. 0
```

```
        ST. NCOMB6. 1
    NAME=NCOMB7. CONC. STRENGTH. 0. 0. . 0. 0
        ST. NCOMB7. 1
    NAME=NCOMB8. CONC. STRENGTH. 0. 0. . 0. 0
        ST. NCOMB8. 1
    NAME=NCOMB9. CONC. STRENGTH. 0. 0. . 0. 0
        ST. NCOMB9. 1
    NAME=NCOMB10. CONC. STRENGTH. 0. 0. . 0. 0
        ST. NCOMB10. 1
    NAME=NCOMB11. CONC. STRENGTH. 0. 0. . 0. 0
        ST. NCOMB11. 1
    NAME=NCOMB12. CONC. STRENGTH. 0. 0. . 0. 0
        ST. NCOMB12. 1
    NAME=NCOMB13. CONC. STRENGTH. 0. 0. . 0. 0
        ST. NCOMB13. 1
    NAME=NCOMB14. CONC. STRENGTH. 0. 0. . 0. 0
        ST. NCOMB14. 1
    NAME=NCOMB15. CONC. STRENGTH. 0. 0. . 0. 0
        ST. NCOMB15. 1
    NAME=NCOMB16. CONC. STRENGTH. 0. 0. . 0. 0
        ST. NCOMB16. 1
    NAME=NCOMB17. CONC. STRENGTH. 0. 0. . 0. 0
        ST. NCOMB17. 1
    NAME=NCOMB18. CONC. STRENGTH. 0. 0. . 0. 0
        ST. NCOMB18. 1
    NAME=NCOMB19. CONC. STRENGTH. 0. 0. . 0. 0
        ST. NCOMB19. 1
    NAME=NCOMB20. CONC. STRENGTH. 0. 0. . 0. 0
        ST. NCOMB20. 1
    NAME=NCOMB21. CONC. STRENGTH. 0. 0. . 0. 0
        ST. NCOMB21. 1
    NAME=NCOMB22. CONC. STRENGTH. 0. 0. . 0. 0
        ST. NCOMB22. 1
    NAME=NCOMB23. CONC. STRENGTH. 0. 0. . 0. 0
        ST. NCOMB23. 1
    NAME=NCOMB24. CONC. STRENGTH. 0. 0. . 0. 0
        ST. NCOMB24. 1
    NAME=NCOMB25. CONC. STRENGTH. 0. 0. . 0. 0
        ST. NCOMB25. 1
    NAME=NCOMB26. CONC. STRENGTH. 0. 0. . 0. 0
        ST. NCOMB26. 1
    NAME=NCOMB27. CONC. STRENGTH. 0. 0. . 0. 0
        ST. NCOMB27. 1
    NAME=NCOMB28. CONC. STRENGTH. 0. 0. . 0. 0
        ST. NCOMB28. 1
    NAME=NCOMB29. CONC. STRENGTH. 0. 0. . 0. 0
        ST. NCOMB29. 1
    NAME=NCOMB30. CONC. STRENGTH. 0. 0. . 0. 0
        ST. NCOMB30. 1
    NAME=NCOMB31. CONC. STRENGTH. 0. 0. . 0. 0
        ST. NCOMB31. 1
    NAME=NCOMB32. CONC. STRENGTH. 0. 0. . 0. 0
        ST. NCOMB32. 1
    NAME=NCOMB33. CONC. STRENGTH. 0. 0. . 0. 0
        ST. NCOMB33. 1
    NAME=NCOMB34. CONC. STRENGTH. 0. 0. . 0. 0
        ST. NCOMB34. 1
    NAME=NCOMB35. CONC. STRENGTH. 0. 0. . 0. 0
        ST. NCOMB35. 1

*LOADCONST    ; Load Constribution for Nonlinear Load Case
; NAME=STLDCASE. DESC                                          ; 1st line
;      LCNAME1. LCTYPE1. FACTOR1. LCNAME2. LCTYPE2. FACTOR2. ...   ; from line 2
    NAME=NCOMB1.
        LC1. ST. 1.35. LC2. ST. 1.85. LC4. ST. 1.85. LC6. ST. 1.6
    NAME=NCOMB2.
        LC1. ST. 1.35. LC2. ST. 1.85. LC4. ST. 1.85. LC6. ST. 0.6
    NAME=NCOMB3.
        LC1. ST. 1.35. LC3. ST. 1.85. LC5. ST. 1.85. LC6. ST. 1.6
    NAME=NCOMB4.
        LC1. ST. 1.35. LC3. ST. 1.85. LC5. ST. 1.85. LC6. ST. 0.6
    NAME=NCOMB5.
        LC1. ST. 1.6. LC2. ST. 1.6. LC4. ST. 1.6. LC6. ST. 1.6
    NAME=NCOMB6.
        LC1. ST. 1.6. LC2. ST. 1.6. LC4. ST. 1.6. LC6. ST. 0.6
    NAME=NCOMB7.
        LC1. ST. 1.6. LC3. ST. 1.6. LC5. ST. 1.6. LC6. ST. 1.6
    NAME=NCOMB8.
        LC1. ST. 1.6. LC3. ST. 1.6. LC5. ST. 1.6. LC6. ST. 0.6
    NAME=NCOMB9.
        LC1. ST. 1.35. LC2. ST. 1.4. LC4. ST. 1.4. LC6. ST. 1.6. LC8. ST. 1.35
        LC11. ST. 1.35
    NAME=NCOMB10.
        LC1. ST. 1.35. LC2. ST. 1.4. LC4. ST. 1.4. LC6. ST. 0.6. LC8. ST. 1.35
        LC11. ST. 1.35
    NAME=NCOMB11.
        LC1. ST. 1.35. LC2. ST. 1.4. LC4. ST. 1.4. LC6. ST. 1.6. LC9. ST. 1.35
```

```
      LC10, ST, 1.35, LC11, ST, 1.4
  NAME=NCOMB12,
      LC1, ST, 1.35, LC2, ST, 1.4, LC4, ST, 1.4, LC6, ST, 0.6, LC9, ST, 1.35
      LC10, ST, 1.35, LC11, ST, 1.4
  NAME=NCOMB13,
      LC1, ST, 1.35, LC3, ST, 1.4, LC5, ST, 1.4, LC6, ST, 1.6, LC8, ST, 1.35
      LC11, ST, 1.35
  NAME=NCOMB14,
      LC1, ST, 1.35, LC3, ST, 1.4, LC5, ST, 1.4, LC6, ST, 0.6, LC8, ST, 1.35
      LC11, ST, 1.35
  NAME=NCOMB15,
      LC1, ST, 1.35, LC3, ST, 1.4, LC5, ST, 1.4, LC6, ST, 1.6, LC9, ST, 1.35
      LC10, ST, 1.35, LC11, ST, 1.4
  NAME=NCOMB16,
      LC1, ST, 1.35, LC3, ST, 1.4, LC5, ST, 1.4, LC6, ST, 0.6, LC9, ST, 1.35
      LC10, ST, 1.35, LC11, ST, 1.4
  NAME=NCOMB17,
      LC1, ST, 1.35, LC3, ST, 1.85, LC5, ST, 1.85, LC7, ST, 1.6
  NAME=NCOMB18,
      LC1, ST, 1.35, LC3, ST, 1.85, LC5, ST, 1.85, LC7, ST, 0.6
  NAME=NCOMB19,
      LC1, ST, 1.6, LC3, ST, 1.6, LC5, ST, 1.6, LC7, ST, 1.6
  NAME=NCOMB20,
      LC1, ST, 1.6, LC3, ST, 1.6, LC5, ST, 1.6, LC7, ST, 0.6
  NAME=NCOMB21,
      LC1, ST, 1, LC2, ST, 1, LC4, ST, 1, LC6, ST, 1
  NAME=NCOMB22,
      LC1, ST, 1, LC2, ST, 1, LC4, ST, 1, LC6, ST, 0.5
  NAME=NCOMB23,
      LC1, ST, 1, LC3, ST, 1, LC5, ST, 1, LC6, ST, 1
  NAME=NCOMB24,
      LC1, ST, 1, LC3, ST, 1, LC5, ST, 1, LC6, ST, 0.5
  NAME=NCOMB25,
      LC1, ST, 1, LC2, ST, 1, LC4, ST, 1, LC6, ST, 1, LC8, ST, 1, LC11, ST, 1
  NAME=NCOMB26,
      LC1, ST, 1, LC2, ST, 1, LC4, ST, 1, LC6, ST, 0.5, LC8, ST, 1
      LC11, ST, 1
  NAME=NCOMB27,
      LC1, ST, 1, LC2, ST, 1, LC4, ST, 1, LC6, ST, 1, LC9, ST, 1, LC10, ST, 1
      LC11, ST, 1
  NAME=NCOMB28,
      LC1, ST, 1, LC2, ST, 1, LC4, ST, 1, LC6, ST, 0.5, LC9, ST, 1
      LC10, ST, 1, LC11, ST, 1
  NAME=NCOMB29,
      LC1, ST, 1, LC3, ST, 1, LC5, ST, 1, LC6, ST, 1, LC8, ST, 1, LC11, ST, 1
  NAME=NCOMB30,
      LC1, ST, 1, LC3, ST, 1, LC5, ST, 1, LC6, ST, 0.5, LC8, ST, 1
      LC11, ST, 1
  NAME=NCOMB31,
      LC1, ST, 1, LC3, ST, 1, LC5, ST, 1, LC6, ST, 1, LC9, ST, 1, LC10, ST, 1
      LC11, ST, 1
  NAME=NCOMB32,
      LC1, ST, 1, LC3, ST, 1, LC5, ST, 1, LC6, ST, 0.5, LC9, ST, 1
      LC10, ST, 1, LC11, ST, 1
  NAME=NCOMB33,
      LC1, ST, 1, LC6, ST, 1
  NAME=NCOMB34,
      LC1, ST, 1, LC3, ST, 1, LC5, ST, 1, LC7, ST, 1
  NAME=NCOMB35,
      LC1, ST, 1, LC3, ST, 1, LC5, ST, 1, LC7, ST, 0.5

*LC-COLOR    ; Diagram Color for Load Case
; ANAL, LCNAME, iR1(ALL), iG1(ALL), iB1(ALL), iR2(MIN), iG2(MIN), iB2(MIN), iR3(MAX), iG2(MAX), iB2(MAX)
 CB, COMB1, 0, 128, 255, 212, 160, 255, 192, 128, 0
 CB, COMB2, 192, 192, 192, 255, 128, 0, 85, 192, 0
 CB, COMB3, 85, 0, 192, 255, 255, 87, 192, 128, 0
 CB, COMB4, 255, 255, 87, 0, 192, 128, 255, 87, 87
 CB, COMB5, 85, 0, 192, 192, 192, 0, 255, 0, 192
 CB, COMB6, 0, 128, 57, 192, 72, 0, 93, 255, 87
 CB, COMB7, 0, 128, 255, 85, 192, 0, 255, 0, 192
 CB, COMB8, 255, 160, 255, 93, 255, 87, 0, 192, 192
 CB, COMB9, 0, 157, 192, 0, 128, 255, 255, 160, 255
 CB, COMB10, 192, 192, 0, 160, 192, 255, 148, 87, 255
 CB, COMB11, 0, 192, 192, 255, 255, 87, 255, 192, 87
 CB, COMB12, 192, 72, 0, 0, 157, 192, 192, 128, 0
 CB, COMB13, 255, 87, 128, 0, 128, 192, 192, 192, 0
 CB, COMB14, 255, 87, 87, 0, 128, 128, 148, 87, 255
 CB, COMB15, 163, 255, 160, 255, 160, 255, 255, 192, 160
 CB, COMB16, 210, 210, 210, 255, 0, 128, 0, 192, 192
 CB, COMB17, 192, 0, 128, 0, 192, 192, 255, 255, 255
 CB, COMB18, 0, 157, 192, 160, 192, 255, 255, 0, 128
 CB, COMB19, 0, 128, 128, 192, 128, 0, 192, 128, 0
 CB, COMB20, 255, 0, 192, 255, 192, 160, 148, 87, 255
 CB, COMB21, 255, 0, 128, 255, 87, 87, 255, 255, 87
 CB, COMB22, 255, 0, 192, 163, 255, 160, 93, 255, 87
 CB, COMB23, 78, 0, 255, 255, 255, 255, 0, 192, 128
 CB, COMB24, 255, 255, 87, 192, 128, 0, 0, 157, 192
```

CB. COMB25. 192. 128. 0. 0. 128. 255. 163. 160. 255
CB. COMB26. 0. 128. 128. 0. 128. 57. 255. 0. 128
CB. COMB27. 163. 160. 255. 0. 128. 192. 0. 128. 255
CB. COMB28. 255. 0. 128. 255. 192. 87. 160. 192. 255
CB. COMB29. 163. 160. 255. 192. 0. 192. 148. 87. 255
CB. COMB30. 255. 0. 128. 78. 0. 255. 0. 192. 192
CB. COMB31. 148. 87. 255. 192. 192. 0. 160. 192. 255
CB. COMB32. 163. 160. 255. 192. 192. 192. 192. 128. 0
CB. COMB33. 210. 210. 210. 255. 128. 0. 255. 192. 87
CB. COMB34. 148. 87. 255. 192. 192. 0. 255. 192. 160
CB. COMB35. 212. 160. 255. 163. 160. 255. 0. 192. 192
CB. USD. 0. 192. 128. 255. 128. 0. 0. 157. 192
CB. WSD. 0. 192. 128. 192. 192. 192. 192. 72. 0
ST. LC1. 255. 192. 87. 93. 255. 87. 0. 157. 192
ST. LC2. 128. 192. 0. 93. 255. 87. 0. 128. 128
ST. LC3. 0. 128. 255. 192. 192. 192. 210. 210. 210
ST. LC4. 85. 0. 192. 0. 128. 57. 255. 128. 0
ST. LC5. 0. 192. 192. 255. 192. 160. 192. 192. 0
ST. LC6. 255. 87. 128. 160. 192. 255. 93. 255. 87
ST. LC7. 255. 87. 128. 0. 128. 128. 148. 87. 255
ST. LC8. 0. 128. 57. 160. 255. 255. 192. 192. 0
ST. LC9. 255. 128. 0. 146. 0. 255. 0. 192. 192
ST. LC10. 255. 87. 87. 0. 192. 192. 163. 255. 160
ST. LC11. 192. 192. 0. 210. 210. 210. 255. 128. 0
CBC. NCOMB1. 128. 192. 0. 0. 192. 192. 85. 0. 192
CBC. NCOMB2. 255. 192. 87. 85. 192. 0. 0. 128. 57
CBC. NCOMB3. 128. 192. 0. 255. 160. 255. 255. 0. 192
CBC. NCOMB4. 93. 255. 87. 192. 72. 0. 192. 192. 0
CBC. NCOMB5. 210. 210. 210. 160. 192. 255. 192. 192. 192
CBC. NCOMB6. 0. 128. 57. 0. 192. 128. 85. 192. 0
CBC. NCOMB7. 128. 192. 0. 192. 72. 0. 0. 192. 192
CBC. NCOMB8. 192. 0. 128. 255. 160. 255. 160. 255. 255
CBC. NCOMB9. 0. 128. 128. 192. 192. 192. 146. 0. 255
CBC. NCOMB10. 160. 192. 255. 160. 192. 255. 160. 255. 255
CBC. NCOMB11. 192. 72. 0. 255. 160. 255. 160. 192. 255
CBC. NCOMB12. 163. 255. 160. 210. 210. 210. 148. 87. 255
CBC. NCOMB13. 160. 192. 255. 85. 192. 0. 128. 192. 0
CBC. NCOMB14. 0. 128. 192. 0. 192. 128. 255. 255. 255
CBC. NCOMB15. 192. 128. 0. 85. 0. 192. 255. 0. 128
CBC. NCOMB16. 85. 192. 0. 163. 255. 160. 0. 157. 192
CBC. NCOMB17. 192. 192. 192. 163. 160. 255. 0. 192. 128
CBC. NCOMB18. 0. 128. 57. 163. 255. 160. 255. 160. 255
CBC. NCOMB19. 0. 192. 128. 255. 160. 255. 146. 0. 255
CBC. NCOMB20. 192. 72. 0. 85. 192. 0. 0. 192. 128
CBC. NCOMB21. 78. 0. 255. 212. 160. 255. 255. 255. 255
CBC. NCOMB22. 192. 0. 128. 255. 87. 128. 93. 255. 87
CBC. NCOMB23. 0. 157. 192. 0. 157. 192. 255. 87. 128
CBC. NCOMB24. 255. 0. 128. 148. 87. 255. 0. 128. 57
CBC. NCOMB25. 255. 128. 0. 85. 192. 0. 255. 0. 128
CBC. NCOMB26. 255. 255. 87. 255. 160. 255. 160. 192. 255
CBC. NCOMB27. 0. 192. 192. 192. 0. 128. 93. 255. 87
CBC. NCOMB28. 192. 128. 0. 255. 87. 128. 255. 160. 255
CBC. NCOMB29. 85. 192. 0. 192. 128. 0. 210. 210. 210
CBC. NCOMB30. 212. 160. 255. 255. 128. 0. 78. 0. 255
CBC. NCOMB31. 148. 87. 255. 255. 0. 128. 210. 210. 210
CBC. NCOMB32. 163. 255. 160. 85. 192. 0. 0. 128. 128
CBC. NCOMB33. 255. 0. 192. 163. 160. 255. 210. 210. 210
CBC. NCOMB34. 210. 210. 210. 192. 192. 192. 192. 72. 0
CBC. NCOMB35. 160. 192. 255. 0. 128. 128. 78. 0. 255
ST. NCOMB1. 160. 255. 255. 0. 157. 192. 255. 255. 87
ST. NCOMB2. 255. 255. 87. 255. 192. 87. 255. 87. 87
ST. NCOMB3. 255. 255. 255. 0. 192. 192. 0. 157. 192
ST. NCOMB4. 160. 255. 255. 0. 128. 128. 85. 0. 192
ST. NCOMB5. 148. 87. 255. 212. 160. 255. 93. 255. 87
ST. NCOMB6. 160. 192. 255. 212. 160. 255. 163. 255. 160
ST. NCOMB7. 255. 255. 255. 255. 255. 87. 85. 192. 0
ST. NCOMB8. 0. 192. 128. 255. 192. 160. 192. 192. 192
ST. NCOMB9. 255. 192. 87. 255. 192. 160. 0. 128. 255
ST. NCOMB10. 163. 160. 255. 160. 255. 255. 210. 210. 210
ST. NCOMB11. 163. 255. 160. 0. 128. 128. 255. 192. 160
ST. NCOMB12. 255. 87. 87. 0. 157. 192. 255. 0. 192
ST. NCOMB13. 163. 255. 160. 255. 0. 192. 192. 192. 192
ST. NCOMB14. 255. 0. 128. 0. 128. 57. 212. 160. 255
ST. NCOMB15. 255. 160. 255. 128. 192. 0. 192. 0. 192
ST. NCOMB16. 0. 128. 255. 255. 87. 87. 192. 72. 0
ST. NCOMB17. 0. 192. 192. 0. 192. 128. 146. 0. 255
ST. NCOMB18. 128. 192. 0. 255. 255. 87. 93. 255. 87
ST. NCOMB19. 0. 128. 255. 192. 128. 0. 160. 255. 255
ST. NCOMB20. 192. 128. 0. 0. 128. 255. 255. 255. 255
ST. NCOMB21. 0. 192. 128. 0. 128. 255. 255. 87. 128
ST. NCOMB22. 0. 128. 255. 85. 192. 0. 255. 255. 255
ST. NCOMB23. 212. 160. 255. 163. 160. 255. 0. 128. 57
ST. NCOMB24. 210. 210. 210. 78. 0. 255. 255. 160. 255
ST. NCOMB25. 0. 192. 192. 160. 192. 255. 0. 128. 192
ST. NCOMB26. 255. 192. 87. 192. 72. 0. 148. 87. 255
ST. NCOMB27. 128. 192. 0. 160. 192. 255. 192. 0. 128
ST. NCOMB28. 192. 0. 128. 192. 128. 0. 210. 210. 210

```
 ST, NCOMB29, 192, 192, 0, 192, 0, 128, 192, 128, 0
 ST, NCOMB30, 255, 128, 0, 0, 192, 128, 163, 160, 255
 ST, NCOMB31, 128, 192, 0, 0, 192, 128, 163, 255, 160
 ST, NCOMB32, 212, 160, 255, 255, 0, 128, 192, 0, 128
 ST, NCOMB33, 255, 192, 87, 160, 192, 255, 255, 0, 192
 ST, NCOMB34, 160, 192, 255, 255, 255, 87, 192, 192, 192
 ST, NCOMB35, 212, 160, 255, 146, 0, 255, 0, 157, 192

*ANAL-CTRL
; bARDC, bANRC, iITER, TOL, bCSECF, bTRS, bCRBAR, bTPF, bCSO, bSCS, bCLATS
   YES, YES, 20, 0.001, YES, YES, YES, NO, NO, NO, NO


*ENDDATA
        LC1, ST, 1, LC2, ST, 1, LC4, ST, 1, LC6, ST, 0.5, LC9, ST, 1
        LC10, ST, 1, LC11, ST, 1
   NAME=NCOMB29,
        LC1, ST, 1, LC3, ST, 1, LC5, ST, 1, LC6, ST, 1, LC8, ST, 1, LC11, ST, 1
   NAME=NCOMB30,
        LC1, ST, 1, LC3, ST, 1, LC5, ST, 1, LC6, ST, 0.5, LC8, ST, 1
        LC11, ST, 1
   NAME=NCOMB31,
        LC1, ST, 1, LC3, ST, 1, LC5, ST, 1, LC6, ST, 1, LC9, ST, 1, LC10, ST, 1
        LC11, ST, 1
   NAME=NCOMB32,
        LC1, ST, 1, LC3, ST, 1, LC5, ST, 1, LC6, ST, 0.5, LC9, ST, 1
        LC10, ST, 1, LC11, ST, 1
   NAME=NCOMB33,
        LC1, ST, 1, LC6, ST, 1
   NAME=NCOMB34,
        LC1, ST, 1, LC3, ST, 1, LC5, ST, 1, LC7, ST, 1
   NAME=NCOMB35,
        LC1, ST, 1, LC3, ST, 1, LC5, ST, 1, LC7, ST, 0.5

*LC-COLOR    ; Diagram Color for Load Case
; ANAL, LCNAME, iR1(ALL), iG1(ALL), iB1(ALL), iR2(MIN), iG2(MIN), iB2(MIN), iR3(MAX), iG2(MAX), iB2(MAX)
 CB, COMB1, 255, 0, 128, 255, 0, 128, 148, 87, 255
 CB, COMB2, 160, 192, 255, 255, 192, 160, 0, 128, 192
 CB, COMB3, 146, 0, 255, 160, 192, 255, 192, 128, 0
 CB, COMB4, 85, 192, 0, 212, 160, 255, 128, 192, 0
 CB, COMB5, 192, 0, 128, 0, 128, 57, 212, 160, 255
 CB, COMB6, 0, 128, 192, 212, 160, 255, 212, 160, 255
 CB, COMB7, 255, 0, 128, 0, 192, 192, 160, 192, 255
 CB, COMB8, 255, 192, 87, 192, 0, 192, 212, 160, 255
 CB, COMB9, 163, 160, 255, 192, 128, 0, 78, 0, 255
 CB, COMB10, 0, 128, 192, 85, 192, 0, 85, 0, 192
 CB, COMB11, 160, 192, 255, 93, 255, 87, 0, 157, 192
 CB, COMB12, 192, 192, 0, 255, 160, 255, 148, 87, 255
 CB, COMB13, 255, 128, 0, 255, 192, 87, 192, 0, 128
 CB, COMB14, 0, 128, 57, 255, 0, 128, 212, 160, 255
 CB, COMB15, 0, 192, 192, 0, 192, 128, 192, 0, 128
 CB, COMB16, 0, 128, 128, 255, 255, 87, 255, 128, 0
 CB, COMB17, 85, 192, 0, 255, 0, 192, 163, 255, 160
 CB, COMB18, 0, 128, 192, 128, 192, 0, 128, 192, 0
 CB, COMB19, 163, 160, 255, 146, 0, 255, 255, 87, 128
 CB, COMB20, 163, 255, 160, 160, 192, 255, 192, 192, 192
 CB, COMB21, 160, 255, 255, 0, 192, 128, 128, 192, 0
 CB, COMB22, 163, 255, 160, 192, 192, 192, 160, 192, 255
 CB, COMB23, 255, 192, 87, 0, 128, 255, 255, 87, 87
 CB, COMB24, 93, 255, 87, 192, 192, 0, 146, 0, 255
 CB, COMB25, 255, 0, 192, 255, 0, 192, 192, 72, 0
 CB, COMB26, 0, 192, 128, 255, 255, 87, 0, 128, 57
 CB, COMB27, 0, 157, 192, 0, 128, 255, 255, 0, 128
 CB, COMB28, 255, 192, 160, 0, 157, 192, 0, 192, 192
 CB, COMB29, 255, 128, 0, 192, 192, 0, 0, 192, 128
 CB, COMB30, 255, 160, 255, 0, 157, 192, 255, 87, 87
 CB, COMB31, 0, 192, 192, 160, 192, 255, 148, 87, 255
 CB, COMB32, 255, 128, 0, 146, 0, 255, 255, 255, 255
 CB, COMB33, 0, 157, 192, 0, 128, 57, 192, 72, 0
 CB, COMB34, 163, 255, 160, 212, 160, 255, 128, 192, 0
 CB, COMB35, 93, 255, 87, 0, 192, 128, 85, 192, 0
 CB, USD, 192, 192, 192, 160, 192, 255, 255, 128, 0
 CB, WSD, 0, 128, 57, 163, 255, 160, 160, 255, 255
 ST, LC1, 255, 255, 255, 163, 160, 255, 0, 128, 255
 ST, LC2, 255, 192, 160, 255, 0, 128, 0, 192, 192
 ST, LC3, 146, 0, 255, 78, 0, 255, 255, 192, 87
 ST, LC4, 255, 192, 87, 255, 128, 0, 0, 192, 128
 ST, LC5, 192, 192, 0, 0, 157, 192, 163, 160, 255
 ST, LC6, 255, 87, 128, 255, 87, 128, 255, 87, 87
 ST, LC7, 0, 128, 192, 255, 160, 255, 0, 128, 57
 ST, LC8, 255, 255, 87, 255, 0, 128, 192, 0, 192
 ST, LC9, 160, 255, 255, 255, 0, 192, 163, 255, 160
 ST, LC10, 78, 0, 255, 163, 160, 255, 255, 160, 255
 ST, LC11, 128, 192, 0, 255, 87, 128, 192, 192, 0
 CBC, NCOMB1, 160, 255, 255, 255, 255, 87, 0, 192, 128
 CBC, NCOMB2, 255, 255, 87, 0, 128, 255, 0, 128, 192
 CBC, NCOMB3, 0, 128, 57, 163, 160, 255, 255, 255, 87
```

```
 CBC. NCOMB4. 93. 255. 87. 163. 160. 255. 146. 0. 255
 CBC. NCOMB5. 163. 160. 255. 255. 192. 160. 78. 0. 255
 CBC. NCOMB6. 0. 157. 192. 148. 87. 255. 192. 128. 0
 CBC. NCOMB7. 85. 0. 192. 212. 160. 255. 128. 192. 0
 CBC. NCOMB8. 192. 0. 128. 212. 160. 255. 0. 192. 128
 CBC. NCOMB9. 255. 0. 128. 78. 0. 255. 160. 192. 255
 CBC. NCOMB10. 255. 128. 0. 0. 128. 57. 255. 0. 128
 CBC. NCOMB11. 163. 255. 160. 93. 255. 87. 255. 0. 192
 CBC. NCOMB12. 212. 160. 255. 192. 0. 192. 0. 128. 255
 CBC. NCOMB13. 255. 87. 128. 160. 192. 255. 146. 0. 255
 CBC. NCOMB14. 192. 72. 0. 78. 0. 255. 255. 192. 160
 CBC. NCOMB15. 85. 0. 192. 255. 255. 255. 78. 0. 255
 CBC. NCOMB16. 212. 160. 255. 148. 87. 255. 128. 192. 0
 CBC. NCOMB17. 0. 128. 192. 255. 87. 128. 0. 128. 128
 CBC. NCOMB18. 0. 128. 255. 255. 0. 192. 255. 128. 0
 CBC. NCOMB19. 128. 192. 0. 0. 128. 128. 85. 0. 192
 CBC. NCOMB20. 255. 0. 192. 93. 255. 87. 255. 87. 87
 CBC. NCOMB21. 255. 0. 128. 78. 0. 255. 148. 87. 255
 CBC. NCOMB22. 192. 192. 0. 0. 128. 255. 85. 192. 0
 CBC. NCOMB23. 163. 255. 160. 148. 87. 255. 192. 192. 192
 CBC. NCOMB24. 192. 128. 0. 192. 192. 192. 192. 0. 128
 CBC. NCOMB25. 192. 192. 192. 0. 192. 192. 0. 128. 255
 CBC. NCOMB26. 255. 87. 128. 255. 87. 128. 128. 192. 0
 CBC. NCOMB27. 255. 87. 128. 0. 128. 57. 255. 87. 128
 CBC. NCOMB28. 85. 192. 0. 0. 128. 255. 210. 210. 210
 CBC. NCOMB29. 163. 255. 160. 0. 192. 192. 192. 192. 0
 CBC. NCOMB30. 93. 255. 87. 85. 192. 0. 255. 192. 160
 CBC. NCOMB31. 146. 0. 255. 85. 192. 0. 255. 192. 160
 CBC. NCOMB32. 146. 0. 255. 255. 192. 160. 78. 0. 255
 CBC. NCOMB33. 255. 255. 255. 78. 0. 255. 163. 160. 255
 CBC. NCOMB34. 163. 255. 160. 85. 192. 0. 255. 192. 87
 CBC. NCOMB35. 163. 255. 160. 192. 128. 0. 255. 128. 0
 ST. NCOMB1. 192. 192. 192. 160. 255. 255. 255. 192. 160
 ST. NCOMB2. 0. 128. 128. 93. 255. 87. 192. 192. 192
 ST. NCOMB3. 0. 128. 192. 212. 160. 255. 255. 160. 255
 ST. NCOMB4. 255. 0. 192. 0. 128. 57. 255. 255. 255
 ST. NCOMB5. 0. 192. 128. 0. 128. 192. 192. 0. 128
 ST. NCOMB6. 192. 72. 0. 0. 128. 57. 85. 192. 0
 ST. NCOMB7. 210. 210. 210. 192. 128. 0. 255. 0. 128
 ST. NCOMB8. 255. 0. 128. 148. 87. 255. 0. 128. 57
 ST. NCOMB9. 255. 192. 87. 0. 128. 255. 255. 192. 87
 ST. NCOMB10. 192. 192. 192. 255. 160. 255. 128. 192. 0
 ST. NCOMB11. 0. 192. 192. 146. 0. 255. 255. 255. 87
 ST. NCOMB12. 255. 192. 160. 0. 157. 192. 255. 87. 87
 ST. NCOMB13. 128. 192. 0. 85. 192. 0. 0. 192. 192
 ST. NCOMB14. 255. 87. 87. 192. 128. 0. 192. 192. 192
 ST. NCOMB15. 210. 210. 210. 160. 192. 255. 192. 128. 0
 ST. NCOMB16. 78. 0. 255. 255. 128. 0. 78. 0. 255
 ST. NCOMB17. 255. 192. 160. 0. 192. 128. 192. 128. 0
 ST. NCOMB18. 255. 192. 160. 255. 0. 192. 0. 192. 192
 ST. NCOMB19. 255. 87. 128. 163. 255. 160. 255. 87. 87
 ST. NCOMB20. 192. 192. 0. 85. 0. 192. 255. 128. 0
 ST. NCOMB21. 163. 160. 255. 148. 87. 255. 85. 0. 192
 ST. NCOMB22. 255. 192. 160. 146. 0. 255. 255. 87. 87
 ST. NCOMB23. 192. 0. 192. 0. 192. 128. 0. 157. 192
 ST. NCOMB24. 148. 87. 255. 163. 160. 255. 255. 192. 87
 ST. NCOMB25. 212. 160. 255. 148. 87. 255. 255. 87. 87
 ST. NCOMB26. 192. 128. 0. 0. 128. 128. 0. 128. 57
 ST. NCOMB27. 192. 0. 192. 0. 128. 255. 255. 192. 87
 ST. NCOMB28. 0. 128. 128. 192. 192. 192. 85. 0. 192
 ST. NCOMB29. 255. 192. 160. 0. 157. 192. 163. 255. 160
 ST. NCOMB30. 255. 0. 128. 192. 0. 128. 0. 128. 128
 ST. NCOMB31. 255. 87. 87. 85. 192. 0. 192. 72. 0
 ST. NCOMB32. 160. 255. 255. 0. 157. 192. 192. 192. 192
 ST. NCOMB33. 146. 0. 255. 255. 192. 87. 192. 72. 0
 ST. NCOMB34. 255. 192. 87. 255. 128. 0. 255. 0. 192
 ST. NCOMB35. 85. 192. 0. 210. 210. 210. 192. 192. 0

*ANAL-CTRL
; bARDC. bANRC. iITER. TOL. bCSECF. bTRS. bCRBAR. bTPF. bCSO. bSCS. bCLATS
   YES. YES. 20. 0.001. YES. YES. YES. NO. NO. NO. NO


*ENDDATA
```

8.OUPUT

FRAME ELEMENT FORCES

Elem	Load	Part	Axial (kN)	Shear-y (kN)	Shear-z (kN)	Torsion (kN · m)	Moment-y (kN · m)	Moment-z (kN · m)
1	USD(max)	I[1]	52.580	0.000	-213.030	0.00E+00	-108.450	0.000
1	USD(max)	1/4	52.580	0.000	-216.860	0.00E+00	-67.790	0.000
1	USD(max)	2/4	52.580	0.000	-220.680	0.00E+00	-26.440	0.000
1	USD(max)	3/4	52.580	0.000	-224.510	0.00E+00	20.240	0.000
1	USD(max)	J[2]	52.580	0.000	-228.340	0.00E+00	70.360	0.000
1	USD(min)	I[1]	-228.140	0.000	-278.710	0.00E+00	-282.260	0.000
1	USD(min)	1/4	-228.140	0.000	-283.250	0.00E+00	-235.950	0.000
1	USD(min)	2/4	-228.140	0.000	-287.790	0.00E+00	-188.960	0.000
1	USD(min)	3/4	-228.140	0.000	-292.330	0.00E+00	-141.280	0.000
1	USD(min)	J[2]	-228.140	0.000	-296.870	0.00E+00	-92.930	0.000
1	WSD(max)	I[1]	30.690	0.000	-121.880	0.00E+00	-82.720	0.000
1	WSD(max)	1/4	30.690	0.000	-124.720	0.00E+00	-52.880	0.000
1	WSD(max)	2/4	30.690	0.000	-127.550	0.00E+00	-22.530	0.000
1	WSD(max)	3/4	30.690	0.000	-130.390	0.00E+00	8.330	0.000
1	WSD(max)	J[2]	30.690	0.000	-133.230	0.00E+00	39.690	0.000
1	WSD(min)	I[1]	-140.930	0.000	-174.200	0.00E+00	-174.920	0.000
1	WSD(min)	1/4	-140.930	0.000	-177.030	0.00E+00	-143.640	0.000
1	WSD(min)	2/4	-140.930	0.000	-179.870	0.00E+00	-111.860	0.000
1	WSD(min)	3/4	-140.930	0.000	-182.710	0.00E+00	-79.560	0.000
1	WSD(min)	J[2]	-140.930	0.000	-185.540	0.00E+00	-46.770	0.000
2	USD(max)	I[2]	52.580	0.000	-141.700	0.00E+00	70.360	0.000
2	USD(max)	1/4	52.580	0.000	-144.290	0.00E+00	90.600	0.000
2	USD(max)	2/4	52.580	0.000	-146.890	0.00E+00	111.220	0.000
2	USD(max)	3/4	52.580	0.000	-149.490	0.00E+00	132.210	0.000
2	USD(max)	J[3]	52.580	0.000	-152.080	0.00E+00	153.570	0.000
2	USD(min)	I[2]	-228.140	0.000	-226.000	0.00E+00	-92.930	0.000
2	USD(min)	1/4	-228.140	0.000	-229.080	0.00E+00	-66.790	0.000
2	USD(min)	2/4	-228.140	0.000	-232.160	0.00E+00	-40.330	0.000
2	USD(min)	3/4	-228.140	0.000	-235.230	0.00E+00	-13.560	0.000
2	USD(min)	J[3]	-228.140	0.000	-238.310	0.00E+00	13.520	0.000
2	WSD(max)	I[2]	30.690	0.000	-76.610	0.00E+00	39.690	0.000
2	WSD(max)	1/4	30.690	0.000	-78.540	0.00E+00	52.370	0.000
2	WSD(max)	2/4	30.690	0.000	-80.460	0.00E+00	65.280	0.000
2	WSD(max)	3/4	30.690	0.000	-82.380	0.00E+00	78.420	0.000
2	WSD(max)	J[3]	30.690	0.000	-84.310	0.00E+00	91.800	0.000
2	WSD(min)	I[2]	-140.930	0.000	-141.250	0.00E+00	-46.770	0.000
2	WSD(min)	1/4	-140.930	0.000	-143.170	0.00E+00	-29.600	0.000
2	WSD(min)	2/4	-140.930	0.000	-145.100	0.00E+00	-12.190	0.000
2	WSD(min)	3/4	-140.930	0.000	-147.020	0.00E+00	5.450	0.000
2	WSD(min)	J[3]	-140.930	0.000	-148.940	0.00E+00	23.310	0.000
3	USD(max)	I[3]	52.580	0.000	-81.900	0.00E+00	153.570	0.000
3	USD(max)	1/4	52.580	0.000	-84.500	0.00E+00	165.370	0.000
3	USD(max)	2/4	52.580	0.000	-87.100	0.00E+00	177.540	0.000
3	USD(max)	3/4	52.580	0.000	-89.710	0.00E+00	190.090	0.000
3	USD(max)	J[4]	52.580	0.000	-92.310	0.00E+00	203.010	0.000
3	USD(min)	I[3]	-228.140	0.000	-180.870	0.00E+00	13.520	0.000
3	USD(min)	1/4	-228.140	0.000	-183.960	0.00E+00	35.070	0.000
3	USD(min)	2/4	-228.140	0.000	-187.040	0.00E+00	50.810	0.000
3	USD(min)	3/4	-228.140	0.000	-190.120	0.00E+00	63.250	0.000
3	USD(min)	J[4]	-228.140	0.000	-193.200	0.00E+00	76.000	0.000
3	WSD(max)	I[3]	30.690	0.000	-44.050	0.00E+00	91.800	0.000
3	WSD(max)	1/4	30.690	0.000	-45.970	0.00E+00	99.190	0.000
3	WSD(max)	2/4	30.690	0.000	-47.900	0.00E+00	106.820	0.000
3	WSD(max)	3/4	30.690	0.000	-49.830	0.00E+00	114.680	0.000
3	WSD(max)	J[4]	30.690	0.000	-51.760	0.00E+00	122.770	0.000
3	WSD(min)	I[3]	-140.930	0.000	-113.040	0.00E+00	23.310	0.000
3	WSD(min)	1/4	-140.930	0.000	-114.970	0.00E+00	37.110	0.000
3	WSD(min)	2/4	-140.930	0.000	-116.900	0.00E+00	47.440	0.000
3	WSD(min)	3/4	-140.930	0.000	-118.830	0.00E+00	54.000	0.000
3	WSD(min)	J[4]	-140.930	0.000	-120.750	0.00E+00	60.140	0.000
4	USD(max)	I[4]	52.580	0.000	-23.670	0.00E+00	203.010	0.000
4	USD(max)	1/4	52.580	0.000	-26.260	0.00E+00	206.530	0.000
4	USD(max)	2/4	52.580	0.000	-28.860	0.00E+00	210.440	0.000
4	USD(max)	3/4	52.580	0.000	-31.450	0.00E+00	214.710	0.000
4	USD(max)	J[5]	52.580	0.000	-34.050	0.00E+00	219.350	0.000
4	USD(min)	I[4]	-228.140	0.000	-131.790	0.00E+00	76.000	0.000
4	USD(min)	1/4	-228.140	0.000	-134.380	0.00E+00	81.640	0.000
4	USD(min)	2/4	-228.140	0.000	-136.980	0.00E+00	87.600	0.000
4	USD(min)	3/4	-228.140	0.000	-139.580	0.00E+00	93.870	0.000
4	USD(min)	J[5]	-228.140	0.000	-142.170	0.00E+00	100.460	0.000
4	WSD(max)	I[4]	30.690	0.000	-12.060	0.00E+00	122.770	0.000
4	WSD(max)	1/4	30.690	0.000	-13.980	0.00E+00	124.990	0.000
4	WSD(max)	2/4	30.690	0.000	-15.900	0.00E+00	127.430	0.000
4	WSD(max)	3/4	30.690	0.000	-17.830	0.00E+00	130.110	0.000

Elem	Load	Part	Axial (kN)	Shear-y (kN)	Shear-z (kN)	Torsion (kN · m)	Moment-y (kN · m)	Moment-z (kN · m)
4	WSD(max)	J[5]	30.690	0.000	-19.750	0.00E+00	133.020	0.000
4	WSD(min)	I[4]	-140.930	0.000	-80.910	0.00E+00	60.140	0.000
4	WSD(min)	1/4	-140.930	0.000	-82.830	0.00E+00	61.710	0.000
4	WSD(min)	2/4	-140.930	0.000	-84.760	0.00E+00	63.520	0.000
4	WSD(min)	3/4	-140.930	0.000	-86.680	0.00E+00	65.560	0.000
4	WSD(min)	J[5]	-140.930	0.000	-88.600	0.00E+00	67.820	0.000
5	USD(max)	I[5]	52.580	0.000	40.710	0.00E+00	219.350	0.000
5	USD(max)	1/4	52.580	0.000	37.630	0.00E+00	214.710	0.000
5	USD(max)	2/4	52.580	0.000	34.550	0.00E+00	217.140	0.000
5	USD(max)	3/4	52.580	0.000	31.480	0.00E+00	220.800	0.000
5	USD(max)	J[6]	52.580	0.000	28.400	0.00E+00	230.580	0.000
5	USD(min)	I[5]	-228.140	0.000	-79.470	0.00E+00	100.460	0.000
5	USD(min)	1/4	-228.140	0.000	-82.070	0.00E+00	99.900	0.000
5	USD(min)	2/4	-228.140	0.000	-84.660	0.00E+00	99.660	0.000
5	USD(min)	3/4	-228.140	0.000	-87.260	0.00E+00	99.730	0.000
5	USD(min)	J[6]	-228.140	0.000	-89.860	0.00E+00	100.110	0.000
5	WSD(max)	I[5]	30.690	0.000	25.470	0.00E+00	133.020	0.000
5	WSD(max)	1/4	30.690	0.000	23.550	0.00E+00	132.190	0.000
5	WSD(max)	2/4	30.690	0.000	21.630	0.00E+00	134.970	0.000
5	WSD(max)	3/4	30.690	0.000	19.710	0.00E+00	137.990	0.000
5	WSD(max)	J[6]	30.690	0.000	17.780	0.00E+00	144.110	0.000
5	WSD(min)	I[5]	-140.930	0.000	-44.350	0.00E+00	67.820	0.000
5	WSD(min)	1/4	-140.930	0.000	-46.280	0.00E+00	65.560	0.000
5	WSD(min)	2/4	-140.930	0.000	-48.200	0.00E+00	63.520	0.000
5	WSD(min)	3/4	-140.930	0.000	-50.120	0.00E+00	61.710	0.000
5	WSD(min)	J[6]	-140.930	0.000	-52.050	0.00E+00	60.140	0.000
6	USD(max)	I[6]	52.580	0.000	110.300	0.00E+00	230.580	0.000
6	USD(max)	1/4	52.580	0.000	107.220	0.00E+00	231.290	0.000
6	USD(max)	2/4	52.580	0.000	104.130	0.00E+00	232.370	0.000
6	USD(max)	3/4	52.580	0.000	101.050	0.00E+00	233.820	0.000
6	USD(max)	J[7]	52.580	0.000	97.970	0.00E+00	235.650	0.000
6	USD(min)	I[6]	-228.140	0.000	-18.920	0.00E+00	100.110	0.000
6	USD(min)	1/4	-228.140	0.000	-21.520	0.00E+00	93.200	0.000
6	USD(min)	2/4	-228.140	0.000	-24.120	0.00E+00	86.610	0.000
6	USD(min)	3/4	-228.140	0.000	-26.720	0.00E+00	78.890	0.000
6	USD(min)	J[7]	-228.140	0.000	-29.320	0.00E+00	68.550	0.000
6	WSD(max)	I[6]	30.690	0.000	69.030	0.00E+00	144.110	0.000
6	WSD(max)	1/4	30.690	0.000	67.100	0.00E+00	144.550	0.000
6	WSD(max)	2/4	30.690	0.000	65.180	0.00E+00	145.230	0.000
6	WSD(max)	3/4	30.690	0.000	63.250	0.00E+00	146.140	0.000
6	WSD(max)	J[7]	30.690	0.000	61.320	0.00E+00	147.280	0.000
6	WSD(min)	I[6]	-140.930	0.000	-2.690	0.00E+00	60.140	0.000
6	WSD(min)	1/4	-140.930	0.000	-4.620	0.00E+00	54.000	0.000
6	WSD(min)	2/4	-140.930	0.000	-6.550	0.00E+00	48.080	0.000
6	WSD(min)	3/4	-140.930	0.000	-8.470	0.00E+00	42.400	0.000
6	WSD(min)	J[7]	-140.930	0.000	-10.400	0.00E+00	36.960	0.000
7	USD(max)	I[7]	52.580	0.000	181.250	0.00E+00	235.650	0.000
7	USD(max)	1/4	52.580	0.000	178.170	0.00E+00	227.160	0.000
7	USD(max)	2/4	52.580	0.000	175.100	0.00E+00	219.040	0.000
7	USD(max)	3/4	52.580	0.000	172.020	0.00E+00	211.290	0.000
7	USD(max)	J[8]	52.580	0.000	168.940	0.00E+00	203.920	0.000
7	USD(min)	I[7]	-228.140	0.000	51.090	0.00E+00	68.550	0.000
7	USD(min)	1/4	-228.140	0.000	48.490	0.00E+00	49.960	0.000
7	USD(min)	2/4	-228.140	0.000	45.900	0.00E+00	31.680	0.000
7	USD(min)	3/4	-228.140	0.000	43.300	0.00E+00	13.710	0.000
7	USD(min)	J[8]	-228.140	0.000	40.710	0.00E+00	-3.940	0.000
7	WSD(max)	I[7]	30.690	0.000	113.410	0.00E+00	147.280	0.000
7	WSD(max)	1/4	30.690	0.000	111.490	0.00E+00	141.970	0.000
7	WSD(max)	2/4	30.690	0.000	109.570	0.00E+00	136.900	0.000
7	WSD(max)	3/4	30.690	0.000	107.650	0.00E+00	132.060	0.000
7	WSD(max)	J[8]	30.690	0.000	105.720	0.00E+00	127.450	0.000
7	WSD(min)	I[7]	-140.930	0.000	44.910	0.00E+00	36.960	0.000
7	WSD(min)	1/4	-140.930	0.000	42.980	0.00E+00	26.890	0.000
7	WSD(min)	2/4	-140.930	0.000	41.060	0.00E+00	17.060	0.000
7	WSD(min)	3/4	-140.930	0.000	39.140	0.00E+00	7.460	0.000
7	WSD(min)	J[8]	-140.930	0.000	37.220	0.00E+00	-1.900	0.000
8	USD(max)	I[8]	52.580	0.000	286.550	0.00E+00	203.920	0.000
8	USD(max)	1/4	52.580	0.000	282.010	0.00E+00	169.300	0.000
8	USD(max)	2/4	52.580	0.000	277.470	0.00E+00	140.250	0.000
8	USD(max)	3/4	52.580	0.000	272.930	0.00E+00	112.320	0.000
8	USD(max)	J[9]	52.580	0.000	268.400	0.00E+00	85.060	0.000
8	USD(min)	I[8]	-228.140	0.000	166.420	0.00E+00	-3.940	0.000
8	USD(min)	1/4	-228.140	0.000	162.590	0.00E+00	-47.230	0.000
8	USD(min)	2/4	-228.140	0.000	158.760	0.00E+00	-89.850	0.000
8	USD(min)	3/4	-228.140	0.000	154.930	0.00E+00	-134.300	0.000
8	USD(min)	J[9]	-228.140	0.000	151.100	0.00E+00	-182.510	0.000
8	WSD(max)	I[8]	30.690	0.000	179.230	0.00E+00	127.450	0.000
8	WSD(max)	1/4	30.690	0.000	176.400	0.00E+00	105.810	0.000
8	WSD(max)	2/4	30.690	0.000	173.560	0.00E+00	84.680	0.000
8	WSD(max)	3/4	30.690	0.000	170.720	0.00E+00	64.060	0.000

Elem	Load	Part	Axial (kN)	Shear-y (kN)	Shear-z (kN)	Torsion (kN · m)	Moment-y (kN · m)	Moment-z (kN · m)
8	WSD(max)	J[9]	30.690	0.000	167.890	0.00E+00	43.940	0.000
8	WSD(min)	I[8]	-140.930	0.000	122.880	0.00E+00	-1.900	0.000
8	WSD(min)	1/4	-140.930	0.000	120.040	0.00E+00	-25.380	0.000
8	WSD(min)	2/4	-140.930	0.000	117.210	0.00E+00	-55.960	0.000
8	WSD(min)	3/4	-140.930	0.000	114.370	0.00E+00	-86.620	0.000
8	WSD(min)	J[9]	-140.930	0.000	111.530	0.00E+00	-116.780	0.000
9	USD(max)	I[1]	-298.540	0.000	-91.150	0.00E+00	-122.700	0.000
9	USD(max)	1/4	-294.450	0.000	-83.610	0.00E+00	-108.500	0.000
9	USD(max)	2/4	-290.360	0.000	-76.200	0.00E+00	-95.520	0.000
9	USD(max)	3/4	-286.260	0.000	-68.930	0.00E+00	-75.500	0.000
9	USD(max)	J[10]	-282.170	0.000	-61.800	0.00E+00	-52.450	0.000
9	USD(min)	I[1]	-397.750	0.000	-231.020	0.00E+00	-280.820	0.000
9	USD(min)	1/4	-392.900	0.000	-213.490	0.00E+00	-248.660	0.000
9	USD(min)	2/4	-388.050	0.000	-196.310	0.00E+00	-218.690	0.000
9	USD(min)	3/4	-383.200	0.000	-179.500	0.00E+00	-190.850	0.000
9	USD(min)	J[10]	-378.350	0.000	-163.040	0.00E+00	-165.070	0.000
9	WSD(max)	I[1]	-183.020	0.000	-72.880	0.00E+00	-89.180	0.000
9	WSD(max)	1/4	-179.990	0.000	-66.820	0.00E+00	-72.020	0.000
9	WSD(max)	2/4	-176.960	0.000	-60.880	0.00E+00	-56.360	0.000
9	WSD(max)	3/4	-173.930	0.000	-55.050	0.00E+00	-42.170	0.000
9	WSD(max)	J[10]	-170.900	0.000	-49.330	0.00E+00	-29.410	0.000
9	WSD(min)	I[1]	-248.600	0.000	-141.090	0.00E+00	-175.510	0.000
9	WSD(min)	1/4	-245.560	0.000	-130.350	0.00E+00	-155.410	0.000
9	WSD(min)	2/4	-242.530	0.000	-119.820	0.00E+00	-136.680	0.000
9	WSD(min)	3/4	-239.500	0.000	-109.530	0.00E+00	-119.280	0.000
9	WSD(min)	J[10]	-236.470	0.000	-99.460	0.00E+00	-103.170	0.000
10	USD(max)	I[9]	-281.660	0.000	52.580	0.00E+00	55.280	0.000
10	USD(max)	1/4	-277.560	0.000	52.580	0.00E+00	46.740	0.000
10	USD(max)	2/4	-273.470	0.000	52.580	0.00E+00	38.200	0.000
10	USD(max)	3/4	-269.380	0.000	52.580	0.00E+00	29.650	0.000
10	USD(max)	J[11]	-265.290	0.000	52.580	0.00E+00	21.110	0.000
10	USD(min)	I[9]	-397.750	0.000	-208.850	0.00E+00	-181.670	0.000
10	USD(min)	1/4	-392.900	0.000	-191.320	0.00E+00	-149.770	0.000
10	USD(min)	2/4	-388.050	0.000	-174.140	0.00E+00	-120.640	0.000
10	USD(min)	3/4	-383.200	0.000	-157.330	0.00E+00	-102.430	0.000
10	USD(min)	J[11]	-378.350	0.000	-140.870	0.00E+00	-91.080	0.000
10	WSD(max)	I[9]	-183.020	0.000	30.690	0.00E+00	23.380	0.000
10	WSD(max)	1/4	-179.990	0.000	30.690	0.00E+00	18.400	0.000
10	WSD(max)	2/4	-176.960	0.000	30.690	0.00E+00	13.410	0.000
10	WSD(max)	3/4	-173.930	0.000	30.690	0.00E+00	8.420	0.000
10	WSD(max)	J[11]	-170.900	0.000	30.690	0.00E+00	3.430	0.000
10	WSD(min)	I[9]	-248.600	0.000	-129.110	0.00E+00	-116.090	0.000
10	WSD(min)	1/4	-245.560	0.000	-118.360	0.00E+00	-95.990	0.000
10	WSD(min)	2/4	-242.530	0.000	-107.840	0.00E+00	-77.610	0.000
10	WSD(min)	3/4	-239.500	0.000	-97.540	0.00E+00	-65.040	0.000
10	WSD(min)	J[11]	-236.470	0.000	-87.470	0.00E+00	-56.220	0.000
11	USD(max)	I[10]	-282.170	0.000	-61.800	0.00E+00	-52.450	0.000
11	USD(max)	1/4	-278.700	0.000	-54.260	0.00E+00	-30.470	0.000
11	USD(max)	2/4	-275.220	0.000	-46.890	0.00E+00	-11.370	0.000
11	USD(max)	3/4	-271.750	0.000	-39.670	0.00E+00	4.920	0.000
11	USD(max)	J[12]	-268.280	0.000	-32.600	0.00E+00	18.490	0.000
11	USD(min)	I[10]	-378.350	0.000	-163.040	0.00E+00	-165.070	0.000
11	USD(min)	1/4	-374.230	0.000	-145.730	0.00E+00	-139.560	0.000
11	USD(min)	2/4	-370.120	0.000	-131.360	0.00E+00	-116.310	0.000
11	USD(min)	3/4	-366.000	0.000	-118.710	0.00E+00	-100.300	0.000
11	USD(min)	J[12]	-361.890	0.000	-106.470	0.00E+00	-89.500	0.000
11	WSD(max)	I[10]	-170.900	0.000	-49.330	0.00E+00	-29.410	0.000
11	WSD(max)	1/4	-168.320	0.000	-43.300	0.00E+00	-17.230	0.000
11	WSD(max)	2/4	-165.750	0.000	-37.400	0.00E+00	-6.630	0.000
11	WSD(max)	3/4	-163.180	0.000	-31.620	0.00E+00	2.450	0.000
11	WSD(max)	J[12]	-160.610	0.000	-25.980	0.00E+00	10.040	0.000
11	WSD(min)	I[10]	-236.470	0.000	-99.460	0.00E+00	-103.170	0.000
11	WSD(min)	1/4	-233.900	0.000	-88.860	0.00E+00	-87.230	0.000
11	WSD(min)	2/4	-231.320	0.000	-79.080	0.00E+00	-72.700	0.000
11	WSD(min)	3/4	-228.750	0.000	-71.410	0.00E+00	-62.060	0.000
11	WSD(min)	J[12]	-226.180	0.000	-63.990	0.00E+00	-54.290	0.000
12	USD(max)	I[11]	-265.290	0.000	52.580	0.00E+00	21.110	0.000
12	USD(max)	1/4	-261.810	0.000	52.580	0.00E+00	11.910	0.000
12	USD(max)	2/4	-258.340	0.000	52.580	0.00E+00	16.950	0.000
12	USD(max)	3/4	-254.870	0.000	52.580	0.00E+00	27.530	0.000
12	USD(max)	J[13]	-251.390	0.000	52.580	0.00E+00	35.740	0.000
12	USD(min)	I[11]	-378.350	0.000	-140.870	0.00E+00	-91.080	0.000
12	USD(min)	1/4	-374.230	0.000	-123.550	0.00E+00	-80.190	0.000
12	USD(min)	2/4	-370.120	0.000	-106.650	0.00E+00	-70.660	0.000
12	USD(min)	3/4	-366.000	0.000	-90.170	0.00E+00	-62.460	0.000
12	USD(min)	J[13]	-361.890	0.000	-74.100	0.00E+00	-55.550	0.000
12	WSD(max)	I[11]	-170.900	0.000	30.690	0.00E+00	3.430	0.000
12	WSD(max)	1/4	-168.320	0.000	30.690	0.00E+00	-1.940	0.000
12	WSD(max)	2/4	-165.750	0.000	30.690	0.00E+00	3.110	0.000
12	WSD(max)	3/4	-163.180	0.000	30.690	0.00E+00	9.930	0.000

Elem	Load	Part	Axial (kN)	Shear-y (kN)	Shear-z (kN)	Torsion (kN · m)	Moment-y (kN · m)	Moment-z (kN · m)
12	WSD(max)	J[13]	-160.610	0.000	30.690	0.00E+00	15.260	0.000
12	WSD(min)	I[11]	-236.470	0.000	-87.470	0.00E+00	-56.220	0.000
12	WSD(min)	1/4	-233.900	0.000	-76.880	0.00E+00	-47.760	0.000
12	WSD(min)	2/4	-231.320	0.000	-66.550	0.00E+00	-40.340	0.000
12	WSD(min)	3/4	-228.750	0.000	-56.470	0.00E+00	-33.940	0.000
12	WSD(min)	J[13]	-226.180	0.000	-46.660	0.00E+00	-31.320	0.000
13	USD(max)	I[12]	-268.280	0.000	-32.600	0.00E+00	18.490	0.000
13	USD(max)	1/4	-264.810	0.000	-25.700	0.00E+00	29.390	0.000
13	USD(max)	2/4	-261.330	0.000	-18.950	0.00E+00	37.770	0.000
13	USD(max)	3/4	-257.860	0.000	-12.350	0.00E+00	46.510	0.000
13	USD(max)	J[14]	-254.390	0.000	-5.910	0.00E+00	52.820	0.000
13	USD(min)	I[12]	-361.890	0.000	-106.470	0.00E+00	-89.500	0.000
13	USD(min)	1/4	-357.770	0.000	-94.660	0.00E+00	-79.720	0.000
13	USD(min)	2/4	-353.650	0.000	-83.260	0.00E+00	-70.940	0.000
13	USD(min)	3/4	-349.540	0.000	-72.280	0.00E+00	-63.120	0.000
13	USD(min)	J[14]	-345.420	0.000	-61.710	0.00E+00	-56.240	0.000
13	WSD(max)	I[12]	-160.610	0.000	-25.980	0.00E+00	10.040	0.000
13	WSD(max)	1/4	-158.030	0.000	-20.470	0.00E+00	16.200	0.000
13	WSD(max)	2/4	-155.460	0.000	-15.090	0.00E+00	20.970	0.000
13	WSD(max)	3/4	-152.890	0.000	-9.840	0.00E+00	24.390	0.000
13	WSD(max)	J[14]	-150.320	0.000	-4.720	0.00E+00	26.510	0.000
13	WSD(min)	I[12]	-226.180	0.000	-63.990	0.00E+00	-54.290	0.000
13	WSD(min)	1/4	-223.610	0.000	-56.830	0.00E+00	-47.280	0.000
13	WSD(min)	2/4	-221.030	0.000	-49.940	0.00E+00	-41.020	0.000
13	WSD(min)	3/4	-218.460	0.000	-43.310	0.00E+00	-35.480	0.000
13	WSD(min)	J[14]	-215.890	0.000	-36.930	0.00E+00	-30.640	0.000
14	USD(max)	I[13]	-251.390	0.000	52.580	0.00E+00	35.740	0.000
14	USD(max)	1/4	-247.920	0.000	52.580	0.00E+00	42.080	0.000
14	USD(max)	2/4	-244.450	0.000	52.580	0.00E+00	46.460	0.000
14	USD(max)	3/4	-240.980	0.000	52.580	0.00E+00	48.690	0.000
14	USD(max)	J[15]	-237.500	0.000	52.580	0.00E+00	48.840	0.000
14	USD(min)	I[13]	-361.890	0.000	-74.100	0.00E+00	-55.550	0.000
14	USD(min)	1/4	-357.770	0.000	-58.460	0.00E+00	-60.380	0.000
14	USD(min)	2/4	-353.650	0.000	-43.220	0.00E+00	-65.330	0.000
14	USD(min)	3/4	-349.540	0.000	-28.920	0.00E+00	-70.290	0.000
14	USD(min)	J[15]	-345.420	0.000	-15.180	0.00E+00	-75.240	0.000
14	WSD(max)	I[13]	-160.610	0.000	30.690	0.00E+00	15.260	0.000
14	WSD(max)	1/4	-158.030	0.000	30.690	0.00E+00	19.150	0.000
14	WSD(max)	2/4	-155.460	0.000	30.690	0.00E+00	21.660	0.000
14	WSD(max)	3/4	-152.890	0.000	30.690	0.00E+00	24.390	0.000
14	WSD(max)	J[15]	-150.320	0.000	30.690	0.00E+00	26.510	0.000
14	WSD(min)	I[13]	-226.180	0.000	-46.660	0.00E+00	-31.320	0.000
14	WSD(min)	1/4	-223.610	0.000	-37.110	0.00E+00	-34.870	0.000
14	WSD(min)	2/4	-221.030	0.000	-27.820	0.00E+00	-38.420	0.000
14	WSD(min)	3/4	-218.460	0.000	-18.790	0.00E+00	-41.970	0.000
14	WSD(min)	J[15]	-215.890	0.000	-10.030	0.00E+00	-45.530	0.000
15	USD(max)	I[14]	-254.390	0.000	-5.910	0.00E+00	52.820	0.000
15	USD(max)	1/4	-250.910	0.000	0.920	0.00E+00	56.750	0.000
15	USD(max)	2/4	-247.440	0.000	13.820	0.00E+00	59.380	0.000
15	USD(max)	3/4	-243.970	0.000	26.670	0.00E+00	59.730	0.000
15	USD(max)	J[16]	-240.500	0.000	39.390	0.00E+00	57.830	0.000
15	USD(min)	I[14]	-345.420	0.000	-61.710	0.00E+00	-56.240	0.000
15	USD(min)	1/4	-341.310	0.000	-51.560	0.00E+00	-50.280	0.000
15	USD(min)	2/4	-337.190	0.000	-41.830	0.00E+00	-45.200	0.000
15	USD(min)	3/4	-333.070	0.000	-32.520	0.00E+00	-41.380	0.000
15	USD(min)	J[16]	-328.960	0.000	-23.630	0.00E+00	-43.900	0.000
15	WSD(max)	I[14]	-150.320	0.000	-4.720	0.00E+00	26.510	0.000
15	WSD(max)	1/4	-147.740	0.000	0.540	0.00E+00	28.260	0.000
15	WSD(max)	2/4	-145.170	0.000	8.790	0.00E+00	29.540	0.000
15	WSD(max)	3/4	-142.600	0.000	16.770	0.00E+00	29.600	0.000
15	WSD(max)	J[16]	-140.030	0.000	24.500	0.00E+00	28.440	0.000
15	WSD(min)	I[14]	-215.890	0.000	-36.930	0.00E+00	-30.640	0.000
15	WSD(min)	1/4	-213.320	0.000	-30.820	0.00E+00	-26.480	0.000
15	WSD(min)	2/4	-210.740	0.000	-24.970	0.00E+00	-22.960	0.000
15	WSD(min)	3/4	-208.170	0.000	-19.380	0.00E+00	-20.080	0.000
15	WSD(min)	J[16]	-205.600	0.000	-14.050	0.00E+00	-19.130	0.000
16	USD(max)	I[15]	-237.500	0.000	52.580	0.00E+00	48.840	0.000
16	USD(max)	1/4	-234.030	0.000	52.580	0.00E+00	47.880	0.000
16	USD(max)	2/4	-230.560	0.000	52.580	0.00E+00	46.590	0.000
16	USD(max)	3/4	-227.080	0.000	52.580	0.00E+00	43.350	0.000
16	USD(max)	J[17]	-223.610	0.000	52.580	0.00E+00	38.170	0.000
16	USD(min)	I[15]	-345.420	0.000	-15.180	0.00E+00	-75.240	0.000
16	USD(min)	1/4	-341.310	0.000	-2.410	0.00E+00	-80.190	0.000
16	USD(min)	2/4	-337.190	0.000	3.710	0.00E+00	-85.150	0.000
16	USD(min)	3/4	-333.070	0.000	9.680	0.00E+00	-90.100	0.000
16	USD(min)	J[17]	-328.960	0.000	15.490	0.00E+00	-97.620	0.000
16	WSD(max)	I[15]	-150.320	0.000	30.690	0.00E+00	26.510	0.000
16	WSD(max)	1/4	-147.740	0.000	30.690	0.00E+00	27.380	0.000
16	WSD(max)	2/4	-145.170	0.000	30.690	0.00E+00	27.040	0.000
16	WSD(max)	3/4	-142.600	0.000	30.690	0.00E+00	25.540	0.000

Elem	Load	Part	Axial (kN)	Shear-y (kN)	Shear-z (kN)	Torsion (kN · m)	Moment-y (kN · m)	Moment-z (kN · m)
16	WSD(max)	J[17]	-140.030	0.000	31.010	0.00E+00	22.910	0.000
16	WSD(min)	I[15]	-215.890	0.000	-10.030	0.00E+00	-45.530	0.000
16	WSD(min)	1/4	-213.320	0.000	-1.790	0.00E+00	-49.080	0.000
16	WSD(min)	2/4	-210.740	0.000	3.060	0.00E+00	-52.630	0.000
16	WSD(min)	3/4	-208.170	0.000	7.790	0.00E+00	-56.180	0.000
16	WSD(min)	J[17]	-205.600	0.000	12.390	0.00E+00	-61.010	0.000
17	USD(max)	I[16]	-240.500	0.000	39.390	0.00E+00	57.830	0.000
17	USD(max)	1/4	-237.020	0.000	51.700	0.00E+00	53.730	0.000
17	USD(max)	2/4	-233.550	0.000	63.590	0.00E+00	47.520	0.000
17	USD(max)	3/4	-230.080	0.000	75.070	0.00E+00	39.260	0.000
17	USD(max)	J[18]	-226.600	0.000	86.120	0.00E+00	29.030	0.000
17	USD(min)	I[16]	-328.960	0.000	-23.630	0.00E+00	-43.900	0.000
17	USD(min)	1/4	-324.840	0.000	-15.150	0.00E+00	-47.480	0.000
17	USD(min)	2/4	-320.730	0.000	-8.580	0.00E+00	-52.080	0.000
17	USD(min)	3/4	-316.610	0.000	-4.010	0.00E+00	-57.690	0.000
17	USD(min)	J[18]	-312.490	0.000	0.070	0.00E+00	-64.270	0.000
17	WSD(max)	I[16]	-140.030	0.000	24.500	0.00E+00	28.440	0.000
17	WSD(max)	1/4	-137.450	0.000	31.960	0.00E+00	25.960	0.000
17	WSD(max)	2/4	-134.880	0.000	39.160	0.00E+00	22.190	0.000
17	WSD(max)	3/4	-132.310	0.000	46.100	0.00E+00	17.180	0.000
17	WSD(max)	J[18]	-129.740	0.000	52.780	0.00E+00	10.980	0.000
17	WSD(min)	I[16]	-205.600	0.000	-14.050	0.00E+00	-19.130	0.000
17	WSD(min)	1/4	-203.030	0.000	-8.980	0.00E+00	-22.050	0.000
17	WSD(min)	2/4	-200.450	0.000	-4.920	0.00E+00	-25.740	0.000
17	WSD(min)	3/4	-197.880	0.000	-1.910	0.00E+00	-30.180	0.000
17	WSD(min)	J[18]	-195.310	0.000	0.970	0.00E+00	-35.340	0.000
18	USD(max)	I[17]	-223.610	0.000	52.580	0.00E+00	38.170	0.000
18	USD(max)	1/4	-220.140	0.000	61.030	0.00E+00	30.920	0.000
18	USD(max)	2/4	-216.670	0.000	70.200	0.00E+00	21.670	0.000
18	USD(max)	3/4	-213.190	0.000	78.950	0.00E+00	10.490	0.000
18	USD(max)	J[19]	-209.720	0.000	87.280	0.00E+00	-2.550	0.000
18	USD(min)	I[17]	-328.960	0.000	15.490	0.00E+00	-97.620	0.000
18	USD(min)	1/4	-324.840	0.000	21.140	0.00E+00	-106.210	0.000
18	USD(min)	2/4	-320.730	0.000	26.640	0.00E+00	-114.810	0.000
18	USD(min)	3/4	-316.610	0.000	28.300	0.00E+00	-123.400	0.000
18	USD(min)	J[19]	-312.490	0.000	28.300	0.00E+00	-131.990	0.000
18	WSD(max)	I[17]	-140.030	0.000	31.010	0.00E+00	22.910	0.000
18	WSD(max)	1/4	-137.450	0.000	37.000	0.00E+00	19.220	0.000
18	WSD(max)	2/4	-134.880	0.000	42.730	0.00E+00	14.510	0.000
18	WSD(max)	3/4	-132.310	0.000	48.200	0.00E+00	8.810	0.000
18	WSD(max)	J[19]	-129.740	0.000	53.410	0.00E+00	2.180	0.000
18	WSD(min)	I[17]	-205.600	0.000	12.390	0.00E+00	-61.010	0.000
18	WSD(min)	1/4	-203.030	0.000	16.860	0.00E+00	-66.380	0.000
18	WSD(min)	2/4	-200.450	0.000	20.290	0.00E+00	-71.750	0.000
18	WSD(min)	3/4	-197.880	0.000	20.290	0.00E+00	-77.130	0.000
18	WSD(min)	J[19]	-195.310	0.000	20.290	0.00E+00	-82.500	0.000
19	USD(max)	I[18]	-226.600	0.000	86.120	0.00E+00	29.030	0.000
19	USD(max)	1/4	-223.130	0.000	96.760	0.00E+00	23.950	0.000
19	USD(max)	2/4	-219.660	0.000	106.980	0.00E+00	20.830	0.000
19	USD(max)	3/4	-216.190	0.000	116.790	0.00E+00	16.630	0.000
19	USD(max)	J[20]	-212.710	0.000	126.170	0.00E+00	11.430	0.000
19	USD(min)	I[18]	-312.490	0.000	0.070	0.00E+00	-64.270	0.000
19	USD(min)	1/4	-308.380	0.000	3.960	0.00E+00	-71.790	0.000
19	USD(min)	2/4	-304.260	0.000	7.690	0.00E+00	-80.230	0.000
19	USD(min)	3/4	-300.150	0.000	11.260	0.00E+00	-89.560	0.000
19	USD(min)	J[20]	-296.030	0.000	14.680	0.00E+00	-99.750	0.000
19	WSD(max)	I[18]	-129.740	0.000	52.780	0.00E+00	10.980	0.000
19	WSD(max)	1/4	-127.160	0.000	59.200	0.00E+00	6.860	0.000
19	WSD(max)	2/4	-124.590	0.000	65.360	0.00E+00	5.010	0.000
19	WSD(max)	3/4	-122.020	0.000	71.260	0.00E+00	2.520	0.000
19	WSD(max)	J[20]	-119.450	0.000	76.890	0.00E+00	-0.560	0.000
19	WSD(min)	I[18]	-195.310	0.000	0.970	0.00E+00	-35.340	0.000
19	WSD(min)	1/4	-192.740	0.000	3.720	0.00E+00	-41.210	0.000
19	WSD(min)	2/4	-190.160	0.000	6.330	0.00E+00	-47.760	0.000
19	WSD(min)	3/4	-187.590	0.000	8.820	0.00E+00	-54.960	0.000
19	WSD(min)	J[20]	-185.020	0.000	11.180	0.00E+00	-62.790	0.000
20	USD(max)	I[19]	-209.720	0.000	87.280	0.00E+00	-2.550	0.000
20	USD(max)	1/4	-206.250	0.000	96.760	0.00E+00	-17.370	0.000
20	USD(max)	2/4	-202.770	0.000	106.980	0.00E+00	-33.900	0.000
20	USD(max)	3/4	-199.300	0.000	116.790	0.00E+00	-52.070	0.000
20	USD(max)	J[21]	-195.830	0.000	126.170	0.00E+00	-71.790	0.000
20	USD(min)	I[19]	-312.490	0.000	28.300	0.00E+00	-131.990	0.000
20	USD(min)	1/4	-308.380	0.000	28.300	0.00E+00	-140.590	0.000
20	USD(min)	2/4	-304.260	0.000	28.300	0.00E+00	-149.180	0.000
20	USD(min)	3/4	-300.150	0.000	28.300	0.00E+00	-157.770	0.000
20	USD(min)	J[21]	-296.030	0.000	28.300	0.00E+00	-166.370	0.000
20	WSD(max)	I[19]	-129.740	0.000	53.410	0.00E+00	2.180	0.000
20	WSD(max)	1/4	-127.160	0.000	59.200	0.00E+00	-5.340	0.000
20	WSD(max)	2/4	-124.590	0.000	65.360	0.00E+00	-13.710	0.000
20	WSD(max)	3/4	-122.020	0.000	71.260	0.00E+00	-22.870	0.000

Elem	Load	Part	Axial (kN)	Shear-y (kN)	Shear-z (kN)	Torsion (kN · m)	Moment-y (kN · m)	Moment-z (kN · m)
20	WSD(max)	J[21]	-119.450	0.000	76.890	0.00E+00	-32.780	0.000
20	WSD(min)	I[19]	-195.310	0.000	20.290	0.00E+00	-82.500	0.000
20	WSD(min)	1/4	-192.740	0.000	20.290	0.00E+00	-87.870	0.000
20	WSD(min)	2/4	-190.160	0.000	20.290	0.00E+00	-93.240	0.000
20	WSD(min)	3/4	-187.590	0.000	20.290	0.00E+00	-98.610	0.000
20	WSD(min)	J[21]	-185.020	0.000	20.290	0.00E+00	-103.980	0.000
21	USD(max)	I[20]	-212.710	0.000	126.170	0.00E+00	11.430	0.000
21	USD(max)	1/4	-208.740	0.000	132.620	0.00E+00	7.130	0.000
21	USD(max)	2/4	-204.770	0.000	138.860	0.00E+00	2.380	0.000
21	USD(max)	3/4	-200.810	0.000	144.880	0.00E+00	-2.790	0.000
21	USD(max)	J[22]	-196.840	0.000	150.690	0.00E+00	-8.360	0.000
21	USD(min)	I[20]	-296.030	0.000	14.680	0.00E+00	-99.750	0.000
21	USD(min)	1/4	-291.330	0.000	17.020	0.00E+00	-107.550	0.000
21	USD(min)	2/4	-286.620	0.000	19.290	0.00E+00	-121.400	0.000
21	USD(min)	3/4	-281.920	0.000	21.470	0.00E+00	-138.450	0.000
21	USD(min)	J[22]	-277.210	0.000	23.580	0.00E+00	-156.210	0.000
21	WSD(max)	I[20]	-119.450	0.000	76.890	0.00E+00	-0.560	0.000
21	WSD(max)	1/4	-116.510	0.000	80.760	0.00E+00	-3.090	0.000
21	WSD(max)	2/4	-113.570	0.000	84.490	0.00E+00	-5.890	0.000
21	WSD(max)	3/4	-110.630	0.000	88.090	0.00E+00	-8.930	0.000
21	WSD(max)	J[22]	-107.690	0.000	91.560	0.00E+00	-12.200	0.000
21	WSD(min)	I[20]	-185.020	0.000	11.180	0.00E+00	-62.790	0.000
21	WSD(min)	1/4	-182.080	0.000	12.780	0.00E+00	-68.760	0.000
21	WSD(min)	2/4	-179.140	0.000	14.320	0.00E+00	-77.860	0.000
21	WSD(min)	3/4	-176.200	0.000	15.790	0.00E+00	-88.640	0.000
21	WSD(min)	J[22]	-173.260	0.000	17.190	0.00E+00	-99.870	0.000
22	USD(max)	I[21]	-195.830	0.000	126.170	0.00E+00	-71.790	0.000
22	USD(max)	1/4	-191.860	0.000	132.620	0.00E+00	-86.800	0.000
22	USD(max)	2/4	-187.890	0.000	138.860	0.00E+00	-96.910	0.000
22	USD(max)	3/4	-183.920	0.000	144.880	0.00E+00	-104.920	0.000
22	USD(max)	J[30]	-179.950	0.000	150.690	0.00E+00	-113.300	0.000
22	USD(min)	I[21]	-296.030	0.000	28.300	0.00E+00	-166.370	0.000
22	USD(min)	1/4	-291.330	0.000	28.300	0.00E+00	-172.500	0.000
22	USD(min)	2/4	-286.620	0.000	28.300	0.00E+00	-178.640	0.000
22	USD(min)	3/4	-281.920	0.000	28.300	0.00E+00	-184.780	0.000
22	USD(min)	J[30]	-277.210	0.000	28.300	0.00E+00	-190.920	0.000
22	WSD(max)	I[21]	-119.450	0.000	76.890	0.00E+00	-32.780	0.000
22	WSD(max)	1/4	-116.510	0.000	80.760	0.00E+00	-40.300	0.000
22	WSD(max)	2/4	-113.570	0.000	84.490	0.00E+00	-48.160	0.000
22	WSD(max)	3/4	-110.630	0.000	88.090	0.00E+00	-56.340	0.000
22	WSD(max)	J[30]	-107.690	0.000	91.560	0.00E+00	-64.840	0.000
22	WSD(min)	I[21]	-185.020	0.000	20.290	0.00E+00	-103.980	0.000
22	WSD(min)	1/4	-182.080	0.000	20.290	0.00E+00	-107.810	0.000
22	WSD(min)	2/4	-179.140	0.000	20.290	0.00E+00	-111.650	0.000
22	WSD(min)	3/4	-176.200	0.000	20.290	0.00E+00	-115.490	0.000
22	WSD(min)	J[30]	-173.260	0.000	20.290	0.00E+00	-119.320	0.000
23	USD(max)	I[22]	-28.300	0.000	-162.050	0.00E+00	30.640	0.000
23	USD(max)	1/4	-28.300	0.000	-147.560	0.00E+00	49.990	0.000
23	USD(max)	2/4	-28.300	0.000	-133.060	0.00E+00	67.530	0.000
23	USD(max)	3/4	-28.300	0.000	-118.570	0.00E+00	83.280	0.000
23	USD(max)	J[23]	-28.300	0.000	-104.080	0.00E+00	98.870	0.000
23	USD(min)	I[22]	-163.770	0.000	-241.060	0.00E+00	-126.320	0.000
23	USD(min)	1/4	-163.770	0.000	-225.990	0.00E+00	-98.230	0.000
23	USD(min)	2/4	-163.770	0.000	-210.920	0.00E+00	-71.960	0.000
23	USD(min)	3/4	-163.770	0.000	-195.860	0.00E+00	-50.130	0.000
23	USD(min)	J[23]	-163.770	0.000	-180.790	0.00E+00	-29.990	0.000
23	WSD(max)	I[22]	-20.290	0.000	-93.640	0.00E+00	15.780	0.000
23	WSD(max)	1/4	-20.290	0.000	-87.790	0.00E+00	29.050	0.000
23	WSD(max)	2/4	-20.290	0.000	-81.940	0.00E+00	41.140	0.000
23	WSD(max)	3/4	-20.290	0.000	-76.080	0.00E+00	52.050	0.000
23	WSD(max)	J[23]	-20.290	0.000	-70.230	0.00E+00	61.790	0.000
23	WSD(min)	I[22]	-99.340	0.000	-150.660	0.00E+00	-79.940	0.000
23	WSD(min)	1/4	-99.340	0.000	-141.240	0.00E+00	-61.690	0.000
23	WSD(min)	2/4	-99.340	0.000	-131.830	0.00E+00	-44.630	0.000
23	WSD(min)	3/4	-99.340	0.000	-122.410	0.00E+00	-28.740	0.000
23	WSD(min)	J[23]	-99.340	0.000	-113.000	0.00E+00	-15.230	0.000
24	USD(max)	I[23]	-28.300	0.000	-104.080	0.00E+00	98.870	0.000
24	USD(max)	1/4	-28.300	0.000	-89.580	0.00E+00	112.560	0.000
24	USD(max)	2/4	-28.300	0.000	-75.090	0.00E+00	124.380	0.000
24	USD(max)	3/4	-28.300	0.000	-60.590	0.00E+00	134.310	0.000
24	USD(max)	J[24]	-28.300	0.000	-46.100	0.00E+00	142.360	0.000
24	USD(min)	I[23]	-163.770	0.000	-180.790	0.00E+00	-29.990	0.000
24	USD(min)	1/4	-163.770	0.000	-165.730	0.00E+00	-11.460	0.000
24	USD(min)	2/4	-163.770	0.000	-150.660	0.00E+00	5.460	0.000
24	USD(min)	3/4	-163.770	0.000	-135.590	0.00E+00	20.760	0.000
24	USD(min)	J[24]	-163.770	0.000	-120.530	0.00E+00	34.460	0.000
24	WSD(max)	I[23]	-20.290	0.000	-70.230	0.00E+00	61.790	0.000
24	WSD(max)	1/4	-20.290	0.000	-63.780	0.00E+00	70.350	0.000
24	WSD(max)	2/4	-20.290	0.000	-54.370	0.00E+00	77.740	0.000
24	WSD(max)	3/4	-20.290	0.000	-44.950	0.00E+00	83.940	0.000

Elem	Load	Part	Axial (kN)	Shear-y (kN)	Shear-z (kN)	Torsion (kN · m)	Moment-y (kN · m)	Moment-z (kN · m)
24	WSD(max)	J[24]	-20.290	0.000	-35.530	0.00E+00	88.970	0.000
24	WSD(min)	I[23]	-99.340	0.000	-113.000	0.00E+00	-15.230	0.000
24	WSD(min)	1/4	-99.340	0.000	-103.580	0.00E+00	-6.820	0.000
24	WSD(min)	2/4	-99.340	0.000	-94.160	0.00E+00	0.860	0.000
24	WSD(min)	3/4	-99.340	0.000	-84.750	0.00E+00	7.810	0.000
24	WSD(min)	J[24]	-99.340	0.000	-75.330	0.00E+00	14.030	0.000
25	USD(max)	I[24]	-28.300	0.000	-46.100	0.00E+00	142.360	0.000
25	USD(max)	1/4	-28.300	0.000	-31.610	0.00E+00	148.910	0.000
25	USD(max)	2/4	-28.300	0.000	-17.110	0.00E+00	155.080	0.000
25	USD(max)	3/4	-28.300	0.000	-2.620	0.00E+00	159.370	0.000
25	USD(max)	J[25]	-28.300	0.000	11.870	0.00E+00	161.770	0.000
25	USD(min)	I[24]	-163.770	0.000	-120.530	0.00E+00	34.460	0.000
25	USD(min)	1/4	-163.770	0.000	-105.460	0.00E+00	46.540	0.000
25	USD(min)	2/4	-163.770	0.000	-90.400	0.00E+00	57.020	0.000
25	USD(min)	3/4	-163.770	0.000	-75.330	0.00E+00	62.560	0.000
25	USD(min)	J[25]	-163.770	0.000	-60.260	0.00E+00	65.480	0.000
25	WSD(max)	I[24]	-20.290	0.000	-35.530	0.00E+00	88.970	0.000
25	WSD(max)	1/4	-20.290	0.000	-26.120	0.00E+00	93.020	0.000
25	WSD(max)	2/4	-20.290	0.000	-16.700	0.00E+00	96.640	0.000
25	WSD(max)	3/4	-20.290	0.000	-7.280	0.00E+00	99.080	0.000
25	WSD(max)	J[25]	-20.290	0.000	2.130	0.00E+00	100.350	0.000
25	WSD(min)	I[24]	-99.340	0.000	-75.330	0.00E+00	14.030	0.000
25	WSD(min)	1/4	-99.340	0.000	-65.910	0.00E+00	19.520	0.000
25	WSD(min)	2/4	-99.340	0.000	-56.500	0.00E+00	24.270	0.000
25	WSD(min)	3/4	-99.340	0.000	-47.080	0.00E+00	28.300	0.000
25	WSD(min)	J[25]	-99.340	0.000	-37.670	0.00E+00	31.590	0.000
26	USD(max)	I[25]	-28.300	0.000	11.870	0.00E+00	161.770	0.000
26	USD(max)	1/4	-28.300	0.000	26.370	0.00E+00	162.290	0.000
26	USD(max)	2/4	-28.300	0.000	40.860	0.00E+00	160.920	0.000
26	USD(max)	3/4	-28.300	0.000	55.360	0.00E+00	161.270	0.000
26	USD(max)	J[26]	-28.300	0.000	69.850	0.00E+00	162.210	0.000
26	USD(min)	I[25]	-163.770	0.000	-60.260	0.00E+00	65.480	0.000
26	USD(min)	1/4	-163.770	0.000	-45.200	0.00E+00	66.800	0.000
26	USD(min)	2/4	-163.770	0.000	-30.130	0.00E+00	66.510	0.000
26	USD(min)	3/4	-163.770	0.000	-15.070	0.00E+00	64.600	0.000
26	USD(min)	J[26]	-163.770	0.000	0.000	0.00E+00	61.090	0.000
26	WSD(max)	I[25]	-20.290	0.000	2.130	0.00E+00	100.350	0.000
26	WSD(max)	1/4	-20.290	0.000	11.550	0.00E+00	100.440	0.000
26	WSD(max)	2/4	-20.290	0.000	20.960	0.00E+00	99.350	0.000
26	WSD(max)	3/4	-20.290	0.000	30.380	0.00E+00	97.720	0.000
26	WSD(max)	J[26]	-20.290	0.000	39.800	0.00E+00	98.310	0.000
26	WSD(min)	I[25]	-99.340	0.000	-37.670	0.00E+00	31.590	0.000
26	WSD(min)	1/4	-99.340	0.000	-28.250	0.00E+00	34.150	0.000
26	WSD(min)	2/4	-99.340	0.000	-18.830	0.00E+00	35.980	0.000
26	WSD(min)	3/4	-99.340	0.000	-9.420	0.00E+00	37.080	0.000
26	WSD(min)	J[26]	-99.340	0.000	0.000	0.00E+00	37.440	0.000
27	USD(max)	I[26]	-28.300	0.000	69.850	0.00E+00	162.210	0.000
27	USD(max)	1/4	-28.300	0.000	77.750	0.00E+00	161.270	0.000
27	USD(max)	2/4	-28.300	0.000	85.650	0.00E+00	158.450	0.000
27	USD(max)	3/4	-28.300	0.000	93.550	0.00E+00	153.740	0.000
27	USD(max)	J[27]	-28.300	0.000	101.450	0.00E+00	147.150	0.000
27	USD(min)	I[26]	-163.770	0.000	0.000	0.00E+00	61.090	0.000
27	USD(min)	1/4	-163.770	0.000	12.890	0.00E+00	56.270	0.000
27	USD(min)	2/4	-163.770	0.000	25.780	0.00E+00	50.470	0.000
27	USD(min)	3/4	-163.770	0.000	38.670	0.00E+00	43.680	0.000
27	USD(min)	J[27]	-163.770	0.000	51.560	0.00E+00	35.900	0.000
27	WSD(max)	I[26]	-20.290	0.000	39.800	0.00E+00	98.310	0.000
27	WSD(max)	1/4	-20.290	0.000	45.650	0.00E+00	97.720	0.000
27	WSD(max)	2/4	-20.290	0.000	51.500	0.00E+00	95.960	0.000
27	WSD(max)	3/4	-20.290	0.000	57.350	0.00E+00	93.010	0.000
27	WSD(max)	J[27]	-20.290	0.000	63.210	0.00E+00	88.900	0.000
27	WSD(min)	I[26]	-99.340	0.000	0.000	0.00E+00	37.440	0.000
27	WSD(min)	1/4	-99.340	0.000	5.850	0.00E+00	37.080	0.000
27	WSD(min)	2/4	-99.340	0.000	11.700	0.00E+00	35.980	0.000
27	WSD(min)	3/4	-99.340	0.000	17.560	0.00E+00	34.150	0.000
27	WSD(min)	J[27]	-99.340	0.000	23.410	0.00E+00	31.590	0.000
28	USD(max)	I[27]	-28.300	0.000	101.450	0.00E+00	147.150	0.000
28	USD(max)	1/4	-28.300	0.000	110.500	0.00E+00	138.670	0.000
28	USD(max)	2/4	-28.300	0.000	119.860	0.00E+00	128.320	0.000
28	USD(max)	3/4	-28.300	0.000	129.220	0.00E+00	116.070	0.000
28	USD(max)	J[28]	-28.300	0.000	138.590	0.00E+00	101.950	0.000
28	USD(min)	I[27]	-163.770	0.000	51.560	0.00E+00	35.900	0.000
28	USD(min)	1/4	-163.770	0.000	64.450	0.00E+00	27.130	0.000
28	USD(min)	2/4	-163.770	0.000	77.340	0.00E+00	17.380	0.000
28	USD(min)	3/4	-163.770	0.000	89.880	0.00E+00	6.640	0.000
28	USD(min)	J[28]	-163.770	0.000	97.780	0.00E+00	-5.090	0.000
28	WSD(max)	I[27]	-20.290	0.000	63.210	0.00E+00	88.900	0.000
28	WSD(max)	1/4	-20.290	0.000	69.060	0.00E+00	83.600	0.000
28	WSD(max)	2/4	-20.290	0.000	74.910	0.00E+00	77.120	0.000
28	WSD(max)	3/4	-20.290	0.000	80.760	0.00E+00	69.470	0.000

Elem	Load	Part	Axial (kN)	Shear-y (kN)	Shear-z (kN)	Torsion (kN · m)	Moment-y (kN · m)	Moment-z (kN · m)
28	WSD(max)	J[28]	-20.290	0.000	86.620	0.00E+00	60.650	0.000
28	WSD(min)	I[27]	-99.340	0.000	23.410	0.00E+00	31.590	0.000
28	WSD(min)	1/4	-99.340	0.000	29.260	0.00E+00	28.300	0.000
28	WSD(min)	2/4	-99.340	0.000	35.120	0.00E+00	21.220	0.000
28	WSD(min)	3/4	-99.340	0.000	40.970	0.00E+00	13.380	0.000
28	WSD(min)	J[28]	-99.340	0.000	46.820	0.00E+00	4.800	0.000
29	USD(max)	I[28]	-28.300	0.000	138.590	0.00E+00	101.950	0.000
29	USD(max)	1/4	-28.300	0.000	147.950	0.00E+00	85.940	0.000
29	USD(max)	2/4	-28.300	0.000	157.320	0.00E+00	68.050	0.000
29	USD(max)	3/4	-28.300	0.000	166.680	0.00E+00	48.280	0.000
29	USD(max)	J[29]	-28.300	0.000	180.790	0.00E+00	26.620	0.000
29	USD(min)	I[28]	-163.770	0.000	97.780	0.00E+00	-5.090	0.000
29	USD(min)	1/4	-163.770	0.000	105.680	0.00E+00	-18.760	0.000
29	USD(min)	2/4	-163.770	0.000	113.580	0.00E+00	-33.860	0.000
29	USD(min)	3/4	-163.770	0.000	121.490	0.00E+00	-49.940	0.000
29	USD(min)	J[29]	-163.770	0.000	129.390	0.00E+00	-67.010	0.000
29	WSD(max)	I[28]	-20.290	0.000	86.620	0.00E+00	60.650	0.000
29	WSD(max)	1/4	-20.290	0.000	92.470	0.00E+00	50.640	0.000
29	WSD(max)	2/4	-20.290	0.000	98.320	0.00E+00	39.460	0.000
29	WSD(max)	3/4	-20.290	0.000	104.170	0.00E+00	27.100	0.000
29	WSD(max)	J[29]	-20.290	0.000	113.000	0.00E+00	13.570	0.000
29	WSD(min)	I[28]	-99.340	0.000	46.820	0.00E+00	4.800	0.000
29	WSD(min)	1/4	-99.340	0.000	52.670	0.00E+00	-4.500	0.000
29	WSD(min)	2/4	-99.340	0.000	58.530	0.00E+00	-14.540	0.000
29	WSD(min)	3/4	-99.340	0.000	64.380	0.00E+00	-25.310	0.000
29	WSD(min)	J[29]	-99.340	0.000	70.230	0.00E+00	-36.810	0.000
30	USD(max)	I[29]	-28.300	0.000	180.790	0.00E+00	26.620	0.000
30	USD(max)	1/4	-28.300	0.000	195.860	0.00E+00	3.080	0.000
30	USD(max)	2/4	-28.300	0.000	210.920	0.00E+00	-20.020	0.000
30	USD(max)	3/4	-28.300	0.000	225.990	0.00E+00	-43.380	0.000
30	USD(max)	J[30]	-28.300	0.000	241.060	0.00E+00	-68.360	0.000
30	USD(min)	I[29]	-163.770	0.000	129.390	0.00E+00	-67.010	0.000
30	USD(min)	1/4	-163.770	0.000	137.290	0.00E+00	-85.060	0.000
30	USD(min)	2/4	-163.770	0.000	145.190	0.00E+00	-104.110	0.000
30	USD(min)	3/4	-163.770	0.000	153.090	0.00E+00	-124.140	0.000
30	USD(min)	J[30]	-163.770	0.000	160.990	0.00E+00	-145.160	0.000
30	WSD(max)	I[29]	-20.290	0.000	113.000	0.00E+00	13.570	0.000
30	WSD(max)	1/4	-20.290	0.000	122.410	0.00E+00	-1.150	0.000
30	WSD(max)	2/4	-20.290	0.000	131.830	0.00E+00	-17.040	0.000
30	WSD(max)	3/4	-20.290	0.000	141.240	0.00E+00	-34.100	0.000
30	WSD(max)	J[30]	-20.290	0.000	150.660	0.00E+00	-52.350	0.000
30	WSD(min)	I[29]	-99.340	0.000	70.230	0.00E+00	-36.810	0.000
30	WSD(min)	1/4	-99.340	0.000	76.080	0.00E+00	-49.040	0.000
30	WSD(min)	2/4	-99.340	0.000	81.930	0.00E+00	-62.000	0.000
30	WSD(min)	3/4	-99.340	0.000	87.790	0.00E+00	-75.700	0.000
30	WSD(min)	J[30]	-99.340	0.000	93.640	0.00E+00	-90.120	0.000

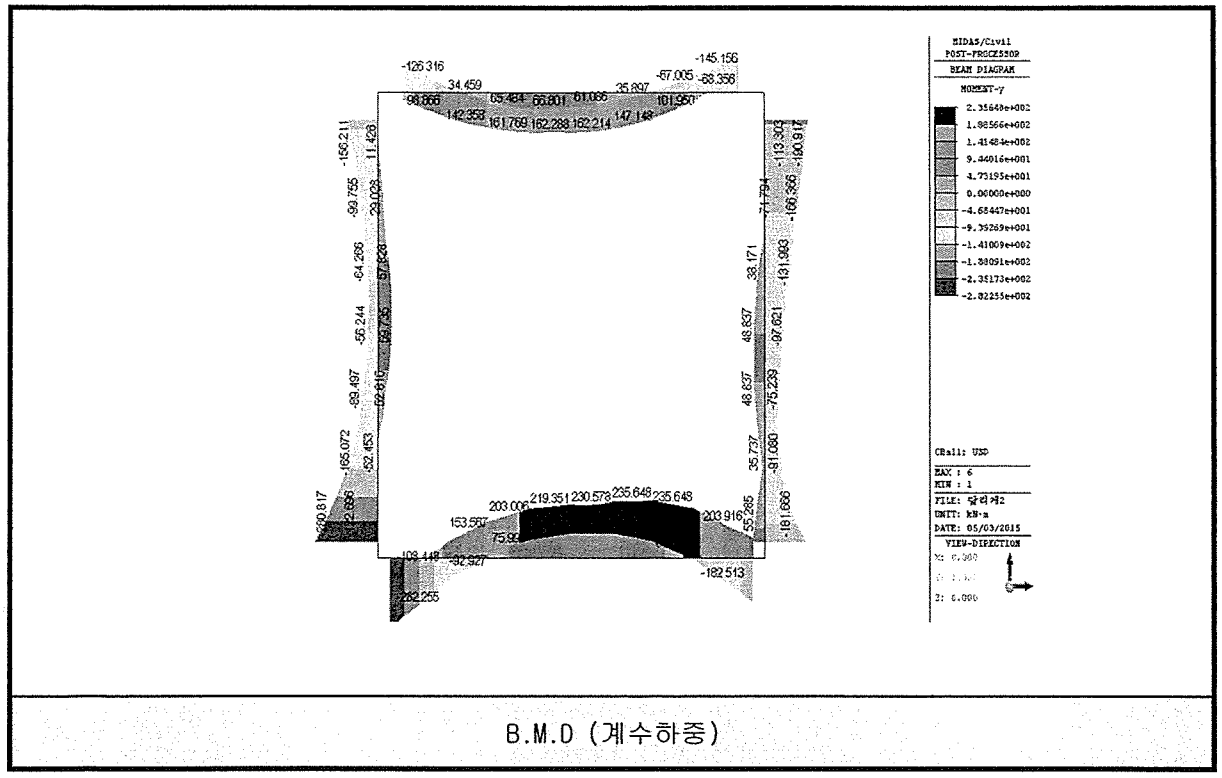
9. 단면력 요약

구분	위치	부재	극한하중			사용하중	비고
			Mu(kN · m)	Su(kN)	Pu(kN)	M(kN · m)	
상부슬래브	단부	23,30	-145.16	241.06	-	-90.12	
	중앙부	26,27	162.29	101.45	-	100.44	
벽체	상단부 (축력최대)	21.22	-89.51	150.69	-296.03	-0.56	
	상단부 (모멘트최대)	21,22	-190.92	150.69	-235.97	-119.32	
	중앙부 (축력최대)	15,16	33.35	52.58	-345.42	29.60	
	중앙부 (모멘트최대)	15,16	-97.62	-61.71	-287.72	-61.01	
	하단부 (축력최대)	9,10	-181.67	-231.02	-397.75	23.38	
	하단부 (모멘트최대)	9,10	-280.82	-231.02	-334.08	-175.51	
하부슬래브	단부	1.8	-282.26	296.87	-	-174.92	
	중앙부	4,5	230.58	142.17	-	144.11	

-'전단력과 사용하중 상태에서의 모멘트는 선택 부재에서의 최대값 적용

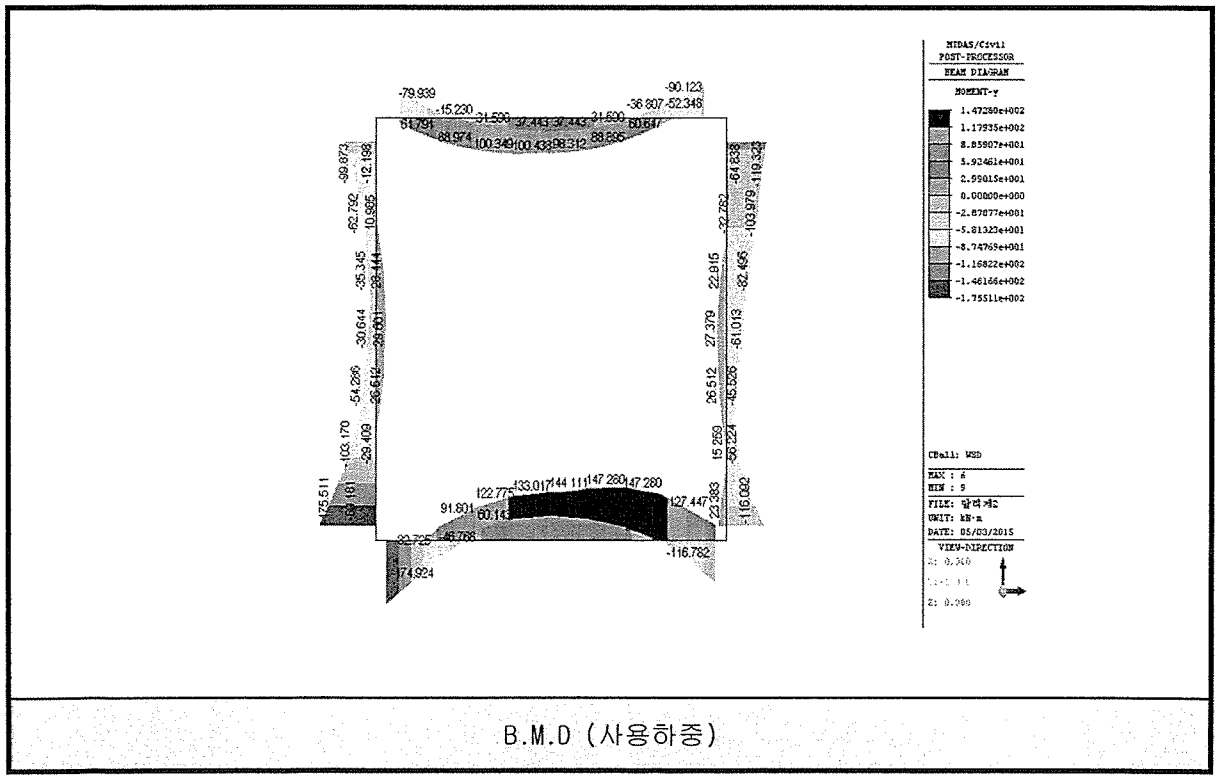
10. 단면력도

(1) 극한하중 모멘트도



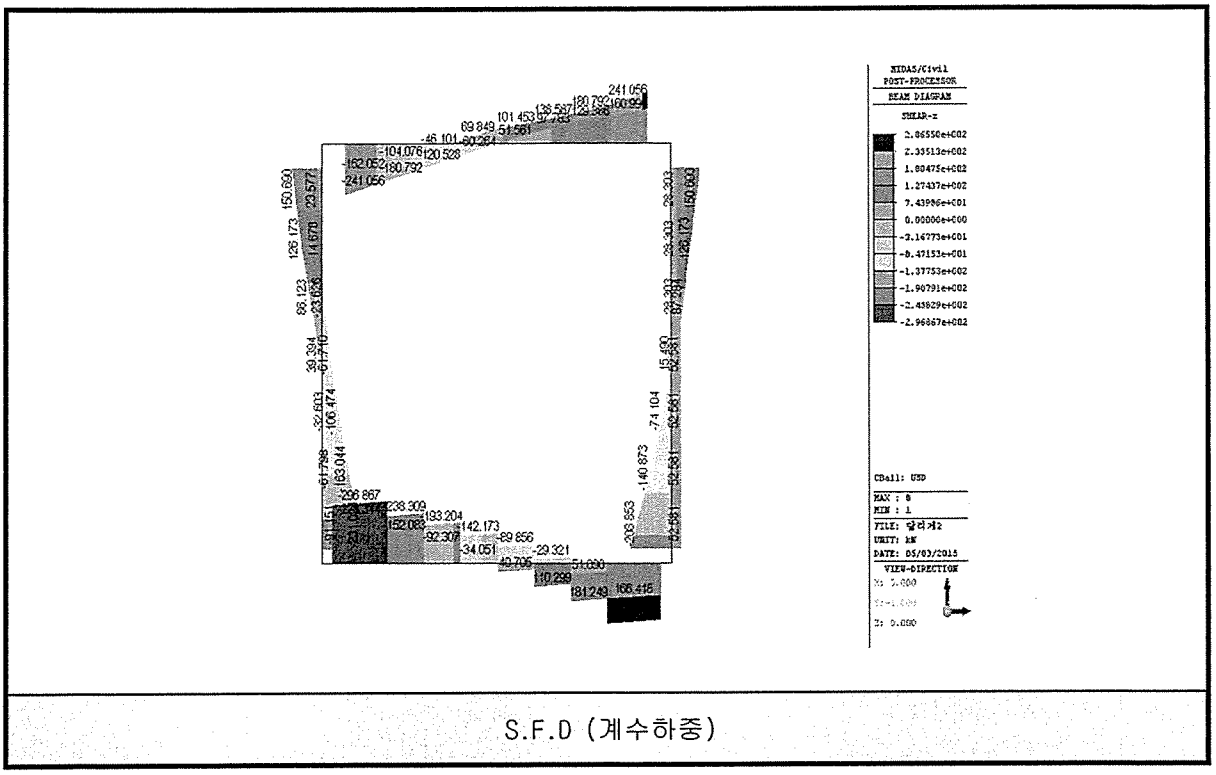
B.M.D (계수하중)

(2) 사용하중 모멘트도



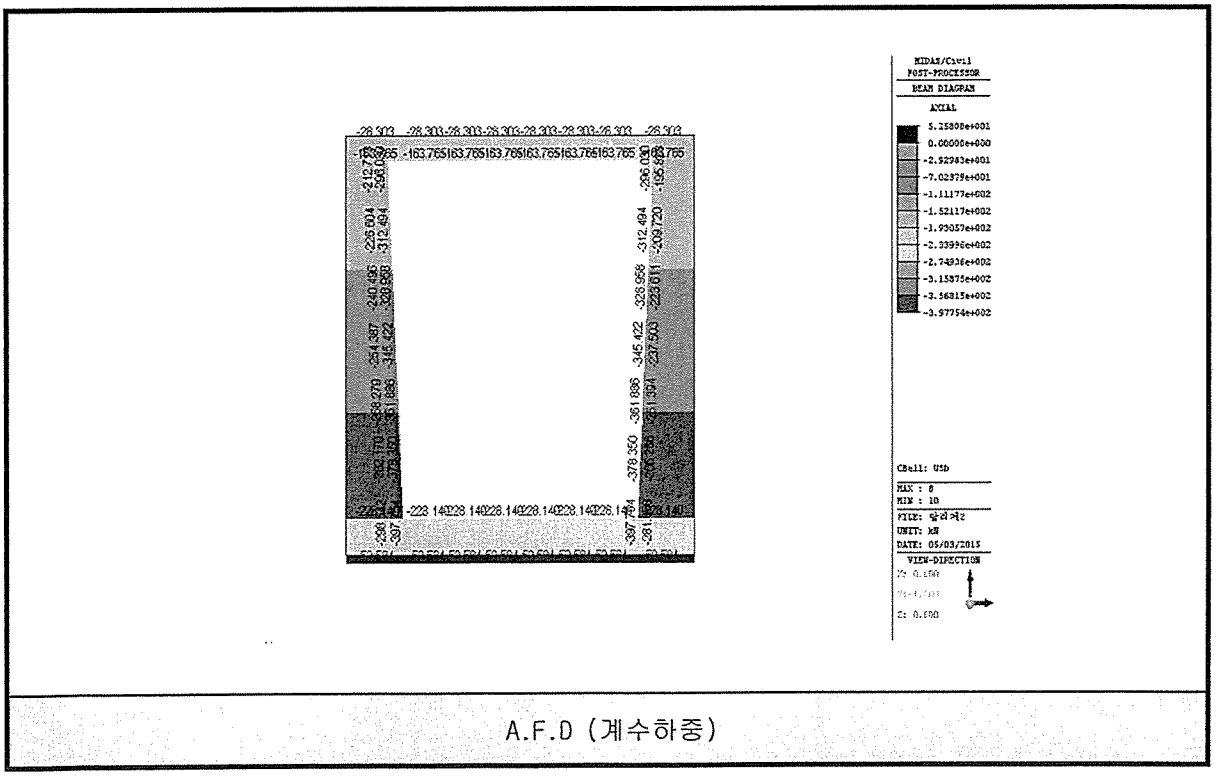
B.M.D (사용하중)

(3) 극한하중 전단력도



S.F.D (계수하중)

(4) 극한하중 축력도



A.F.D (계수하중)

11. 단면검토

① 상부 슬래브 단부

* 검토 조건

pmin = max(0.25√fck / fy, 1.4/fy) = 0.00350

fck (Mpa)	fy (Mpa)	β1	Φf	Φv	Mo (kN.m)
30.0	400.0	0.836	0.900	0.850	90.120
B (mm)	H (mm)	d (mm)	피복 (mm)	Mu (kN.m)	Su (kN)
1000.0	700.0	600.0	100.0	145.160	241.060

전단설계시 단면의 유효높이 ds = 500.0 d1' = 100 d2' = 0

* 휨모멘트 검토

공칭강도시 등가응력깊이 a = (As×fy) / (0.85×fck×B) = 35.953 mm

최외단 인장철근 변형률 εt = 0.03885 ≥ 0.004 ----- ∴ O.K.

여기서 εt = 0.003×(H - a/β1 - Dc_min) / (a/β1)

0.005 ≤ εt 이므로 인장지배단면, Φf = 0.900 를 적용한다.

ⓐ 필요철근량 및 철근비 검토

$Mu / \Phi = As \times fy / (d - a/2)$ ---------- (1)

$a = As \times fy / (0.85 \times fck \times b)$ ---------- (2)

式(2)를 式(1)에 대입하여 2차방정식으로 As를 구한다.

$$\frac{fy^2}{2\times 0.85\times fck\times b} \times As^2 - fy\times d\times As + \frac{Mu}{\Phi} = 0$$

필요 철근량 req.As = 678.047 mm^2

사용철근비 : Puse = As / (B × D) = 0.00382

최대철근비 : Pmax = 0.714 x k1 x Φx (fck / fy) x {600 / (600 + fy)} = 0.02283

최소철근비 :
- Pmin = 1.4 / fy = 0.00350
- Pmin = 0.25 √fck / fy = 0.00342
- 적용 = 0.0035

As(req) = 678.047 mm^2 As(min) = 2100.000 mm^2

4/3×As(req) = 904.062 mm^2 ※ As = 904.062 mm^2

사용철근량 = H19 × 8ea = 2292.000 ㎟ ----- ∴ O.K.

ⓑ 휨강도 검토

ØMn = Øf · fy · As · (D - a/2) = 480239230 N · mm

= 480.239 kN · m > 145.160 kN · m ----- ∴ O.K. [사용률 = 3.308]

* 전단력 검토

Øv · Vc = Øv · 1/6 · √fck · B · d / 1000 = 387.970 kN

1/2 x Φv x Vc = 193.985 kN ≤ Vu ≤Φv x Vc ∴ 최소전단 철근을 배근하는것이 좋다.

▣ 사용성 검토 (균열방지 인장철근 간격검토)

ⓐ 응력산정

fs = M / [As x (d - χ/3)]

= 90.12 × 1000000 / [2292×(600 - 123.635/3)]

= 70.365 Mpa

χ = -nAs/b + nAs/b√[1 + 2bd/(nAs)]

= -7 × 2292/1000 + 7 × 2292/1000 × √[(1 + 2×1000×600/(7×2292)]

= 123.635 mm

사용철근량 = 2292.000 mm^2 (철근도심 : 100 mm)

1단 H19 @ 125 (= 2292 ㎟)

ⓑ 철근의 최대 중심간격

Cc = 100 - 19 / 2 = 90.50 mm

여기서 Cc ; 인장철근이나 긴장재의 표면과 콘크리트 표면사이의 두께(mm)

Smin : 375 x (210 / fs) - 2.5 x Cc = 375 × (210 / 70.365) - 2.5 × 90.5 = 892.908 mm

300 x (210 / fs) = 300 × (210 / 70.365) = 895.326 mm

Sa는 작은 값인 892.908 mm 를 적용

S = 125.00 ≤ Sa (= 892.908 mm) ----- ∴ O.K.

② 상부슬래브 중앙부

* 검토 조건

pmin = max(0.25√fck / fy, 1.4/fy) = 0.00350

fck (Mpa)	fy (Mpa)	β1	Φf	Φv	Mo (kN.m)
30.0	400.0	0.836	0.900	0.850	100.440
B (mm)	H (mm)	d (mm)	피복 (mm)	Mu (kN.m)	Vu (kN)
1000.0	600.0	500.0	100.0	162.290	101.450

전단설계시 단면의 유효높이 ds = 500.0 d1' = 100 d2' = 0

* 휨모멘트 검토

공칭강도시 등가응력깊이 a = (As×fy) / (0.85×fck×B) = 35.953 mm

최외단 인장철근 변형률 εt = 0.03188 ≥ 0.004 ----- ∴ O.K.

여기서 εt = 0.003×(H - a/β1 - Dc_min) / (a/β1)

0.005 ≤ εt 이므로 인장지배단면, Φf = 0.900 를 적용한다.

ⓐ 필요철근량 및 철근비 검토

$Mu / \Phi = As \times fy / (d - a/2)$ ---------- (1)

$a = As \times fy / (0.85 \times fck \times b)$ ---------- (2)

式(2)를 式(1)에 대입하여 2차방정식으로 As를 구한다.

$$\frac{fy^2}{2\times 0.85\times fck\times b} \times As^2 - fy\times d\times As + \frac{Mu}{\Phi} = 0$$

필요 철근량 req.As = 914.736 mm^2

사용철근비 : Puse = As / (B × D) = 0.00458

최대철근비 : Pmax = 0.714 x k1 x Φx (fck / fy) x {600 / (600 + fy)} = 0.02283

최소철근비 :
- Pmin = 1.4 / fy = 0.00350
- Pmin = 0.25 √fck / fy = 0.00342
- 적용 = 0.0035

As(req) = 914.736 mm^2 As(min) = 1750.000 mm^2

4/3×As(req) = 1219.649 mm^2 ※ As = 1219.649 mm^2

사용철근량 = H19 × 8ea = 2292.000 ㎟ ----- ∴ O.K.

ⓑ 휨강도 검토

ØMn = Øf · fy · As · (D - a/2) = 397727230 N · mm

= 397.727 kN · m > 162.290 kN · m ----- ∴ O.K. [사용률 = 2.451]

* 전단력 검토

Øv · Vc = Øv · 1/6 · √fck · B · d / 1000 = 387.970 kN

∴ 전단철근이 필요없음.

▣ 사용성 검토 (균열방지 인장철근 간격검토)

ⓐ 응력산정

fs = M / [As x (d - χ/3)]

= 100.44 × 1000000 / [2292×(500 - 111.633/3)]

= 94.691 Mpa

χ = -nAs/b + nAs/b√[1 + 2bd/(nAs)]

= -7 × 2292/1000 + 7 × 2292/1000 × √[(1 + 2×1000×500/(7×2292)]

= 111.633 mm

사용철근량 = 2292.000 mm^2 (철근도심 : 100 mm)

1단 H19 @ 125 (= 2292 ㎟)

ⓑ 철근의 최대 중심간격

Cc = 100 - 19 / 2 = 90.50 mm

여기서 Cc ; 인장철근이나 긴장재의 표면과 콘크리트 표면사이의 두께(mm)

Smin : 375 x (210 / fs) - 2.5 x Cc = 375 × (210 / 94.691) - 2.5 × 90.5 = 605.402 mm

300 x (210 / fs) = 300 × (210 / 94.691) = 665.321 mm

Sa는 작은 값인 605.402 mm 를 적용

S = 125.00 ≤ Sa (= 605.402 mm) ----- ∴ O.K.

③ 하부슬래브 단부

* 검토 조건

pmin = max(0.25√fck / fy, 1.4/fy) = 0.00350

fck (Mpa)	fy (Mpa)	β1	Φf	Φv	Mo (kN.m)
30.0	400.0	0.836	0.900	0.850	174.920
B (mm)	H (mm)	d (mm)	피복 (mm)	Mu (kN.m)	Vu (kN)
1000.0	650.0	550.0	100.0	282.260	296.870

전단설계시 단면의 유효높이 ds = 550.0 d1' = 100 d2' = 0

* 휨모멘트 검토

공칭강도시 등가응력깊이 a = (As×fy) / (0.85×fck×B) = 35.953 mm

최외단 인장철근 변형률 εt = 0.03537 ≥ 0.004 ----- ∴ O.K

여기서 εt = 0.003×(H - a/β1 - Dc_min) / (a/β1)

0.005 ≤ εt 이므로 인장지배단면, Φf = 0.900 를 적용한다.

ⓐ 필요철근량 및 철근비 검토

$Mu / \Phi = As \times fy / (d - a/2)$ ---------- (1)

$a = As \times fy / (0.85 \times fck \times b)$ ---------- (2)

式(2)를 式(1)에 대입하여 2차방정식으로 As를 구한다.

$$\frac{fy^2}{2\times 0.85\times fck\times b} \times As^2 - fy\times d\times As + \frac{Mu}{\Phi} = 0$$

필요 철근량 req.As = 1455.777 mm^2

사용철근비 : Puse = As / (B × D) = 0.00417

최대철근비 : Pmax = 0.714 x k1 x Φx (fck / fy) x {600 / (600 + fy)} = 0.02283

최소철근비 :
- Pmin = 1.4 / fy = 0.00350
- Pmin = 0.25 √fck / fy = 0.00342
- 적용 = 0.0035

As(req) = 1455.777 mm^2 As(min) = 1925.000 mm^2

4/3×As(req) = 1941.036 mm^2 ※ As = 1925.000 mm^2

사용철근량 = H19 × 8ea = 2292.000 ㎟ ----- ∴ O.K.

ⓑ 휨강도 검토

ØMn = Øf · fy · As · (D - a/2) = 438983230 N · mm

= 438.983 kN · m > 282.260 kN · m ----- ∴ O.K [사용률 = 1.555]

* 전단력 검토

Øv · Vc = Øv · 1/6 · √fck · B · d / 1000 = 426.767 kN

1/2 x Φv x Vc = 213.384 kN ≤ Vu ≤Φv x Vc ∴ 최소전단 철근을 배근하는것이 좋다.

▣ 사용성 검토 (균열방지 인장철근 간격검토)

ⓐ 응력산정

fs = M / [As x (d - χ/3)]

= 174.92 × 1000000 / [2292×(550 - 117.769/3)]

= 149.424 Mpa

χ = -nAs/b + nAs/b√[1 + 2bd/(nAs)]

= -7 × 2292/1000 + 7 × 2292/1000 × √[(1 + 2×1000×550/(7×2292)]

= 117.769 mm

사용철근량 = 2292.000 mm^2 (철근도심 : 100 mm)

1단 H19 @ 125 (= 2292 ㎟)

ⓑ 철근의 최대 중심간격

Cc = 100 - 19 / 2 = 90.50 mm

여기서 Cc ; 인장철근이나 긴장재의 표면과 콘크리트 표면사이의 두께(mm)

Smin : 375 x (210 / fs) - 2.5 x Cc = 375 × (210 / 149.424) - 2.5 × 90.5 = 300.772 mm

300 x (210 / fs) = 300 × (210 / 149.424) = 421.618 mm

Sa는 작은 값인 300.772 mm 를 적용

S = 125.00 ≤ Sa (= 300.772 mm) ----- ∴ O.K.

④ 하부슬래브 중앙부

* 검토 조건

pmin = max(0.25√fck / fy, 1.4/fy) = 0.00350

fck (Mpa)	fy (Mpa)	β1	Φf	Φv	Mo (kN.m)
30.0	400.0	0.836	0.900	0.850	144.110
B (mm)	H (mm)	d (mm)	피복 (mm)	Mu (kN.m)	Vu (kN)
1000.0	650.0	550.0	100.0	230.580	142.170

전단설계시 단면의 유효높이 ds = 550.0 d1' = 100 d2' = 0

* 휨모멘트 검토

공칭강도시 등가응력깊이 $a = (As \times fy) / (0.85 \times fck \times B) =$ 35.953 mm

최외단 인장철근 변형률 $\varepsilon t =$ 0.03537 ≥ 0.004 ----- ∴ O.K

여기서 $\varepsilon t = 0.003 \times (H - a/\beta 1 - Dc_min) / (a/\beta 1)$

$0.005 \leq \varepsilon t$ 이므로 인장지배단면, $\Phi f = 0.900$ 를 적용한다.

ⓐ 필요철근량 및 철근비 검토

$Mu / \Phi = As \times fy / (d - a/2)$ ---------- (1)

$a = As \times fy / (0.85 \times fck \times b)$ ---------- (2)

式(2)를 式(1)에 대입하여 2차방정식으로 As를 구한다.

$$\frac{fy^2}{2 \times 0.85 \times fck \times b} \times As^2 - fy \times d \times As + \frac{Mu}{\Phi} = 0$$

필요 철근량 req.As = 1184.555 mm^2

사용철근비 : Puse = As / (B × D) = 0.00417

최대철근비 : Pmax = 0.714 x k1 x Φx (fck / fy) x {600 / (600 + fy)} = 0.02283

최소철근비 :
- Pmin = 1.4 / fy = 0.00350
- Pmin = 0.25 √fck / fy = 0.00342
- 적용 = 0.0035

As(req) = 1184.555 mm^2 As(min) = 1925.000 mm^2

4/3×As(req) = 1579.407 mm^2 ※ As = 1579.407 mm^2

사용철근량 = H19 × 8ea = 2292.000 mm^2 ----- ∴ O.K.

ⓑ 휨강도 검토

$\varnothing Mn = \varnothing f \cdot fy \cdot As \cdot (D - a/2) =$ 438983230 N·mm

= 438.983 kN·m > 230.580 kN·m ----- ∴ O.K [사용률 = 1.904]

* 전단력 검토

Øv · Vc = Øv · 1/6 · √fck · B · d / 1000 = 426.767 kN

∴ 전단철근이 필요없음.

▣ 사용성 검토 (균열방지 인장철근 간격검토)

ⓐ 응력산정

fs = M / [As x (d - χ/3)]

= 144.11 × 1000000 / [2292×(550 - 117.769/3)]

= 123.105 Mpa

χ = -nAs/b + nAs/b√[1 + 2bd/(nAs)]

= -7 × 2292/1000 + 7 × 2292/1000 × √[(1 + 2×1000×550/(7×2292)]

= 117.769 mm

사용철근량 = 2292.000 mm^2 (철근도심 : 100 mm)

1단 H19 @ 125 (= 2292 ㎟)

ⓑ 철근의 최대 중심간격

Cc = 100 - 19 / 2 = 90.50 mm

여기서 Cc ; 인장철근이나 긴장재의 표면과 콘크리트 표면사이의 두께(mm)

Smin : 375 x (210 / fs) - 2.5 x Cc = 375 × (210 / 123.105) - 2.5 × 90.5 = 413.447 mm

300 x (210 / fs) = 300 × (210 / 123.105) = 511.757 mm

Sa는 작은 값인 413.447 mm 를 적용

S = 125.00 ≤ Sa (= 413.447 mm) ----- ∴ O.K.

⑤ 벽체 상단부

* 검토 조건

pmin = max(0.25√fck / fy, 1.4/fy) = 0.00350

fck (Mpa)	fy (Mpa)	β1	Φf	Φv	Mo (kN.m)
30.0	400.0	0.836	0.900	0.850	119.320
B (mm)	H (mm)	d (mm)	피복 (mm)	Mu (kN.m)	Vu (kN)
1000.0	700.0	600.0	100.0	190.920	150.690

전단설계시 단면의 유효높이 ds = 500.0 d1' = 100 d2' = 0

* 휨모멘트 검토

공칭강도시 등가응력깊이 a = (As×fy) / (0.85×fck×B) = 35.953 mm

최외단 인장철근 변형률 εt = 0.03885 ≥ 0.004 ----- ∴ O.K

여기서 εt = 0.003×(H - a/β1 - Dc_min) / (a/β1)

0.005 ≤ εt 이므로 인장지배단면, Φf = 0.900 를 적용한다.

ⓐ 필요철근량 및 철근비 검토

Mu / Φ = As×fy / (d - a/2) ---------- (1)

a = As×fy / (0.85×fck×b) ---------- (2)

式(2)를 式(1)에 대입하여 2차방정식으로 As를 구한다.

$$\frac{fy^2}{2\times 0.85\times fck\times b}\times As^2 - fy\times d\times As + \frac{Mu}{\Phi} = 0$$

필요 철근량 req.As = 894.344 mm^2

사용철근비 : Puse = As / (B × D) = 0.00382

최대철근비 : Pmax = 0.714 x k1 x Φx (fck / fy) x {600 / (600 + fy)} = 0.02283

최소철근비 :
- Pmin = 1.4 / fy = 0.00350
- Pmin = 0.25 √fck / fy = 0.00342
- 적용 = 0.0035

As(req) = 894.344 mm^2 As(min) = 2100.000 mm^2

4/3×As(req) = 1192.459 mm^2 ※ As = 1192.459 mm^2

사용철근량 = H19 × 8ea = 2292.000 ㎟ ----- ∴ O.K.

ⓑ 휨강도 검토

ØMn = Ø f · fy · As · (D - a/2) = 480239230 N · mm

= 480.239 kN · m > 190.920 kN · m ----- ∴ O.K [사용률 = 2.515]

* 전단력 검토

Øv · Vc = Øv · 1/6 · √fck · B · d / 1000 = 387.970 kN

∴ 전단철근이 필요없음.

▣ 사용성 검토 (균열방지 인장철근 간격검토)

ⓐ 응력산정

fs = M / [As x (d - χ/3)]

= 119.32 × 1000000 / [2292×(600 - 123.635/3)]

= 93.165 Mpa

χ = -nAs/b + nAs/b√[1 + 2bd/(nAs)]

= -7 × 2292/1000 + 7 × 2292/1000 × √[(1 + 2×1000×600/(7×2292)]

= 123.635 mm

사용철근량 = 2292.000 mm^2 (철근도심 : 100 mm)

1단 H19 @ 125 (= 2292 ㎟)

ⓑ 철근의 최대 중심간격

Cc = 100 - 19 / 2 = 90.50 mm

여기서 Cc ; 인장철근이나 긴장재의 표면과 콘크리트 표면사이의 두께(mm)

Smin : 375 x (210 / fs) - 2.5 x Cc = 375 × (210 / 93.165) - 2.5 × 90.5 = 619.027 mm

300 x (210 / fs) = 300 × (210 / 93.165) = 676.222 mm

Sa는 작은 값인 619.027 mm 를 적용

S = 125.00 ≤ Sa (= 619.027 mm) ----- ∴ O.K.

⑥ 벽체 중앙부

* 검토 조건

pmin = max(0.25√fck / fy, 1.4/fy) = 0.00350

fck (Mpa)	fy (Mpa)	β1	Φf	Φv	Mo (kN.m)
30.0	400.0	0.836	0.900	0.850	61.010
B (mm)	H (mm)	d (mm)	피복 (mm)	Mu (kN.m)	Vu (kN)
1000.0	600.0	500.0	100.0	97.620	61.710

전단설계시 단면의 유효높이 ds = 500.0 d1' = 100 d2' = 0

* 휨모멘트 검토

공칭강도시 등가응력깊이 a = (As×fy) / (0.85×fck×B) = 35.953 mm

최외단 인장철근 변형률 εt = 0.03188 ≥ 0.004 ----- ∴ O.K

여기서 εt = 0.003×(H - a/β1 - Dc_min) / (a/β1)

0.005 ≤ εt 이므로 인장지배단면, Φf = 0.900 를 적용한다.

ⓐ 필요철근량 및 철근비 검토

$Mu / \Phi = As \times fy / (d - a/2)$ ---------- (1)

$a = As \times fy / (0.85 \times fck \times b)$ ---------- (2)

式(2)를 式(1)에 대입하여 2차방정식으로 As를 구한다.

$$\frac{fy^2}{2\times 0.85\times fck\times b} \times As^2 - fy\times d\times As + \frac{Mu}{\Phi} = 0$$

필요 철근량 req.As = 547.027 mm^2

사용철근비 : Puse = As / (B × D) = 0.00458

최대철근비 : Pmax = 0.714 x k1 x Φx (fck / fy) x {600 / (600 + fy)} = 0.02283

최소철근비 :
- Pmin = 1.4 / fy = 0.00350
- Pmin = 0.25 √fck / fy = 0.00342
- 적용 = 0.0035

As(req) = 547.027 mm^2 As(min) = 1750.000 mm^2

4/3×As(req) = 729.370 mm^2 ※ As = 729.370 mm^2

사용철근량 = H19 × 8ea = 2292.000 ㎟ ----- ∴ O.K.

ⓑ 휨강도 검토

ØMn = Ø f · fy · As · (D - a/2) = 397727230 N · mm

= 397.727 kN · m > 97.620 kN · m ----- ∴ O.K [사용률 = 4.074]

* 전단력 검토

Øv · Vc = Øv · 1/6 · √fck · B · d / 1000 = 387.970 kN

∴ 전단철근이 필요없음.

▣ 사용성 검토 (균열방지 인장철근 간격검토)

ⓐ 응력산정

fs = M / [As x (d - χ/3)]

= 61.01 × 1000000 / [2292×(500 - 111.633/3)]

= 57.518 Mpa

χ = -nAs/b + nAs/b√[1 + 2bd/(nAs)]

= -7 × 2292/1000 + 7 × 2292/1000 × √[(1 + 2×1000×500/(7×2292)]

= 111.633 mm

사용철근량 = 2292.000 mm^2 (철근도심 : 100 mm)

1단 H19 @ 125 (= 2292 mm^2)

ⓑ 철근의 최대 중심간격

Cc = 100 - 19 / 2 = 90.50 mm

여기서 Cc ; 인장철근이나 긴장재의 표면과 콘크리트 표면사이의 두께(mm)

Smin : 375 x (210 / fs) - 2.5 x Cc = 375 × (210 / 57.518) - 2.5 × 90.5 = 1142.888 mm

300 x (210 / fs) = 300 × (210 / 57.518) = 1095.310 mm

Sa는 작은 값인 1095.310 mm 를 적용

S = 125.00 ≤ Sa (= 1095.31 mm) ----- ∴ O.K.

⑦ 벽체 하단부

* 검토 조건

pmin = max(0.25√fck / fy, 1.4/fy) = 0.00350

fck (Mpa)	fy (Mpa)	β1	Φf	Φv	Mo (kN.m)
30.0	400.0	0.836	0.900	0.850	175.510
B (mm)	H (mm)	d (mm)	피복 (mm)	Mu (kN.m)	Vu (kN)
1000.0	600.0	500.0	100.0	280.820	231.020

전단설계시 단면의 유효높이 ds = 500.0 d1' = 100 d2' = 0

* 휨모멘트 검토

공칭강도시 등가응력깊이 a = (As×fy) / (0.85×fck×B) = 35.953 mm

최외단 인장철근 변형률 εt = 0.03188 ≥ 0.004 ----- ∴ O.K

여기서 εt = 0.003×(H - a/β1 - Dc_min) / (a/β1)

0.005 ≤ εt 이므로 인장지배단면, Φf = 0.900 를 적용한다.

ⓐ 필요철근량 및 철근비 검토

Mu / Φ = As×fy / (d - a/2) ---------- (1)

a = As×fy / (0.85×fck×b) ---------- (2)

式(2)를 式(1)에 대입하여 2차방정식으로 As를 구한다.

$$\frac{fy^2}{2\times 0.85\times fck\times b}\times As^2 - fy\times d\times As + \frac{Mu}{\Phi} = 0$$

필요 철근량 req.As = 1600.282 mm^2

사용철근비 : Puse = As / (B × D) = 0.00458

최대철근비 : Pmax = 0.714 x k1 x Φx (fck / fy) x {600 / (600 + fy)} = 0.02283

최소철근비 : Pmin = 1.4 / fy = 0.00350

Pmin = 0.25 √fck / fy = 0.00342

적용 = 0.0035

As(req) = 1600.282 mm^2 As(min) = 1750.000 mm^2

4/3×As(req) = 2133.710 mm^2 ※ As = 1750.000 mm^2

사용철근량 = H19 × 8ea = 2292.000 ㎟ ----- ∴ O.K.

ⓑ 휨강도 검토

ØMn = Ø f · fy · As · (D - a/2) = 397727230 N · mm

= 397.727 kN · m > 280.820 kN · m ----- ∴ O.K [사용률 = 1.416]

* 전단력 검토

Øv · Vc = Øv · 1/6 · √fck · B · d / 1000 = 387.970 kN

1/2 x Φv x Vc = 193.985 kN ≤ Vu ≤Φv x Vc ∴ 슬래브이므로 최소전단 철근 배근이 필요없음.

▣ 사용성 검토 (균열방지 인장철근 간격검토)

ⓐ 응력산정

fs = M / [As x (d - χ/3)]

= 175.51 × 1000000 / [2292×(500 - 111.633/3)]

= 165.464 Mpa

χ = -nAs/b + nAs/b√[1 + 2bd/(nAs)]

= -7 × 2292/1000 + 7 × 2292/1000 × √[(1 + 2×1000×500/(7×2292)]

= 111.633 mm

사용철근량 = 2292.000 mm^2 (철근도심 : 100 mm)

1단 H19 @ 125 (= 2292 ㎟)

ⓑ 철근의 최대 중심간격

Cc = 100 - 19 / 2 = 90.50 mm

여기서 Cc ; 인장철근이나 긴장재의 표면과 콘크리트 표면사이의 두께(mm)

Smin : 375 x (210 / fs) - 2.5 x Cc = 375 × (210 / 165.464) - 2.5 × 90.5 = 249.684 mm

300 x (210 / fs) = 300 × (210 / 165.464) = 380.747 mm

Sa는 작은 값인 249.684 mm 를 적용

S = 125.00 ≤ Sa (= 249.684 mm) ----- ∴ O.K.

⑤ 벽체 상단부 - Pmax 일 경우

설계축력	:	Pu	=	296.03	(kN) ,	설계모멘트	:	Mu	=	89.51	(kN · m)	
설계전단력	:	Vu	=	150.69	(kN) ,	사용 모멘트	:	M	=	0.56	(kN.m)	
부 재 높 이	:	H	=	700.0	(mm) ,	f_y	=	400	MPa	f_{ck}	=	30 MPa
폭	:	b	=	1000	(mm) ,	ϕ_f	=	0.90	,	ϕ_v	=	0.85
유효높이(휨)	:	d	=	600.0	(mm) ,	d'	=	100	(mm),	ϕc	=	0.70
유효높이(전단)	:	d	=	500.0	(mm) ,	k_1	=	0.836	,	e	=	302.37 (mm)

○ 휨철근량 계산

- 철근비검토

As = H 19 @ 8 EA = 22.920 cm^2 , d1 = 10.0 cm

Σ = 22.920 cm^2

Asf = H 19 @ 4 EA = 11.460 cm^2 , d'1 = 10.0 cm

Pmin (0.0015) < Puse (0.0049) < Pmax (0.0800) ———— O.K!!!

- 평형하중 산정

소성중심 계산

Cc = 0.84 x 30 x 700.00 x 1000.00 = 17556000.000 N

Cs = As x fy = 916800.00 N , Cs' = Asf x fy = 458400.000 N

Xp = (17556000.00 x 350.0 + 916800.0 x 100.0 + 458400.0 x 600.0) / 18931200.000

= 343.947 mm

- 평형상태 계산

Cb = 600 / (600 + fy) x d = 360.000 mm, ab = k1 x cb = 300.960 mm

fs' = 600 x (360.000 - 100.0) / 360.0(= 400 Mpa (fs' ≤ fy)

Cc = 0.836 x 30 x 300.960 x 1000 = 7548076.800 N

Cs = As' x (fs' - 0.9 x fck) = 427458.000 N

Ts = As x fs = 916800.000 N

Pb = 7548076.800 + 427458.000 - 916800.000 = 7058734.800 N

Mb = 7548076.800x(600.0-300.960/2)+427458.000x(600.0-100.0)-7058734.800x(343.947-100.0)

= 1884786827.089 N.mm

eb < e → 인장파괴 (eb = Mb / Pb = 267.015 mm)

- 공칭강도 계산 : 반복계산을 통해 c = 307.119 mm , a = k1 x c = 256.752 mm 사용

fs = 600 x (600.000 - 307.119) / 307.119 = 400 Mpa (fs ≤ fy)

fs' = 600 x (307.119 - 100.000) / 307.119 = 400 Mpa (fs ≤ fy)

Cc = 0.836 x 30 x 256.752 x 1000 = 6439331.412 N

Cs = 1146.000 x (400.000 - 0.836 x 30) = 429658.320 N

Ts = 2292.000 x 400.000 = 916800.000 N

Pn = 6439331.412 + 429658.320 - 916800.000 = 5952189.732 N

Mn' = 6439331.412 x (600.0 - 256.752 / 2) + 429658.320 x (600.0 - 100.0)

= 3251773520.918 N.mm

- 편심오차 : | e' - Mn'/Pn | = 0.001 < 0.001 (e' = e + Xp - dc = 546.314504 mm)

- 축방향력 및 휨에대한 검토

(max) Pn = 0.80 x { 0.85 fck x (Ag - Ast) + fy x Ast} : 15310024.800 N ≥ Pn = 5952189.732

ΦPn = 4166532.812 > ΦPb = 4941114.360 , 0.1 x fck x Ag = 2100000.000

∴ Φ = 0.700

ΦPn = 0.70 x 5952189.732 = 4166.533 kN ≥ Pu = 296.030 kN ——— O.K!!!

ΦMn = ΦPn x 302.368 = 1259.826 kN.m ≥ Mu = 89.510 kN.m ——— O.K!!!

○ 전단력 검토

$\phi Vc = 0.85 \times 1/6 \times (1 + Pu / (14 \times Ag)) \times \sqrt{fck} \times bo \times d = 399689.614$ N

여기서 , Vu < 1/2ϕVc 이므로 전단철근보강 불필요

○ 사용성 검토 (균열방지 인장철근 간격검토)

- 응력산정

fs = M / [As x (d - χ/3)]

= 0.56 × 1000000 / [2292×(600 - 123.635/3)]

= 0.437 Mpa

$\chi = -nAs/b + nAs/b\sqrt{[1 + 2bd/(nAs)]}$

$= -7 \times 2292/1000 + 7 \times 2292/1000 \times \sqrt{[(1 + 2\times 1000\times 600/(7\times 2292)]}$

= 123.635 mm

사용철근량 = 2292.000 mm^2 (철근도심 : 100 mm)

1단 H19 @ 125 (= 2292 ㎟)

- 철근의 최대 중심간격

Cc = 100 - 19 / 2 = 90.50 mm

여기서 Cc ; 인장철근이나 긴장재의 표면과 콘크리트 표면사이의 두께(mm)

Smin : 375 x (210 / fs) - 2.5 x Cc = 375 × (210 / 0.437) - 2.5 × 90.5 = 179878.220 mm

300 x (210 / fs) = 300 × (210 / 0.437) = 144083.576 mm

Sa는 작은 값인 144083.576 mm 를 적용

S = 125.00 ≤ Sa (= 144083.576 mm) ------ ∴ O.K.

⑥ 벽체 상단부 - Mmax 일 경우

설계축력	:	Pu	=	235.97	(kN) ,	설계모멘트	:	Mu	=	190.92	(kN · m)	
설계전단력	:	Vu	=	150.69	(kN) ,	사용 모멘트	:	M	=	119.32	(kN.m)	
부 재 높 이	:	H	=	700.0	(mm) ,	f_y	=	400	MPa	f_{ck}	=	30 MPa
폭	:	b	=	1000	(mm) ,	ϕ_f	=	0.90	,	ϕ_v	=	0.85
유효높이(휨)	:	d	=	600.0	(mm) ,	d'	=	100	(mm),	ϕc	=	0.70
유효높이(전단)	:	d	=	500.0	(mm) ,	k_1	=	0.836	,	e	=	809.09 (mm)

○ 휨철근량 계산

- 철근비검토

As = H 19 @ 8 EA = 22.920 cm^2 , d1 = 10.0 cm

Σ = 22.920 cm^2

Asf = H 19 @ 4 EA = 11.460 cm^2 , d'1 = 10.0 cm

Pmin (0.0015) < Puse (0.0049) < Pmax (0.0800) ———— O.K!!!

- 평형하중 산정

소성중심 계산

Cc = 0.84 x 30 x 700.00 x 1000.00 = 17556000.000 N

Cs = As x fy = 916800.00 N , Cs' = Asf x fy = 458400.000 N

Xp = (17556000.00 x 350.0 + 916800.0 x 100.0 + 458400.0 x 600.0) / 18931200.000

= 343.947 mm

- 평형상태 계산

Cb = 600 / (600 + fy) x d = 360.000 mm, ab = k1 x cb = 300.960 mm

fs' = 600 x (360.000 - 100.0) / 360.0(= 400 Mpa (fs' ≤ fy)

Cc = 0.836 x 30 x 300.960 x 1000 = 7548076.800 N

Cs = As' x (fs' - 0.9 x fck) = 427458.000 N

Ts = As x fs = 916800.000 N

Pb = 7548076.800 + 427458.000 - 916800.000 = 7058734.800 N

Mb = 7548076.800x(600.0-300.960/2)+427458.000x(600.0-100.0)-7058734.800x(343.947-100.0)

= 1884786827.089 N.mm

eb < e → 인장파괴 (eb = Mb / Pb = 267.015 mm)

- 공칭강도 계산 : 반복계산을 통해 c = 94.623 mm , a = k1 x c = 79.105 mm 사용

fs = 600 x (600.000 - 94.623) / 94.623 = 400 Mpa (fs ≤ fy)

fs' = 600 x (94.623 - 100.000) / 94.623 = 6.383174 Mpa (fs ≤ fy)

Cc = 0.836 x 30 x 79.105 x 1000 = 1983959.360 N

Cs = 1146.000 x (6.383 - 0.836 x 30) = (21426.563) N

Ts = 2292.000 x 400.000 = 916800.000 N

Pn = 1983959.360 + -21426.563 - 916800.000 = 1045732.797 N

Mn' = 1983959.360 x (600.0 - 79.105 / 2) + -21426.563 x (600.0 - 100.0)

= 1101191546.162 N.mm

- 편심오차 : | e' - Mn'/Pn | = 0.001 < 0.001 (e' = e + Xp - dc = 1053.032402 mm)

- 축방향력 및 휨에대한 검토

(max) Pn = 0.80 x { 0.85 fck x (Ag - Ast) + fy x Ast} : 15310024.800 N ≥ Pn = 1045732.797

ΦPn = 732012.958 < ΦPb = 4941114.360 , 0.1 x fck x Ag = 2100000.000

∴ Φ = 0.800

ΦPn = 0.80 x 1045732.797 = 836.586 kN ≥ Pu = 235.970 kN ------ O.K!!!

ΦMn = ΦPn x 809.086 = 676.870 kN.m ≥ Mu = 190.920 kN.m ------ O.K!!!

○ 전단력 검토

$\phi Vc = 0.85 \times 1/6 \times (1 + Pu / (14 \times Ag)) \times \sqrt{fck} \times bo \times d$ = 397311.912 N

여기서 , Vu < 1/2ϕVc 이므로 전단철근보강 불필요

○ 사용성 검토 (균열방지 인장철근 간격검토)

- 응력산정

$fs = M / [As \times (d - \chi/3)]$

$= 119.32 \times 1000000 / [2292 \times (600 - 123.635/3)]$

= 93.165 Mpa

$\chi = -nAs/b + nAs/b\sqrt{[1 + 2bd/(nAs)]}$

$= -7 \times 2292/1000 + 7 \times 2292/1000 \times \sqrt{[(1 + 2 \times 1000 \times 600/(7 \times 2292)]}$

= 123.635 mm

사용철근량 = 2292.000 mm^2 (철근도심 : 100 mm)

1단 H19 @ 125 (= 2292 ㎟)

- 철근의 최대 중심간격

Cc = 100 - 19 / 2 = 90.50 mm

여기서 Cc ; 인장철근이나 긴장재의 표면과 콘크리트 표면사이의 두께(mm)

Smin : 375 x (210 / fs) - 2.5 x Cc = 375 × (210 / 93.165) - 2.5 × 90.5 = 619.027 mm

300 x (210 / fs) = 300 × (210 / 93.165) = 676.222 mm

Sa는 작은 값인 619.027 mm 를 적용

S = 125.00 ≤ Sa (= 619.027 mm) ----- ∴ O.K.

⑦ 벽체 중앙부 - Pmax 일 경우

설계축력	:	Pu	=	345.42	(kN) ,	설계모멘트	:	Mu	=	33.35	(kN · m)	
설계전단력	:	Vu	=	52.58	(kN) ,	사용 모멘트	:	M	=	29.60	(kN.m)	
부 재 높 이	:	H	=	600.0	(mm) ,	f_y	=	400	MPa	f_{ck}	=	30 MPa
폭	:	b	=	1000	(mm) ,	ϕ_f	=	0.90	,	ϕ_v	=	0.85
유효높이(휨)	:	d	=	500.0	(mm) ,	d'	=	100	(mm),	ϕc	=	0.70
유효높이(전단)	:	d	=	500.0	(mm) ,	k_1	=	0.836	,	e	=	96.55 (mm)

○ 휨철근량 계산

- 철근비검토

As = H 19 @ 8 EA = 22.920 cm^2 , d1 = 10.0 cm

Σ = 22.920 cm^2

Asf = H 19 @ 4 EA = 11.460 cm^2 , d'1 = 10.0 cm

Pmin (0.0015) < Puse (0.0057) < Pmax (0.0800) ---------- O.K!!!

- 평형하중 산정

소성중심 계산

Cc = 0.84 x 30 x 600.00 x 1000.00 = 15048000.000 N

Cs = As x fy = 916800.00 N , Cs' = Asf x fy = 458400.000 N

Xp = (15048000.00 x 300.0 + 916800.0 x 100.0 + 458400.0 x 500.0) / 16423200.000

= 294.418 mm

- 평형상태 계산

Cb = 600 / (600 + fy) x d = 300.000 mm, ab = k1 x cb = 250.800 mm

fs' = 600 x (300.000 - 100.0) / 300.0(= 400 Mpa (fs' ≤ fy)

Cc = 0.836 x 30 x 250.800 x 1000 = 6290064.000 N

Cs = As' x (fs' - 0.9 x fck) = 427458.000 N

Ts = As x fs = 916800.000 N

Pb = 6290064.000 + 427458.000 - 916800.000 = 5800722.000 N

Mb = 6290064.000x(500.0-250.800/2)+427458.000x(500.0-100.0)-5800722.000x(294.418-100.0)

= 1399478417.013 N.mm

eb > e → 압축파괴 (eb = Mb / Pb = 241.259 mm)

- 공칭강도 계산 : 반복계산을 통해 c = 508.994 mm , a = k1 x c = 425.519 mm 사용

fs = 600 x (500.000 - 508.994) / 508.994 = -10.6019 Mpa (fs ≤ fy)

fs' = 600 x (508.994 - 100.000) / 508.994 = 400 Mpa (fs ≤ fy)

Cc = 0.836 x 30 x 425.519 x 1000 = 10672011.925 N

Cs = 1146.000 x (400.000 - 0.836 x 30) = 429658.320 N

Ts = 2292.000 x -10.602 = -24299.459 N

Pn = 10672011.925 + 429658.320 - -24299.459 = 11125969.704 N

Mn' = 10672011.925 x (500.0 - 425.519 / 2) + 429658.320 x (500.0 - 100.0)

= 3237298346.998 N.mm

- 편심오차 : | e' - Mn'/Pn | = 0.001 < 0.001 (e' = e + Xp - dc = 290.966782 mm)

- 축방향력 및 휨에대한 검토

(max) Pn = 0.80 x { 0.85 fck x (Ag - Ast) + fy x Ast} = 13270024.800 N ≥ Pn = 11125969.704

ΦPn = 7788178.793 > ΦPb = 4060505.400 , 0.1 x fck x Ag = 1800000.000

∴ Φ = 0.700

ΦPn = 0.70 x 11125969.704 = 7788.179 kN ≥ Pu = 345.420 kN ------- O.K!!!

ΦMn = ΦPn x 96.549 = 751.942 kN.m ≥ Mu = 33.350 kN.m ------- O.K!!!

○ 전단력 검토

$\phi Vc = 0.85 \times 1/6 \times (1 + Pu / (14 \times Ag)) \times \sqrt{fck} \times bo \times d$ = 403924.032 N

여기서 , Vu < 1/2ϕVc 이므로 전단철근보강 불필요

○ 사용성 검토 (균열방지 인장철근 간격검토)

- 응력산정

$fs = M / [As \times (d - \chi/3)]$

$= 29.6 \times 1000000 / [2292 \times (500 - 111.633/3)]$

= 27.906 Mpa

$\chi = -nAs/b + nAs/b\sqrt{[1 + 2bd/(nAs)]}$

$= -7 \times 2292/1000 + 7 \times 2292/1000 \times \sqrt{[(1 + 2 \times 1000 \times 500/(7 \times 2292)]}$

= 111.633 mm

사용철근량 = 2292.000 mm^2 (철근도심 : 100 mm)

1단 H19 @ 125 (= 2292 ㎟)

- 철근의 최대 중심간격

Cc = 100 - 19 / 2 = 90.50 mm

여기서 Cc ; 인장철근이나 긴장재의 표면과 콘크리트 표면사이의 두께(mm)

Smin : 375 x (210 / fs) - 2.5 x Cc = 375 × (210 / 27.906) - 2.5 × 90.5 = 2595.75 mm

300 x (210 / fs) = 300 × (210 / 27.906) = 2257.60 mm

Sa는 작은 값인 2257.60 mm 를 적용

S = 125.00 ≤ Sa (= 2257.597 mm) ----- ∴ O.K.

⑧ 벽체 중앙부 - Mmax 일 경우

설계축력	:	Pu	=	287.72	(kN) ,	설계모멘트	:	Mu	=	97.62	(kN·m)	
설계전단력	:	Vu	=	61.71	(kN) ,	사용 모멘트	:	M	=	61.01	(kN.m)	
부 재 높 이	:	H	=	600.0	(mm) ,	f_y	=	400	MPa	f_{ck}	=	30 MPa
폭	:	b	=	1000	(mm) ,	ϕ_f	=	0.90	,	ϕ_v	=	0.85
유효높이(휨)	:	d	=	500.0	(mm) ,	d'	=	100	(mm),	ϕc	=	0.70
유효높이(전단)	:	d	=	500.0	(mm) ,	k_1	=	0.836	,	e	=	339.29 (mm)

○ 휨철근량 계산

- 철근비검토

As = H 19 @ 8 EA = 22.920 cm^2 , d1 = 10.0 cm

Σ = 22.920 cm^2

Asf = H 19 @ 4 EA = 11.460 cm^2 , d'1 = 10.0 cm

Pmin (0.0015) < Puse (0.0057) < Pmax (0.0800) ———— O.K!!!

- 평형하중 산정

소성중심 계산

Cc = 0.84 x 30 x 600.00 x 1000.00 = 15048000.000 N

Cs = As x fy = 916800.00 N , Cs' = Asf x fy = 458400.000 N

Xp = (15048000.00 x 300.0 + 916800.0 x 100.0 + 458400.0 x 500.0) / 16423200.000

= 294.418 mm

- 평형상태 계산

Cb = 600 / (600 + fy) x d = 300.000 mm, ab = k1 x cb = 250.800 mm

fs' = 600 x (300.000 - 100.0) / 300.0(= 400 Mpa (fs' ≤ fy)

Cc = 0.836 x 30 x 250.800 x 1000 = 6290064.000 N

Cs = As' x (fs' - 0.9 x fck) = 427458.000 N

Ts = As x fs = 916800.000 N

Pb = 6290064.000 + 427458.000 - 916800.000 = 5800722.000 N

Mb = 6290064.000x(500.0-250.800/2)+427458.000x(500.0-100.0)-5800722.000x(294.418-100.0)

= 1399478417.013 N.mm

eb < e → 인장파괴 (eb = Mb / Pb = 241.259 mm)

- 공칭강도 계산 : 반복계산을 통해 c = 189.751 mm , a = k1 x c = 158.632 mm 사용

fs = 600 x (500.000 - 189.751) / 189.751 = 400 Mpa (fs ≤ fy)

fs' = 600 x (189.751 - 100.000) / 189.751 = 283.7963 Mpa (fs ≤ fy)

Cc = 0.836 x 30 x 158.632 x 1000 = 3978488.544 N

Cs = 1146.000 x (283.796 - 0.836 x 30) = 296488.879 N

Ts = 2292.000 x 400.000 = 916800.000 N

Pn = 3978488.544 + 296488.879 - 916800.000 = 3358177.423 N

Mn' = 3978488.544 x (500.0 - 158.632 / 2) + 296488.879 x (500.0 - 100.0)

= 1792282186.074 N.mm

- 편심오차 : | e' - Mn'/Pn | = 0.001 < 0.001 (e' = e + Xp - dc = 533.705850 mm)

- 축방향력 및 휨에대한 검토

(max) Pn = 0.80 x { 0.85 fck x (Ag - Ast) + fy x Ast} : 13270024.800 N ≥ Pn = 3358177.423

ΦPn = 2350724.196 > ΦPb = 4060505.400 , 0.1 x fck x Ag = 1800000.000

∴ Φ = 0.700

ΦPn = 0.70 x 3358177.423 = 2350.724 kN ≥ Pu = 287.720 kN ------- O.K!!!

ΦMn = ΦPn x 339.288 = 797.573 kN.m ≥ Mu = 97.620 kN.m ------- O.K!!!

○ 전단력 검토

$\phi Vc = 0.85 \times 1/6 \times (1 + Pu / (14 \times Ag)) \times \sqrt{fck} \times bo \times d$ = 401259.046 N

여기서 , Vu < 1/2ϕVc 이므로 전단철근보강 불필요

○ 사용성 검토 (균열방지 인장철근 간격검토)

- 응력산정

$fs = M / [As \times (d - \chi/3)]$

$= 61.01 \times 1000000 / [2292 \times (500 - 111.633/3)]$

= 57.518 Mpa

$\chi = -nAs/b + nAs/b\sqrt{[1 + 2bd/(nAs)]}$

$= -7 \times 2292/1000 + 7 \times 2292/1000 \times \sqrt{[(1 + 2 \times 1000 \times 500/(7 \times 2292)]}$

= 111.633 mm

사용철근량 = 2292.000 mm^2 (철근도심 : 100 mm)

1단 H19 @ 125 (= 2292 ㎟)

- 철근의 최대 중심간격

Cc = 100 - 19 / 2 = 90.50 mm

여기서 Cc ; 인장철근이나 긴장재의 표면과 콘크리트 표면사이의 두께(mm)

Smin : 375 x (210 / fs) - 2.5 x Cc = 375 × (210 / 57.518) - 2.5 × 90.5 = 1142.89 mm

300 x (210 / fs) = 300 × (210 / 57.518) = 1095.31 mm

Sa는 작은 값인 1095.31 mm 를 적용

S = 125.00 ≤ Sa (= 1095.31 mm) ------ ∴ O.K.

⑨ 벽체 하단부 - Pmax 일 경우

설계축력	:	Pu	=	397.75	(kN) ,	설계모멘트	:	Mu	=	181.67	(kN · m)	
설계전단력	:	Vu	=	231.02	(kN) ,	사용 모멘트	:	M	=	23.38	(kN.m)	
부 재 높 이	:	H	=	600.0	(mm) ,	f_y	=	400	MPa	f_{ck}	=	30 MPa
폭	:	b	=	1000	(mm) ,	ϕ_f	=	0.90	,	ϕ_v	=	0.85
유효높이(휨)	:	d	=	500.0	(mm) ,	d'	=	100	(mm),	ϕc	=	0.70
유효높이(전단)	:	d	=	500.0	(mm) ,	k_1	=	0.836	,	e	=	456.74 (mm)

○ 휨철근량 계산

- 철근비검토

As = H 19 @ 8 EA = 22.920 cm^2 , d1 = 10.0 cm

Σ = 22.920 cm^2

Asf = H 19 @ 4 EA = 11.460 cm^2 , d'1 = 10.0 cm

Pmin (0.0015) < Puse (0.0057) < Pmax (0.0800) ———— O.K!!!

- 평형하중 산정

소성중심 계산

Cc = 0.84 x 30 x 600.00 x 1000.00 = 15048000.000 N

Cs = As x fy = 916800.00 N , Cs' = Asf x fy = 458400.000 N

Xp = (15048000.00 x 300.0 + 916800.0 x 100.0 + 458400.0 x 500.0) / 16423200.000

= 294.418 mm

- 평형상태 계산

Cb = 600 / (600 + fy) x d = 300.000 mm, ab = k1 x cb = 250.800 mm

fs' = 600 x (300.000 - 100.0) / 300.0(= 400 Mpa (fs' ≤ fy)

Cc = 0.836 x 30 x 250.800 x 1000 = 6290064.000 N

Cs = As' x (fs' - 0.9 x fck) = 427458.000 N

Ts = As x fs = 916800.000 N

Pb = 6290064.000 + 427458.000 - 916800.000 = 5800722.000 N

Mb = 6290064.000x(500.0-250.800/2)+427458.000x(500.0-100.0)-5800722.000x(294.418-100.0)

= 1399478417.013 N.mm

eb < e → 인장파괴 (eb = Mb / Pb = 241.259 mm)

- 공칭강도 계산 : 반복계산을 통해 c = 130.651 mm , a = k1 x c = 109.224 mm 사용

fs = 600 x (500.000 - 130.651) / 130.651 = 400 Mpa (fs ≤ fy)

fs' = 600 x (130.651 - 100.000) / 130.651 = 140.762 Mpa (fs ≤ fy)

Cc = 0.836 x 30 x 109.224 x 1000 = 2739348.032 N

Cs = 1146.000 x (140.762 - 0.836 x 30) = 132571.535 N

Ts = 2292.000 x 400.000 = 916800.000 N

Pn = 2739348.032 + 132571.535 - 916800.000 = 1955119.567 N

Mn' = 2739348.032 x (500.0 - 109.224 / 2) + 132571.535 x (500.0 - 100.0)

= 1273100803.151 N.mm

- 편심오차 : | e' - Mn'/Pn | = 0.001 < 0.001 (e' = e + Xp - dc = 651.161839 mm)

- 축방향력 및 휨에대한 검토

(max) Pn = 0.80 x { 0.85 fck x (Ag - Ast) + fy x Ast} : 13270024.800 N ≥ Pn = 1955119.567

ΦPn = 1368583.697 < ΦPb = 4060505.400 , 0.1 x fck x Ag = 1800000.000

∴ Φ = 0.740

ΦPn = 0.74 x 1955119.567 = 1446.788 kN ≥ Pu = 397.750 kN ——— O.K!!!

ΦMn = ΦPn x 456.744 = 660.812 kN.m ≥ Mu = 181.670 kN.m ——— O.K!!!

○ 전단력 검토

$\phi Vc = 0.85 \times 1/6 \times (1 + Pu / (14 \times Ag)) \times \sqrt{fck} \times bo \times d$ = 406340.993 N

여기서 , $1/2\phi Vc < Vu \leq \phi Vc$ 이므로 최소 전단 철근 필요

- 계산된 스터럽 : min.Av = 0.35x(bo x s / fy)= 1.31㎠

- 배근할 스터럽 : H 13 다리수: N = 2 스터럽 간격 : s = 15 cm O.K !!!

Av(req)= 1.31㎠ < Av = 2.534 ㎠ O.K !!!

○ 사용성 검토 (균열방지 인장철근 간격검토)

- 응력산정

$fs = M / [As \times (d - \chi/3)]$

$= 23.38 \times 1000000 / [2292 \times (500 - 111.633/3)]$

= 22.042 Mpa

$\chi = -nAs/b + nAs/b\sqrt{[1 + 2bd/(nAs)]}$

$= -7 \times 2292/1000 + 7 \times 2292/1000 \times \sqrt{[(1 + 2 \times 1000 \times 500/(7 \times 2292)]}$

= 111.633 mm

사용철근량 = 2292.000 mm^2 (철근도심 : 100 mm)

1단 H19 @ 125 (= 2292 ㎟)

- 철근의 최대 중심간격

Cc = 100 - 19 / 2 = 90.50 mm

여기서 Cc ; 인장철근이나 긴장재의 표면과 콘크리트 표면사이의 두께(mm)

Smin : 375 x (210 / fs) - 2.5 x Cc = 375 × (210 / 22.042) - 2.5 × 90.5 = 3346.51 mm

300 x (210 / fs) = 300 × (210 / 22.042) = 2858.21 mm

Sa는 작은 값인 2858.21 mm 를 적용

S = 125.00 ≤ Sa (= 2858.207 mm) ----- ∴ O.K.

⑩ 벽체 하단부 - Mmax 일 경우

설계축력	:	Pu	=	334.08	(kN) ,	설계모멘트	:	Mu	=	280.82	(kN · m)	
설계전단력	:	Vu	=	231.02	(kN) ,	사용 모멘트	:	M	=	175.51	(kN.m)	
부 재 높 이	:	H	=	600.0	(mm) ,	f_y	=	400	MPa	f_{ck}	=	30 MPa
폭	:	b	=	1000	(mm) ,	ϕ_f	=	0.90	,	ϕ_v	=	0.85
유효높이(휨)	:	d	=	500.0	(mm) ,	d'	=	100	(mm),	ϕc	=	0.70
유효높이(전단)	:	d	=	500.0	(mm) ,	k_1	=	0.836	,	e	=	840.58 (mm)

○ 휨철근량 계산

- 철근비검토

As = H 19 @ 8 EA = 22.920 cm^2 , d1 = 10.0 cm

Σ = 22.920 cm^2

Asf = H 19 @ 4 EA = 11.460 cm^2 , d'1 = 10.0 cm

Pmin (0.0015) < Puse (0.0057) < Pmax (0.0800) ---------- O.K!!!

- 평형하중 산정

소성중심 계산

Cc = 0.84 x 30 x 600.00 x 1000.00 = 15048000.000 N

Cs = As x fy = 916800.00 N , Cs' = Asf x fy = 458400.000 N

Xp = (15048000.00 x 300.0 + 916800.0 x 100.0 + 458400.0 x 500.0) / 16423200.000

= 294.418 mm

- 평형상태 계산

Cb = 600 / (600 + fy) x d = 300.000 mm, ab = k1 x cb = 250.800 mm

fs' = 600 x (300.000 - 100.0) / 300.0(= 400 Mpa (fs' ≤ fy)

Cc = 0.836 x 30 x 250.800 x 1000 = 6290064.000 N

Cs = As' x (fs' - 0.9 x fck) = 427458.000 N

Ts = As x fs = 916800.000 N

Pb = 6290064.000 + 427458.000 - 916800.000 = 5800722.000 N

Mb = 6290064.000x(500.0-250.800/2)+427458.000x(500.0-100.0)-5800722.000x(294.418-100.0)

= 1399478417.013 N.mm

eb < e → 인장파괴 (eb = Mb / Pb = 241.259 mm)

- 공칭강도 계산 : 반복계산을 통해 c = 79.387 mm , a = k1 x c = 66.368 mm 사용

fs = 600 x (500.000 - 79.387) / 79.387 = 400 Mpa (fs ≤ fy)

fs' = 600 x (79.387 - 100.000) / 79.387 = 29.40378 Mpa (fs ≤ fy)

Cc = 0.836 x 30 x 66.368 x 1000 = 1664504.622 N

Cs = 1146.000 x (29.404 - 0.836 x 30) = 4955.051 N

Ts = 2292.000 x 400.000 = 916800.000 N

Pn = 1664504.622 + 4955.051 - 916800.000 = 752659.672 N

Mn' = 1664504.622 x (500.0 - 66.368 / 2) + 4955.051 x (500.0 - 100.0)

= 778999569.644 N.mm

- 편심오차 : | e' - Mn'/Pn | = 0.001 < 0.001 (e' = e + Xp - dc = 1034.994760 mm)

- 축방향력 및 휨에대한 검토

(max) Pn = 0.80 x { 0.85 fck x (Ag - Ast) + fy x Ast} : 13270024.800 N ≥ Pn = 752659.672

ΦPn = 526861.771 < ΦPb = 4060505.400 , 0.1 x fck x Ag = 1800000.000

∴ Φ = 0.800

ΦPn = 0.80 x 752659.672 = 602.128 kN ≥ Pu = 334.080 kN ------ O.K!!!

ΦMn = ΦPn x 840.577 = 506.135 kN.m ≥ Mu = 280.820 kN.m ------ O.K!!!

○ 전단력 검토

$\phi Vc = 0.85 \times 1/6 \times (1 + Pu / (14 \times Ag)) \times \sqrt{fck} \times bo \times d$ = 403400.272 N

여기서 , $1/2\phi Vc < Vu \leq \phi Vc$ 이므로 최소 전단 철근 필요

- 계산된 스터럽 : min.Av = 0.35x(bo x s / fy)= 1.31㎠

- 배근할 스터럽 : H 13 다리수: N = 2 스터럽 간격 : s = 15 cm O.K !!!

Av(req)= 1.31㎠ < Av = 2.534 cm^2 O.K !!!

○ 사용성 검토 (균열방지 인장철근 간격검토)

- 응력산정

$fs = M / [As \times (d - \chi/3)]$

$= 175.51 \times 1000000 / [2292 \times (500 - 111.633/3)]$

= 165.464 Mpa

$\chi = -nAs/b + nAs/b\sqrt{[1 + 2bd/(nAs)]}$

$= -7 \times 2292/1000 + 7 \times 2292/1000 \times \sqrt{[(1 + 2 \times 1000 \times 500/(7 \times 2292)]}$

= 111.633 mm

사용철근량 = 2292.000 mm^2 (철근도심 : 100 mm)

1단 H19 @ 125 (= 2292 ㎟)

- 철근의 최대 중심간격

Cc = 100 - 19 / 2 = 90.50 mm

여기서 Cc ; 인장철근이나 긴장재의 표면과 콘크리트 표면사이의 두께(mm)

Smin : 375 x (210 / fs) - 2.5 x Cc = 375 × (210 / 165.464) - 2.5 × 90.5 = 249.684 mm

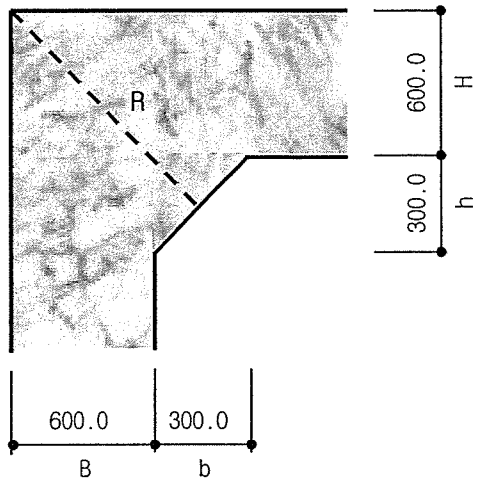
300 x (210 / fs) = 300 × (210 / 165.464) = 380.747 mm

Sa는 작은 값인 249.684 mm 를 적용

S = 125.00 ≤ Sa (= 249.684 mm) ----- ∴ O.K.

12. 우각부 검토

1) 상부 슬래브



CON'C 설계기준강도(fck) : 30.0 MPa

CON'C 허용휨인장응력(fta) = 0.13√fck Mpa

: 0.712 MPa

철근 항복강도(fy) : 400.0 MPa

철근 허용응력 : 180.0 MPa

사용 모멘트 Mo : 119.32 kN·m

$R = \sqrt{2} \times b / (b+h) \times [B + h + (H \times h/b)]$

$= 1060.66$ mm

① 보강철근 필요여부 판정

$$f_{tmax} = \frac{5 \times Mo}{R^2 \times W} = \frac{5 \times 119320000}{1060.66^2 \times 1000.0} = 0.530 \text{ MPa}$$

f_{tmax} = 0.53 MPa < f_{ta} = 0.712 MPa 이므로 보강철근 필요없음.

② 소요 철근량

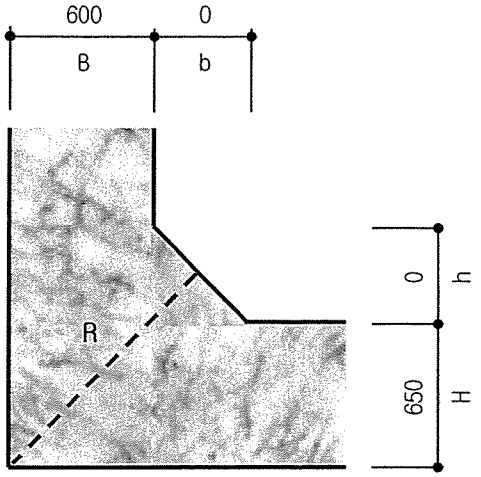
외측인장에 대한 보강 필요철근량(Asf)

$$Asf = \frac{2 \times Mo}{R \times fsa} = \frac{2 \times 0}{1060.66 \times 180.0} = 0.00 \text{ ㎟}$$

▶ 보강 As = Asf - 주철근사용 As = 0.00 - 1146 = -1146.00 ㎟

----- 우각부 보강철근 필요없음

2) 하부 슬래브



CON'C 설계기준강도(fck)	:	30.0	MPa
CON'C 허용휨인장응력(fta) = 0.13√fck Mpa			
	:	0.712	MPa
철근 항복강도(fy)	:	400.0	MPa
철근 허용응력	:	180.0	MPa
사용 모멘트 Mo	:	175.51	kN · m

R = √ (B2 + H2) = 884.59 mm

① 보강철근 필요여부 판정

$$f_{tmax} = \frac{5 \times Mo}{R^2 \times W} = \frac{5 \times 175510000}{884.59^2 \times 1000.0} = 1.121 \text{ MPa}$$

f_{tmax} = 1.121 MPa > f_{ta} = 0.712 MPa 이므로 보강철근 필요.

② 소요 철근량

외측인장에 대한 보강 필요철근량(Asf)

$$Asf = \frac{2 \times Mo}{R \times fsa} = \frac{2 \times 175510000}{884.59 \times 180.0} = 2204.54 \text{ ㎟}$$

▶ 보강 As = Asf - 주철근사용 As = 2204.54 - 1146 = 1058.54 ㎟

----- 우각부 보강철근 필요

외측인장에 대한 보강 사용철근량(As)

As = H19 @ 250 - 1 단 = 1146.00 ㎟

Asf = 1058.54 ㎟ < As = 1146.00 ㎟ ----- ∴ O.K.

13. 배력철근 검토

1) 구조상세 - 철도설계기준(노반편) p.5-19

다. 종방향으로 영향을 받는 경우로써 상부슬래브, 하부슬래브와 벽체에 있어서 종방향 최소철근량은 복토의 깊이가 3.0 m 이하인 경우에는 콘크리트 단면적의 0.4%, 복토가 3.0m 이상인 경우에는 복토 깊이가 30m인 경우의 사용량인 1.0%를 기준으로 선형변화량을 사용하되, 종방향 철근량은 주철근량 미만이어야 한다.

라. 단단한 지반 위에 놓인 경우와 말뚝기초로 지지되는 경우로써 종방향 부등침하가 우려되지 않은 경우에는 다.항의 기준을 적용하지 않는다. 따라서 어느 정도 견고한 지반위에 놓이는 일반적인 구교로써 적적한 신축이음매가 설치되어 상세한 종방향해석이 필요하지 않다고 판단되는 경우 종방향 철근량은 슬래브의 경우 콘크리트단면적의 0.25%, 벽체의 경우 0.3%를 적용한다.

마. 배력철근은 단위폭주변의 인장 주철근량의 1/5 이상으로 하여 종단방향에 계산외의 응력이 발생하는 것을 고려하여야 한다.

2) 배력철근의 최소 철근비

슬래브의 배력 철근비 = 0.25 %　　벽체의 배력 철근비 = 0.30 %

① 상부슬래브

배력철근 최소 철근비 (Asreq) = 1,000.0 × 600.0 × 0.25						=	1500.00	㎟
사용철근 인장측 ;	H	16	@	150		=	1324.00	㎟
압축측 ;	H	16	@	300		=	662.00	㎟
						∑ As =	1986.00	㎟

따라서, As = 1986.00 ㎟ > Asreq = 1500.00 ㎟ ------ ∴ O.K.

사용 주철근량의 1/5 = 458.400 ㎟

따라서, As = 1324.00 ㎟ > Asreq = 458.40 ㎟ ----- ∴ O.K.

② 하부슬래브

배력철근 최소 철근비 (Asreq) = 1,000.0 × 650.0 × 0.25						=	1625.00	㎟
사용철근 인장측 ;	H	16	@	150		=	1324.00	㎟
압축측 ;	H	16	@	300		=	662.00	㎟
						∑ As =	1986.00	㎟

따라서, As = 1986.00 ㎟ > Asreq = 1625.00 ㎟ ----- ∴ O.K.

사용 주철근량의 1/5 = 458.400 ㎟

따라서, As = 1324.00 ㎟ > Asreq = 458.40 ㎟ ----- ∴ O.K.

③ 벽체

배력철근 최소 철근비 (Asreq) = 1,000.0 × 600.0 × 0.30 = 1800.00 ㎟

사용철근 인장측 ; H 16 @ 150 = 1324.00 ㎟

압축측 ; H 16 @ 300 = 662.00 ㎟

∑ As = 1986.00 ㎟

따라서, As = 1986.00 ㎟ > Asreq = 1800.00 ㎟ ----- ∴ O.K.

사용 주철근량의 1/5 = 458.400 ㎟

따라서, As = 1324.00 ㎟ > Asreq = 458.40 ㎟ ----- ∴ O.K.

14. 사용성검토

1) 상부슬래브 최소 두께

1.2(L+3)/30 = 1.2 × (4.600 + 3) / 30 = 304.0 mm

상부슬래브 두께 = 600.0 mm

Tuse = 600.0 mm > Tmin = 304.0 mm ------ ∴ O.K.

2) 철근 피로검토

피로응력한계 : 사용하중하에서 활하중과 충격에 의해 야기되는 직선철근의 최대 인장응력과 최소 응력 상이의 범위는 다음 값을 초과할수 없다.

$f_f = 165 - 0.33fmin$

여기서, f_f : 응력범위(Mpa)

fmin : 최소응력 수준으로 인장은 정(+), 압축은 부(-)의 값(Mpa)

① 상부슬래브 단부

4.6 m 지간에서의 모멘트 변화에 의한 피로검토

Mmax = 0.371 kN · m Mmin = -10.879 kN · m

- 사용철근량 = H19 × 8ea = 2292.000 ㎟

n = 7

p = As / bd = 2292.00 / (1000 × 600) = 0.00382

$K = -np + \sqrt{\{(np)^2 + 2np\}}$

$= -7 \times 0.00382 + \sqrt{\{ (7 \times 0.00382)^2 + 2 \times 7 \times 0.00382 \}}$

= 0.206

J = 1 - K / 3 = 1 - 0.206 / 3 = 0.931

$$fs\ max = \frac{M}{As \times j \times d} = \frac{0.371 \times 10^6}{2292.00 \times 0.931 \times 600} = 0.290 \text{ Mpa}$$

$$fs\ min = \frac{-10.879 \times 10^6}{2292.00 \times 0.931 \times 600} = -8 \text{ Mpa}$$

$\Delta f = fs\ max - fs\ min = 8.784$ Mpa

$f_f = 165 - 0.33fmin$

= 165 - 0.33 × -8.49 = 167.803 Mpa > 8.784 Mpa O.K.

② 상부슬래브 중앙부

4.6 m 지간에서의 모멘트 변화에 의한 피로검토

Mmax = 46.512 kN · m Mmin = 41.391 kN · m

- 사용철근량 = H19 × 8ea = 2292.000 ㎟

n = 7

p = As / bd = 2292.00 / (1000 × 500) = 0.00458

$K = -np + \sqrt{\{(np)^2 + 2np\}}$

$= -7 \times 0.00458 + \sqrt{\{ (7 \times 0.00458)^2 + 2 \times 7 \times 0.00458 \}}$

= 0.223

J = 1 - K / 3 = 1 - 0.223 / 3 = 0.926

$$fs\ max = \frac{M}{As \times j \times d} = \frac{46.512 \times 10^6}{2292.00 \times 0.926 \times 500} = 43.850\ Mpa$$

$$fs\ min = \frac{41.391 \times 10^6}{2292.00 \times 0.926 \times 500} = 39\ Mpa$$

Δf = fs max - fs min = 4.828 Mpa

f_f = 165 - 0.33fmin

= 165 - 0.33 × 39.02 = 152.123 Mpa > 4.828 Mpa O.K.

15. 기초지지력 검토

1) 구체자중

-	5.200	x	0.650	x	24.500				=	82.810	kN/m
-	5.200	x	0.600	x	24.500				=	76.440	kN/m
-	4.500	x	0.600	x	24.500				=	66.150	kN/m
-	4.500	x	0.600	x	24.500				=	66.150	kN/m
-	0.300	x	0.300	x	1/2	x	2	x 24.500	=	2.205	kN/m
								∴ Total	=	293.755	kN/m

293.755 / 5.200 = 56.491 kN/m²

2) 상부연직하중

= 32.12 kN/m²

3) 활하중

= 21.019 kN/m²

4) 최대 지반 반력

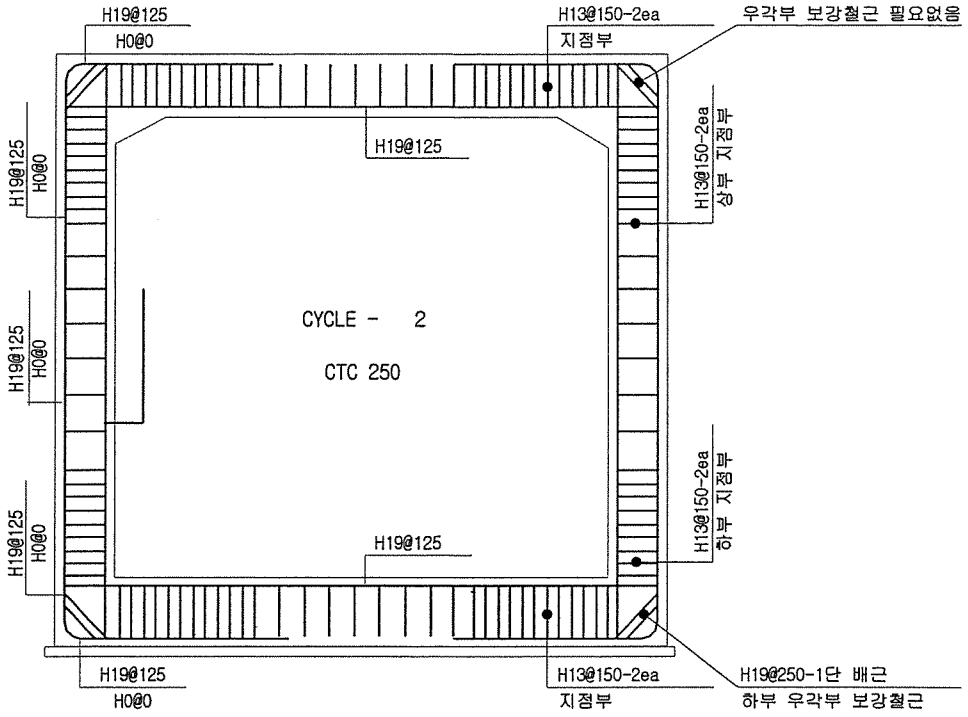
Qmax = 56.491 + 32.120 + 21.019

= 109.630 kN/m²

5) 지지력 검토

Qmax = 109.630 kN/m² < 300.00 kN/m² --- ∴ O.K.

16. 주철근 조립도



▶ 배력철근

- 상부 지점부 : H16, 인장측:150, 압축측:300
- 하부 지점부 : H16, 인장측:150, 압축측:300
- 벽체부 : H16, 인장측:150, 압축측:300

17. 날개벽 설계

17.1 W1~W4

17.1.1 설 계 조 건

① 날개벽 형식 : 평 행 날 개 벽

② 단 위 중 량 : γ_t = 20.0 kN/㎥

③ 내부 마찰각 : ϕ = 35.0 °

④ 토 압 계 수 : K_o = (1 - sinϕ) × (1 + sinβ) = 0.634

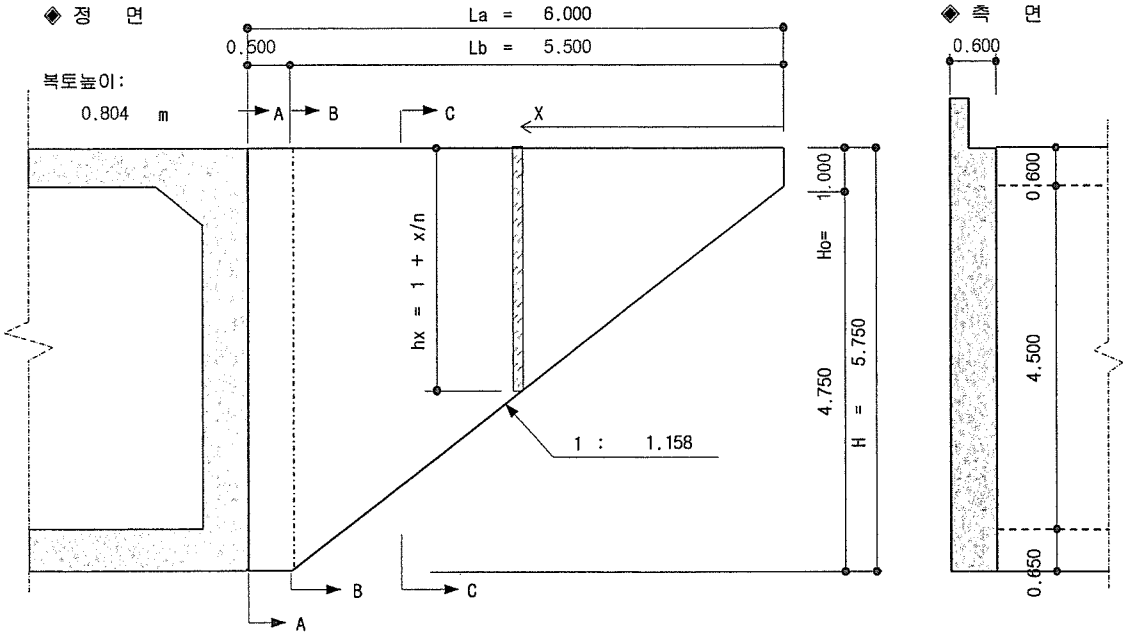
⑤ 면벽 기울기 : 1 : 1.158 (평균구배 적용)

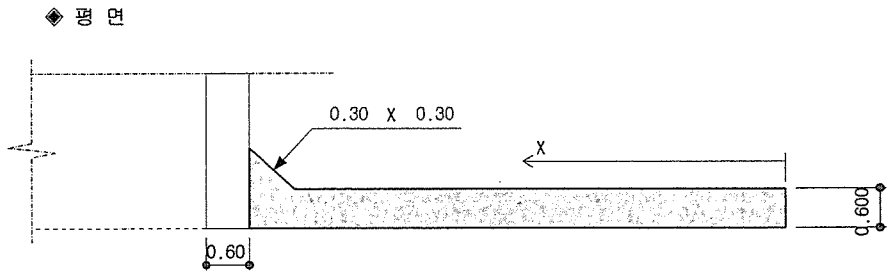
⑥ 콘크리트 강도 : f_{ck} = 30 MPa

⑦ 철근 항복응력 : f_y = 400 MPa

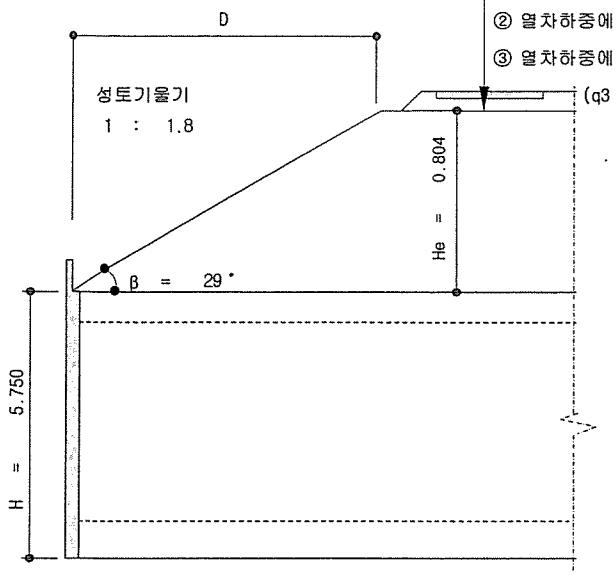
17.1.2 날개벽 단면

; 범용계산을 위하여 단면가정이 일반도와 상이할 수 있으나, 적용치수는 일반도와 같이 적용됨.





17.1.3 하 중 계 산 (상재하중 : q)



① 궤도중량에 의한 상재하중 (q_1 = 15.00 kN/㎡)
② 열차하중에 의한 상재하중 (q_2 = 35.00 kN/㎡)
③ 열차하중에 의한 상재하중 (q_3 = 80/B kN/㎡)
(q3 = 궤도가 근접해 있는 경우, 열차하중에 의한 상재하중)

1) 옹벽으로부터 궤도까지의 거리
- B = 2.100 > 2.00 ∴ q_3 = 0.00
- D = 0.804 × 1.8 = 1.447

2) 평행날개벽에 작용하는 상재하중(q)

① 기타 상재하중	=	15.000	kN/㎡
② 궤도중량에 의한 상재하중	=	35.000	kN/㎡
③ 열차하중에 의한 상재하중	=	0.000	kN/㎡

∴ TOTAL = 50.000 kN/㎡

17.1.4 설계단면력계산

1) 단 면 A-A [x = La = 6.000 m]

① Moment

$$-Ma = \frac{1}{2}Ko \cdot \gamma \left(\frac{x^4}{12n^2} + \frac{x^3 \cdot Ho}{3n} + \frac{x^2 \cdot Ho^2}{2} \right) + Ko \cdot q \left(\frac{x^3}{6n} + \frac{x^2 \cdot Ho}{2} \right)$$

$$= \frac{1}{2} \times 0.63 \times 20.0 \left(\frac{6.000^4}{12 \times 1.16^2} + \frac{6.000^3 \times 1.000}{3 \times 1.16} + \frac{6.000^2 \times 1.000^2}{2} \right)$$

$$+ 0.63 \times 50.00 \left(\frac{6.000^3}{6 \times 1.16} + \frac{6.000^2 \times 1.000}{2} \right) = 2575.245 \text{ kN} \cdot \text{m}$$

② Shear Force

$$-Sa = \frac{1}{2}Ko \cdot \gamma \left(\frac{x^3}{3n^2} + \frac{x^2 \cdot Ho}{n} + x \cdot Ho^2 \right) + Ko \cdot q \left(\frac{x^2}{2n} + x \cdot Ho \right)$$

$$= \frac{1}{2} \times 0.63 \times 20.0 \left(\frac{6.000^3}{3 \times 1.16^2} + \frac{6.000^2 \times 1.000}{1.158} + 6.000 \times 1.000^2 \right)$$

$$+ 0.63 \times 50.00 \left(\frac{6.000^2}{2 \times 1.16^2} + 6.000 \times 1.000 \right) = 1258.621 \text{ kN}$$

∴ USD : Ma = 1.6 × 2575.245 ÷ 5.750 × 1.2 = 859.908 kN · m/m
WSD : Ma = 1.0 × 2575.245 ÷ 5.750 × 1.2 = 537.442 kN · m/m
USD : Sa = 1.6 × 1258.621 ÷ 5.750 × 1.2 = 420.27 kN/m

적용위치(x)	La	Lb / 4				비 고
	6.000	5.500	4.125	2.750	1.375	
hx	5.750	5.750	4.600	3.400	2.200	[hx=Ho+x/n]
Moment	2575.245	1998.759	886.104	299.227	53.975	kN · m
Mx[USD]	859.908	667.412	369.852	140.813	39.255	kN · m/m
Mx[WSD]	537.442	417.132	231.158	88.008	24.534	kN · m/m
Shear Force	1258.6210	1051.185	593.641	282.32	92.635	kN
Sx[USD]	420.270	351.004	247.781	132.856	67.371	kN/m

2) 단 면 B-B [x = Lb = 5.500 m]
: 위의 표17-1 참조

3) 단 면 C-C [x = 4.125 m]
: 위의 표17-1 참조

17.1.5 단면설계(날개벽 단면A-A)

1) 단면계산 조건

- 단 면 폭 : b_w = 1000 mm
- 단 면 높 이 : h = 600 mm
- 헌 치 : H = 300 mm
- 유 효 높 이 : d_1 = 600 mm (단면계산시)
  d_2 = 500 mm (전단계산시)
- 피 복 두 께 : d_1' = 100 mm (인장1단)
- 피 복 두 께 : d_2' = 0 mm (인장2단)
- 계수 모멘트 : USD : Mu = 859.908 kN·m
  WSD : Ms = 537.442 kN·m
- 계수전단강도: USD : Vu = 420.270 kN

- 콘크리트 강도 : f_{ck} = 30.0 MPa
- 철근 항복응력 : f_y = 400 MPa
- 강도 감소계수 : ϕ = 0.9 (휨)
  ϕ = 0.85 (전단)

2) 단면 계산

(1) 철근량 산정

- 최소철근량(A_S) : (1.4 / fy · b · d) = 2100 ㎟
- 필요철근량(A_S) : $[d-\sqrt{(d^2-4Mu/1.7 \cdot fck \cdot b \cdot \Phi)}] / [2 \cdot fy / 1.7 \cdot fck \cdot b]$ = 4213 ㎟
- 최대철근량(A_S) : $0.75 \cdot 0.85 \cdot \beta \cdot fck \cdot 600 / [fy \cdot (600+fy)] \cdot b \cdot d$ = 14631 ㎟
- 4/3 (요구 철근량 (A_S)) = 5617.333 ㎟

(2) 사용 철근량 (A_S)

- 인장 철근량 : 1단 : H 29 @ 125 - 8 ea = 5139 ㎟
  2단 : H @ 0 - ea = 0 ㎟ ; Total: 5,139 ㎟

(3) 철근비검토

- 최소철근비: $\rho_{min} = 0.25 \times \sqrt{(f_{ck})}/f_y$ = 0.00342 < $1.4 / f_y$ = 0.00350
- 균형철근비: $\rho_b = 0.85 \times \beta_1 \times (f_{ck} / f_y) \times (600 / (600 + f_y))$ = 0.03198 (β_1= 0.836)

∴ ρ_{min} = 0.00350 < ρ = 0.00857 < ρ_{max} = 0.02283 == OK ==

(3) 단면 검토

- 등가응력 깊이 : a = As · fy / (0.85 · fck · b) = 80.61 mm
- 극한 모멘트 : Mu = 859.91 kN·m
- 공칭 모멘트 : Mn = As · fy (d-a/2) = 1150.55 kN·m
- 설계 모멘트 : Md = Φ · Mn = 1035.50 kN·m

∴ Md > Mu == OK ==

3) 전단 검토

- Vc = $1/6 \times \sqrt{f_{ck}} \times b_w \times d$ = 456.44 kN

- Φ · Vc	= 387.974 kN	- Req Vs	= (Vu - ϕVc) / ϕ	= 37.995	kN
- 0.5 · Φ · Vc	= 193.99 kN	- Vs	= Av · fy · d / s	= 337.867	kN
- Min Av	= 131.25 mm²	- Max Vs	= 2/3 · √fck · bw · d	= 1825.742	kN

∴ Vu > Φ · Vc === 전단철근 필요 !!!

(1) 사용 전단철근

- 전단 철근 간격 : s = 150 mm
- 전단 철근 직경 : H 13 - 2.0
- 전단 철근 단면적 : Av = 253 mm²

∴ Req'd Vs < Vs < Max. Vs == OK ==

(2) 단면력 검토 (shear force)

- 공칭 전단강도 : Vn = 794.307 kN
- 설계 전단강도 : Vd = 675.161 kN ∴ Vd > Vu == OK ==

4) 균열 검토

- 콘크리트 피복 두께 (dc) = 100 mm
- 인장철근 도심까지의 거리 (dc') = 100 mm
- d = 700 - 100 = 600 mm

- fs = M / {As (d - x/3)}
  = 537442435 ÷ (5139.2 × (600 - 175 ÷ 3)) = 193.1 N/mm²
- 철근 유효단면적 : A = 1000 × 100 × 2 ÷ 8 = 25000 mm²
- 압축응력 깊이 : x = k · d = 175 mm
- 중 립 축 비 : k = $-np + \sqrt{(np)^2 + 2np}$ = 0.29155 (n = 7)
- 철 근 비 : p = As / [b · d]
  = 5139 ÷ (1000 × 600) = 0.00857
- 인장철근의 간격 검토

Cc = 100 - 29 / 2 = 85.5 mm

sa1 = 375 x (210 / fs) - 2.5 x Cc
= 375 x (210 / 193.1) - 2.5 x 86 = 194.2 mm

sa2 = 300 x (210 / fs)
= 300 x (210 / 193.1) = 326.3 mm

sa = Min (194.2 , 326.3) = 194.2 mm

s = 125 mm < sa = 194.2 mm == OK ==

5) 배력철근 계산

- 주철근량의 1/5 : A_{min1} = 1/5 × 5139.2 = 1028 mm²
- 단면적의 0.30% : A_{min2} = 0.003 × Ag = 0.003 × 1000 600 = 1800 mm²
- 배 력 철 근 량 : H 16 , 인장측 : 150 mm , 압축측 : 300 mm
  * 인장측 배력철근량 : 198.6 × (1000 ÷ 150) × 1 = 1390 mm²
  * 압축측 배력철근량 : 198.6 × (1000 ÷ 300) = 596 mm²
- 배 력 철 근 량 : 1986 mm² > 1800 mm² = Amin == O.K ==
- 인장측 배력철근량 : 1390 mm² < 5139 mm² = 인장측 주철근량 == O.K ==

17.1.6 단면설계(날개벽 단면B-B)

1) 단면계산 조건

- 단 면 폭 : b_w = 1000 mm
- 단 면 높 이 : h = 600 mm
- 유 효 높 이 : d_1 = 500 mm (단면계산시)
  d_2 = 500 mm (전단계산시)
- 피 복 두 께 : d_1' = 100 mm (인장1단)
- 피 복 두 께 : d_2' = 0 mm (인장2단)
- 계수 모멘트 : USD : Mu = 667.41 kN·m
  WSD : Ms = 417.13 kN·m
- 계수전단강도: USD : Vu = 351.00 kN

- 콘크리트 강도 : f_{ck} = 30.0 MPa
- 철근 항복응력 : f_y = 400 MPa
- 강도 감소계수 : ϕ = 0.9 (휨)
  ϕ = 0.85 (전단)

---

2) 단면 계산

(1) 철근량 산정

- 최소철근량(A_S) : (1.4 / fy·b·d) = 1750 ㎟
- 필요철근량(A_S) : $[d-\sqrt{(d^2-4Mu/1.7\cdot fck\cdot b\cdot \Phi)}] / [2\cdot fy / 1.7\cdot fck\cdot b]$ = 3953 ㎟
- 최대철근량(A_S) : $0.75\cdot 0.85\cdot \beta\cdot fck\cdot 600 / [fy\cdot (600+fy)]\cdot b\cdot d$ = 12192 ㎟
- 4/3 (요구 철근량 (A_S)) = 5270.667 ㎟

(2) 사용 철근량 (A_S)

- 인장 철근량 : 1단 : H 29 @ 125 - 8 ea = 5139 ㎟
  2단 : H 0 @ 0 - 0 ea = 0 ㎟ ; Total: 5,139 ㎟

(3) 철근비검토

- 최소철근비: $\rho_{min} = 0.25\times\sqrt{(f_{ck})}/f_y$ = 0.00342 < 1.4 / f_y = 0.00350
- 균형철근비: $\rho_b = 0.85\times\beta_1\times(f_{ck}/f_y)\times(600/(600+f_y))$ = 0.03198 (β_1= 0.836)

∴ ρ_{min} = 0.00350 < ρ = 0.01028 < ρ_{max} = 0.02283 == OK ==

(3) 단면 검토

- 등가응력 깊이 : a = As·fy / (0.85·fck·b) = 80.61 mm
- 극한 모멘트 : Mu = 667.41 kN·m
- 공칭 모멘트 : Mn = As·fy (d-a/2) = 944.99 kN·m
- 설계 모멘트 : Md = Φ· Mn = 850.49 kN·m

∴ Md > Mu == OK ==

3) 전단 검토

- Vc = $1/6\times\sqrt{(f_{ck})}\times b_w\times d$ = 456.44 kN
- Φ·Vc = 387.974 kN

∴ Vu < Φ·Vc === 전단철근 불필요 !!!

4) 균열 검토

- 콘크리트 피복 두께 (dc) = 100 mm
- 인장철근 도심까지의 거리 (dc') = 100 mm
- d = 600 - 100 = 500 mm

- fs = M / {As (d - x/3)}
  = 417132313 ÷ (5139.2 × (500 - 157 ÷ 3)) = 181.3 N/㎟
- 철근 유효단면적 : A = 1000 × 100 × 2 ÷ 8 = 25000 ㎟
- 압축응력 깊이 : x = k · d = 157 mm
- 중 립 축 비 : k = $-np + \sqrt{(np)^2 + 2np}$ = 0.31417 (n = 7)
- 철 근 비 : p = As / [b · d]
  = 5139 ÷ (1000 × 500) = 0.01028
- 인장철근의 간격 검토

Cc = 100 - 29 / 2 = 85.5 mm

sa1 = 375 x (210 / fs) - 2.5 x Cc
= 375 x (210 / 181.3) - 2.5 x 86 = 220.6 mm
sa2 = 300 x (210 / fs)
= 300 x (210 / 181.3) = 347.4 mm

sa = Min (220.6 , 347.4) = 220.6 mm
s = 125 mm < sa = 220.6 mm == OK ==

5) 배력철근 계산

- 주철근량의 1/5 : A_{min1} = 1/5 × 5139.2 = 1028 ㎟
- 단면적의 0.30% : A_{min2} = 0.003 × Ag = 0.003 × 1000 × 600 = 1800 ㎟
- 배 력 철 근 량 : H 16 , 인장측 : 150 mm , 압축측 : 300 mm
  * 인장측 배력철근량 : 198.6 × (1000 ÷ 150) × 1 = 1390 ㎟
  * 압축측 배력철근량 : 198.6 × (1000 ÷ 300) = 596 ㎟
- 배 력 철 근 량 : 1986 ㎟ > 1800 ㎟ = Amin == 0.K ==
- 인장측 배력철근량 : 1390 ㎟ < 5139 ㎟ = 인장측 주철근량 == 0.K ==

17.1.7 단면설계(날개벽 단면C-C)

1) 단면계산 조건

- 단 면 폭 : b_w = 1000 mm
- 단 면 높 이 : h = 600 mm
- 유 효 높 이 : d_1 = 500 mm (단면계산시)
  d_2 = 500 mm (전단계산시)
- 피 복 두 께 : d_1' = 100 mm (인장1단)
- 피 복 두 께 : d_2' = 0 mm (인장2단)
- 계수 모멘트 : USD : Mu = 369.85 kN · m
  WSD : Ms = 231.16 kN · m
- 계수전단강도: USD : Vu = 247.78 kN

- 콘크리트 강도 : f_{ck} = 30.0 MPa
- 철근 항복응력 : f_y = 400 MPa
- 강도 감소계수 : ϕ = 0.9 (휨)
  ϕ = 0.85 (전단)

2) 단면 계산

(1) 철근량 산정

- 최소철근량(A_S) : (1.4 / fy · b · d) = 1750 ㎟
- 필요철근량(A_S) : $[d-\sqrt{(d^2-4Mu/1.7 \cdot fck \cdot b \cdot \Phi)}] / [2 \cdot fy / 1.7 \cdot fck \cdot b]$ = 2126 ㎟
- 최대철근량(A_S) : $0.75 \cdot 0.85 \cdot \beta \cdot fck \cdot 600 / [fy \cdot (600+fy)] \cdot b \cdot d$ = 12192 ㎟
- 4/3 (요구 철근량 (A_S)) = 2834.667 ㎟

(2) 사용 철근량 (A_S)

- 인장 철근량 : 1단 : H 29 @ 125 - 8 ea = 5139 ㎟
  2단 : H @ 0 - ea = 0 ㎟ ; Total: 5,139 ㎟

(3) 철근비검토

- 최소철근비: $\rho_{min} = 0.25 \times \sqrt{(f_{ck})}/f_y$ = 0.00342 < 1.4 / f_y = 0.00350
- 균형철근비: $\rho_b = 0.85 \times \beta_1 \times (f_{ck} / f_y) \times (600 / (600 + f_y))$ = 0.03198 (β_1= 0.836)

∴ ρ_{min} = 0.00350 < ρ = 0.01028 < ρ_{max} = 0.02283 == OK ==

(3) 단면 검토

- 등가응력 깊이 : a = As · fy / (0.85 · fck · b) = 80.61 mm
- 극한 모멘트 : Mu = 369.85 kN · m
- 공칭 모멘트 : Mn = As · fy (d-a/2) = 944.99 kN · m
- 설계 모멘트 : Md = Φ · Mn = 850.49 kN · m

∴ Md > Mu == OK ==

3) 전단 검토

- Vc = $1/6 \times \sqrt{(f_{ck})} \times b_w \times d$ = 456.44 kN
- Φ · Vc = 387.974 kN

∴ Vu < Φ · Vc === 전단철근 불필요 !!!

4) 균열 검토

- 콘크리트 피복 두께 (dc) = 100 mm
- 인장철근 도심까지의 거리 (dc') = 100 mm
- d = 600 - 100 = 500 mm

- fs = M / {As (d - x/3)}
  = 231157565 ÷ (5139.2 × (500 - 157 ÷ 3)) = 100.5 N/㎟
- 철근 유효단면적 : A = 1000 × 100 × 2 ÷ 8 = 25000 ㎟
- 압축응력 깊이 : x = k · d = 157 mm
- 중 립 축 비 : k = $-np + \sqrt{(np)^2 + 2np}$ = 0.31417 (n = 7)
- 철 근 비 : p = As / [b · d]
  = 5139 ÷ (1000 × 500) = 0.01028
- 인장철근의 간격 검토

  Cc = 100 - 29 / 2 = 86 mm

  sa1 = 375 x (210 / fs) - 2.5 x Cc
  = 375 x (210 / 100.5) - 2.5 x 86 = 570.0 mm

  sa2 = 300 x (210 / fs)
  = 300 x (210 / 100.5) = 627.0 mm

  sa = Min (570.0 , 627.0) = 570.0 mm

  s = 125 mm < sa = 570.0 mm == OK ==

5) 배력철근 계산

- 주철근량의 1/5 : A_{min1} = 1/5 × 5139.2 = 1028 ㎟
- 단면적의 0.30% : A_{min2} = 0.003 × Ag = 0.003 × 1000 × 600 = 1800 ㎟
- 배 력 철 근 량 : H 16 , 인장측 : 150 mm , 압축측 : 300 mm
  - * 인장측 배력철근량 : 198.6 × (1000 ÷ 150) × 1 = 2582 ㎟
  - * 압축측 배력철근량 : 198.6 × (1000 ÷ 300) = 596 ㎟
- 배 력 철 근 량 : 3178 ㎟ > 1800 ㎟ = Amin == O.K ==
- 인장측 배력철근량 : 1800 ㎟ < 5139 ㎟ = 인장측 주철근량 == O.K ==

17.1.8 날개벽 주철근조립도