

영천철토01 반발도법에 의한 압축강도 추정(암반강도)

구 분	측정위치	타격방향	측정치					평균치	보정값					보정후 측정치					상위50% 평균값(대표값)	암석의 밀도 (kN/㎡)	일축압축강도 추정(Mpa)
1구간	1.090k	-45	51	52	55	48	35	49.0	-2.15	-2.10	-1.95	-2.30	-2.90	48.85	49.90	53.05	45.70	32.10	53.9	23.0	100.4
			37	32	52	55	54		-2.82	-3.02	-2.10	-1.95	-2.00	34.18	28.98	49.90	53.05	52.00			
			58	58	58	58	28		-1.80	-1.80	-1.80	-1.80	-3.16	56.20	56.20	56.20	56.20	24.84			
			42	44	53	55	54		-2.60	-2.50	-2.05	-1.95	-2.00	39.40	41.50	50.95	53.05	52.00			
1구간	1.100k	-45	48	48	42	40	18	46.7	-2.30	-2.30	-2.60	-2.70	-3.36	45.70	45.70	39.40	37.30	14.64	53.5	23.0	98.6
			56	56	58	56	56		-1.90	-1.90	-1.80	-1.90	-1.90	54.10	54.10	56.20	54.10	54.10			
			56	48	48	38	18		-1.90	-2.30	-2.30	-2.78	-3.36	54.10	45.70	45.70	35.22	14.64			
			40	40	56	56	56		-2.70	-2.70	-1.90	-1.90	-1.90	37.30	37.30	54.10	54.10	54.10			
1구간	1.105k	-45	52	56	54	50	50	47.8	-2.10	-1.90	-2.00	-2.20	-2.20	49.90	54.10	52.00	47.80	47.80	51.4	23.0	90.2
			38	48	48	50	50		-2.78	-2.30	-2.30	-2.20	-2.20	35.22	45.70	45.70	47.80	47.80			
			48	40	58	58	56		-2.30	-2.70	-1.80	-1.80	-1.90	45.70	37.30	56.20	56.20	54.10			
			40	40	40	40	40		-2.70	-2.70	-2.70	-2.70	-2.70	37.30	37.30	37.30	37.30	37.30			
2구간	1.295k	-45	56	56	52	52	54	48.5	-1.90	-1.90	-2.10	-2.10	-2.00	54.10	54.10	49.90	49.90	52.00	51.8	23.0	91.8
			50	50	40	38	40		-2.20	-2.20	-2.70	-2.78	-2.70	47.80	47.80	37.30	35.22	37.30			
			48	46	40	40	52		-2.30	-2.40	-2.70	-2.70	-2.10	45.70	43.60	37.30	37.30	49.90			
			42	48	58	58	50		-2.60	-2.30	-1.80	-1.80	-2.20	39.40	45.70	56.20	56.20	47.80			
2구간	1.300k	-45	54	54	54	54	54	47.7	-2.00	-2.00	-2.00	-2.00	-2.00	52.00	52.00	52.00	52.00	52.00	52.0	23.0	92.6
			48	48	38	38	38		-2.30	-2.30	-2.78	-2.78	-2.78	45.70	45.70	35.22	35.22	35.22			
			46	48	30	40	40		-2.40	-2.30	-3.10	-2.70	-2.70	43.60	45.70	26.90	37.30	37.30			
			56	56	54	54	50		-1.90	-1.90	-2.00	-2.00	-2.20	54.10	54.10	52.00	52.00	47.80			
2구간	1.310k	-45	38	38	38	40	40	47.3	-2.78	-2.78	-2.78	-2.70	-2.70	35.22	35.22	35.22	37.30	37.30	51.4	23.0	90.2
			54	56	56	56	50		-2.00	-1.90	-1.90	-1.90	-2.20	52.00	54.10	54.10	54.10	47.80			
			48	50	54	54	56		-2.30	-2.20	-2.00	-2.00	-1.90	45.70	47.80	52.00	52.00	54.10			
			44	30	48	48	48		-2.50	-3.10	-2.30	-2.30	-2.30	41.50	26.90	45.70	45.70	45.70			

상주절토02 반발도법에 의한 압축강도 추정(암반강도)

구 분	측정위치	타격방향	측정치					평균치	보정값					보정후 측정치					상위50% 평균값(대표값)	암석의 밀도 (kN/㎡)	일축압축강도 추정(Mpa)
1구간	2.275k	0	48	48	48	50	50	47.8	-2.30	-2.30	-2.30	-2.20	-2.20	45.70	45.70	45.70	47.80	47.80	49.9	23.0	84.8
			50	44	44	30	48		-2.20	-2.50	-2.50	-3.10	-2.30	47.80	41.50	41.50	26.90	45.70			
			52	52	44	44	60		-2.10	-2.10	-2.50	-2.50	-1.70	49.90	49.90	41.50	41.50	58.30			
			38	50	54	54	48		-2.78	-2.20	-2.00	-2.00	-2.30	35.22	47.80	52.00	52.00	45.70			
1구간	2.290k	0	44	42	38	30	48	48.7	-2.50	-2.60	-2.78	-3.10	-2.30	41.50	39.40	35.22	26.90	45.70	52.0	23.0	92.6
			50	52	52	52	60		-2.20	-2.10	-2.10	-2.10	-1.70	47.80	49.90	49.90	49.90	58.30			
			60	60	48	44	40		-1.70	-1.70	-2.30	-2.50	-2.70	58.30	58.30	45.70	41.50	37.30			
			50	50	50	52	52		-2.20	-2.20	-2.20	-2.10	-2.10	47.80	47.80	47.80	49.90	49.90			
2구간	2.460k	-45	40	52	52	54	52	47.9	-2.70	-2.10	-2.10	-2.00	-2.10	37.30	49.90	49.90	52.00	49.90	51.6	23.0	91.0
			50	38	38	44	40		-2.20	-2.78	-2.78	-2.50	-2.70	47.80	35.22	35.22	41.50	37.30			
			58	50	58	40	38		-1.80	-2.20	-1.80	-2.70	-2.78	56.20	47.80	56.20	37.30	35.22			
			50	50	52	44	58		-2.20	-2.20	-2.10	-2.50	-1.80	47.80	47.80	49.90	41.50	56.20			
								#DIV/0!	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	23.0	#N/A
									#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A			
									#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A			
									#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A			

상주절토03 반발도법에 의한 압축강도 추정(암반강도)

구 분	측정위치	타격방향	측정치					평균치	보정값					보정후 측정치					상위50% 평균값(대표값)	암석의 밀도 (kN/㎡)	일축압축강도 추정(Mpa)
1구간	3.640k	45	40	40	40	44	48	51.8	-2.70	-2.70	-2.70	-2.50	-2.30	37.30	37.30	37.30	41.50	45.70	57.0	23.0	114.7
			60	60	60	60	56		-1.70	-1.70	-1.70	-1.70	-1.90	58.30	58.30	58.30	58.30	54.10			
			48	48	46	46	48		-2.30	-2.30	-2.40	-2.40	-2.30	45.70	45.70	43.60	43.60	45.70			
			58	58	58	58	60		-1.80	-1.80	-1.80	-1.80	-1.70	56.20	56.20	56.20	56.20	58.30			
1구간	3.740k	45	50	44	38	38	40	49.7	-2.20	-2.50	-2.78	-2.78	-2.70	47.80	41.50	35.22	35.22	37.30	54.5	23.0	103.1
			60	50	52	58	58		-1.70	-2.20	-2.10	-1.80	-1.80	58.30	47.80	49.90	56.20	56.20			
			58	58	40	40	50		-1.80	-1.80	-2.70	-2.70	-2.20	56.20	56.20	37.30	37.30	47.80			
			46	46	48	60	60		-2.40	-2.40	-2.30	-1.70	-1.70	43.60	43.60	45.70	58.30	58.30			
1구간	3.690k	-45	40	40	56	56	56	49.5	-2.70	-2.70	-1.90	-1.90	-1.90	37.30	37.30	54.10	54.10	54.10	54.7	23.0	104.0
			60	60	60	60	58		-1.70	-1.70	-1.70	-1.70	-1.80	58.30	58.30	58.30	58.30	56.20			
			48	48	48	50	50		-2.30	-2.30	-2.30	-2.20	-2.20	45.70	45.70	45.70	47.80	47.80			
			44	40	38	38	40		-2.50	-2.70	-2.78	-2.78	-2.70	41.50	37.30	35.22	35.22	37.30			
1구간	3.740k	-45	40	40	58	58	58	51.4	-2.70	-2.70	-1.80	-1.80	-1.80	37.30	37.30	56.20	56.20	56.20	56.8	23.0	113.7
			40	38	38	56	56		-2.70	-2.78	-2.78	-1.90	-1.90	37.30	35.22	35.22	54.10	54.10			
			58	58	60	60	60		-1.80	-1.80	-1.70	-1.70	-1.70	56.20	56.20	58.30	58.30	58.30			
			58	58	48	48	38		-1.80	-1.80	-2.30	-2.30	-2.78	56.20	56.20	45.70	45.70	35.22			
1구간	3.690k	-45	44	48	48	60	60	50.8	-2.50	-2.30	-2.30	-1.70	-1.70	41.50	45.70	45.70	58.30	58.30	54.5	23.0	103.1
			40	40	54	50	50		-2.70	-2.70	-2.00	-2.20	-2.20	37.30	37.30	52.00	47.80	47.80			
			38	48	48	48	50		-2.78	-2.30	-2.30	-2.30	-2.20	35.22	45.70	45.70	45.70	47.80			
			56	58	58	58	60		-1.90	-1.80	-1.80	-1.80	-1.70	54.10	56.20	56.20	56.20	58.30			
1구간	3.740k	-45	60	60	60	60	60	51.6	-1.70	-1.70	-1.70	-1.70	-1.70	58.30	58.30	58.30	58.30	58.30	57.5	23.0	116.8
			50	50	48	48	50		-2.20	-2.20	-2.30	-2.30	-2.20	47.80	47.80	45.70	45.70	47.80			
			38	36	40	40	40		-2.78	-2.86	-2.70	-2.70	-2.70	35.22	33.14	37.30	37.30	37.30			
			58	58	58	58	60		-1.80	-1.80	-1.80	-1.80	-1.70	56.20	56.20	56.20	56.20	58.30			

영천철토04 반발도법에 의한 압축강도 추정(암반강도)

구 분	측정위치	타격방향	측정치	평균치	보정값	보정후 측정치	상위50% 평균값(대표값)	암석의 밀도 (kN/㎡)	일축압축강도 추정(Mpa)
1구간	4.420k	-45	44 44 44 44 44	49.5	-2.50 -2.50 -2.50 -2.50 -2.50	41.50 41.50 41.50 41.50 41.50	54.1	23.0	101.3
			50 50 50 58 60		-2.20 -2.20 -2.20 -1.80 -1.70	47.80 47.80 47.80 56.20 58.30			
			58 58 58 60 58		-1.80 -1.80 -1.80 -1.70 -1.80	56.20 56.20 56.20 58.30 56.20			
			40 40 40 48 42		-2.70 -2.70 -2.70 -2.30 -2.60	37.30 37.30 37.30 45.70 39.40			
1구간	4.425k	-45	50 50 48 48 48	53.4	-2.20 -2.20 -2.30 -2.30 -2.30	47.80 47.80 45.70 45.70 45.70	58.1	23.0	119.9
			60 60 60 60 60		-1.70 -1.70 -1.70 -1.70 -1.70	58.30 58.30 58.30 58.30 58.30			
			49 60 60 58 60		-2.25 -1.70 -1.70 -1.80 -1.70	46.75 58.30 58.30 56.20 58.30			
			60 58 40 40 38		-1.70 -1.80 -2.70 -2.70 -2.78	58.30 56.20 37.30 37.30 35.22			
1구간	4.430k	-45	52 58 58 56 54	53.4	-2.10 -1.80 -1.80 -1.90 -2.00	49.90 56.20 56.20 54.10 52.00	56.9	23.0	114.2
			40 42 42 58 58		-2.70 -2.60 -2.60 -1.80 -1.80	37.30 39.40 39.40 56.20 56.20			
			57 60 60 58 52		-1.85 -1.70 -1.70 -1.80 -2.10	55.15 58.30 58.30 56.20 49.90			
			44 42 59 58 60		-2.50 -2.60 -1.75 -1.80 -1.70	41.50 39.40 57.25 56.20 58.30			
2구간	4.520k	-45	30 48 38 58 58	50.2	-3.10 -2.30 -2.78 -1.80 -1.80	26.90 45.70 35.22 56.20 56.20	57.9	23.0	118.8
			60 60 60 60 60		-1.70 -1.70 -1.70 -1.70 -1.70	58.30 58.30 58.30 58.30 58.30			
			20 24 44 40 48		-3.40 -3.28 -2.50 -2.70 -2.30	16.60 20.72 41.50 37.30 45.70			
			60 60 60 58 58		-1.70 -1.70 -1.70 -1.80 -1.80	58.30 58.30 58.30 56.20 56.20			
2구간	4.525k	-45	44 44 58 58 58	55.3	-2.50 -2.50 -1.80 -1.80 -1.80	41.50 41.50 56.20 56.20 56.20	56.8	23.0	113.7
			60 60 58 58 58		-1.70 -1.70 -1.80 -1.80 -1.80	58.30 58.30 56.20 56.20 56.20			
			54 42 58 58 60		-2.00 -2.60 -1.80 -1.80 -1.70	52.00 39.40 56.20 56.20 58.30			
			58 58 52 54 56		-1.80 -1.80 -2.10 -2.00 -1.90	56.20 56.20 49.90 52.00 54.10			
2구간	4.530k	-45	56 54 56 60 60	54.8	-1.90 -2.00 -1.90 -1.70 -1.70	54.10 52.00 54.10 58.30 58.30	57.7	23.0	117.8
			50 48 38 38 58		-2.20 -2.30 -2.78 -2.78 -1.80	47.80 45.70 35.22 35.22 56.20			
			60 60 60 60 60		-1.70 -1.70 -1.70 -1.70 -1.70	58.30 58.30 58.30 58.30 58.30			
			58 54 54 54 58		-1.80 -2.00 -2.00 -2.00 -1.80	56.20 52.00 52.00 52.00 56.20			
3구간	4.695k	-45	52 50 50 44 52	51.4	-2.10 -2.20 -2.20 -2.50 -2.10	49.90 47.80 47.80 41.50 49.90	56.0	23.0	109.7
			50 58 58 60 60		-2.20 -1.80 -1.80 -1.70 -1.70	47.80 56.20 56.20 58.30 58.30			
			56 58 58 58 60		-1.90 -1.80 -1.80 -1.80 -1.70	54.10 56.20 56.20 56.20 58.30			
			40 40 44 40 40		-2.70 -2.70 -2.50 -2.70 -2.70	37.30 37.30 41.50 37.30 37.30			
3구간	4.700k	-45	58 58 60 60 20	51.2	-1.80 -1.80 -1.70 -1.70 -3.40	56.20 56.20 58.30 58.30 16.60	57.7	23.0	117.8
			22 58 60 60 48		-3.34 -1.80 -1.70 -1.70 -2.30	18.66 56.20 58.30 58.30 45.70			
			38 60 48 48 50		-2.78 -1.70 -2.30 -2.30 -2.20	35.22 58.30 45.70 45.70 47.80			
			60 58 60 58 40		-1.70 -1.80 -1.70 -1.80 -2.70	58.30 56.20 58.30 56.20 37.30			
3구간	4.710k	-45	50 52 50 58 58	49.2	-2.20 -2.10 -2.20 -1.80 -1.80	47.80 49.90 47.80 56.20 56.20	55.8	23.0	108.7
			60 60 38 30 30		-1.70 -1.70 -2.78 -3.10 -3.10	58.30 58.30 35.22 26.90 26.90			
			60 58 60 60 44		-1.70 -1.80 -1.70 -1.70 -2.50	58.30 56.20 58.30 58.30 41.50			
			40 48 38 40 50		-2.70 -2.30 -2.78 -2.70 -2.20	37.30 45.70 35.22 37.30 47.80			
4구간	4.950k	-45	50 58 58 60 58	52.9	-2.20 -1.80 -1.80 -1.70 -1.80	47.80 56.20 56.20 58.30 56.20	56.2	23.0	110.7
			50 54 56 56 58		-2.20 -2.00 -1.90 -1.90 -1.80	47.80 52.00 54.10 54.10 56.20			
			55 52 38 38 38		-1.95 -2.10 -2.78 -2.78 -2.78	53.05 49.90 35.22 35.22 35.22			
			52 50 58 58 60		-2.10 -2.20 -1.80 -1.80 -1.70	49.90 47.80 56.20 56.20 58.30			
4구간	4.960k	-45	60 52 54 58 50	52.3	-1.70 -2.10 -2.00 -1.80 -2.20	58.30 49.90 52.00 56.20 47.80	56.4	23.0	111.7
			44 50 60 56 54		-2.50 -2.20 -1.70 -1.90 -2.00	41.50 47.80 58.30 54.10 52.00			
			60 58 58 58 50		-1.70 -1.80 -1.80 -1.80 -2.20	58.30 56.20 56.20 56.20 47.80			
			38 38 38 50 60		-2.78 -2.78 -2.78 -2.20 -1.70	35.22 35.22 35.22 47.80 58.30			
4구간	4.965k	-45	60 48 48 48 50	53.6	-1.70 -2.30 -2.30 -2.30 -2.20	58.30 45.70 45.70 45.70 47.80	57.0	23.0	114.7
			44 46 46 48 50		-2.50 -2.40 -2.40 -2.30 -2.20	41.50 43.60 43.60 45.70 47.80			
			60 60 60 58 58		-1.70 -1.70 -1.70 -1.80 -1.80	58.30 58.30 58.30 56.20 56.20			
			56 56 58 60 58		-1.90 -1.90 -1.80 -1.70 -1.80	54.10 54.10 56.20 58.30 56.20			

상주절토05 반발도법에 의한 압축강도 추정(암반강도)

구 분	측정위치	타격방향	측정치	평균치	보정값	보정후 측정치	상위50% 평균값(대표값)	암석의 밀도 (kN/㎡)	일축압축강도 추정(Mpa)
1구간	4.445k	-45	44 44 42 52 52	50.9	-2.50 -2.50 -2.60 -2.10 -2.10	41.50 41.50 39.40 49.90 49.90	55.8	23.0	108.7
			58 58 60 60 54		-1.80 -1.80 -1.70 -1.70 -2.00	56.20 56.20 58.30 58.30 52.00			
			38 44 44 42 40		-2.78 -2.50 -2.50 -2.60 -2.70	35.22 41.50 41.50 39.40 37.30			
1구간	4.450k	-45	58 58 58 56 56	51.5	-1.80 -1.80 -1.80 -1.90 -1.90	56.20 56.20 56.20 54.10 54.10	56.2	23.0	110.7
			48 48 40 40 48		-2.30 -2.30 -2.70 -2.70 -2.30	45.70 45.70 37.30 37.30 45.70			
			52 58 58 58 58		-2.10 -1.80 -1.80 -1.80 -1.80	49.90 56.20 56.20 56.20 56.20			
1구간	4.460k	-45	58 58 60 60 40	51.2	-1.80 -1.80 -1.70 -1.70 -2.70	56.20 56.20 58.30 58.30 37.30	55.0	23.0	105.4
			48 48 56 56 38		-2.30 -2.30 -1.90 -1.90 -2.78	45.70 45.70 54.10 54.10 35.22			
			55 54 50 58 58		-1.95 -2.00 -2.20 -1.80 -1.80	53.05 52.00 47.80 56.20 56.20			
2구간	4.550k	-45	38 60 55 54 50	53.3	-2.78 -1.70 -1.95 -2.00 -2.20	35.22 58.30 53.05 52.00 47.80	57.5	23.0	116.8
			44 42 44 40 57		-2.50 -2.60 -2.50 -2.70 -1.85	41.50 39.40 41.50 37.30 55.15			
			40 54 52 58 60		-2.70 -2.00 -2.10 -1.80 -1.70	37.30 52.00 49.90 56.20 58.30			
2구간	4.555k	-45	38 42 60 60 48	53.1	-2.78 -2.60 -1.70 -1.70 -2.30	35.22 39.40 58.30 58.30 45.70	56.8	23.0	113.7
			60 58 58 58 58		-1.70 -1.80 -1.80 -1.80 -1.80	58.30 56.20 56.20 56.20 56.20			
			30 58 58 60 60		-3.10 -1.80 -1.80 -1.70 -1.70	26.90 56.20 56.20 58.30 58.30			
2구간	4.560k	-45	46 48 48 60 58	54.3	-2.40 -2.30 -2.30 -1.70 -1.80	43.60 45.70 45.70 58.30 56.20	57.5	23.0	116.8
			42 60 50 50 50		-2.60 -1.70 -2.20 -2.20 -2.20	39.40 58.30 47.80 47.80 47.80			
			50 50 58 60 58		-2.20 -2.20 -1.80 -1.70 -1.80	47.80 47.80 56.20 58.30 56.20			
2구간	4.565k	-45	58 58 58 58 58	53.1	-1.80 -1.80 -1.80 -1.80 -1.80	56.20 56.20 56.20 56.20 56.20	56.8	23.0	113.7
			58 58 60 30 38		-1.80 -1.80 -1.70 -3.10 -2.78	56.20 56.20 58.30 26.90 35.22			
			60 58 58 58 58		-1.70 -1.80 -1.80 -1.80 -1.80	58.30 56.20 56.20 56.20 56.20			
2구간	4.560k	-45	54 40 38 38 38	54.3	-2.00 -2.70 -2.78 -2.78 -2.78	52.00 37.30 35.22 35.22 35.22	57.5	23.0	116.8
			54 58 58 60 60		-2.00 -1.80 -1.80 -1.70 -1.70	52.00 56.20 56.20 58.30 58.30			
			60 60 60 58 58		-1.70 -1.70 -1.70 -1.80 -1.80	58.30 58.30 58.30 56.20 56.20			

상주절토08 반발도법에 의한 압축강도 추정(암반강도)

구 분	측정위치	타격방향	측정치	평균치	보정값	보정후 측정치	상위50% 평균값(대표값)	암석의 밀도 (kN/㎡)	일축압축강도 추정(Mpa)
1구간	14.205k	-45	58 58 42 30 60	52.2	-1.80 -1.80 -2.60 -3.10 -1.70	56.20 56.20 39.40 26.90 58.30	57.7	23.0	117.8
			60 60 58 58 56		-1.70 -1.70 -1.80 -1.80 -1.90	58.30 58.30 56.20 56.20 54.10			
			40 40 38 38 50		-2.70 -2.70 -2.78 -2.78 -2.20	37.30 37.30 35.22 35.22 47.80			
1구간	14.210k	-45	58 60 60 60 60	51.6	-1.80 -1.70 -1.70 -1.70 -1.70	56.20 58.30 58.30 58.30 58.30	57.0	23.0	114.7
			40 58 56 52 58		-2.70 -1.80 -1.90 -2.10 -1.80	37.30 56.20 54.10 49.90 56.20			
			60 60 58 40 38		-1.70 -1.70 -1.80 -2.70 -2.78	58.30 58.30 56.20 37.30 35.22			
1구간	14.214k	-45	36 36 48 48 50	49.5	-2.86 -2.86 -2.30 -2.30 -2.20	33.14 33.14 45.70 45.70 47.80	58.1	23.0	119.9
			58 58 60 60 58		-1.80 -1.80 -1.70 -1.70 -1.80	56.20 56.20 58.30 58.30 56.20			
			30 38 30 58 58		-3.10 -2.78 -3.10 -1.80 -1.80	26.90 35.22 26.90 56.20 56.20			
2구간	14.294k	-45	60 60 60 60 60	51.2	-1.70 -1.70 -1.70 -1.70 -1.70	58.30 58.30 58.30 58.30 58.30	56.4	23.0	111.7
			22 20 20 58 58		-3.34 -3.40 -3.40 -1.80 -1.80	18.66 16.60 16.60 56.20 56.20			
			60 60 60 60 58		-1.70 -1.70 -1.70 -1.70 -1.80	58.30 58.30 58.30 58.30 56.20			
2구간	14.300k	-45	58 40 58 60 50	51.2	-1.80 -2.70 -1.80 -1.70 -2.20	56.20 37.30 56.20 58.30 47.80	51.8	23.0	91.8
			58 58 58 40 40		-1.80 -1.80 -1.80 -2.70 -2.70	56.20 56.20 56.20 37.30 37.30			
			40 40 48 48 40		-2.70 -2.70 -2.30 -2.30 -2.70	37.30 37.30 45.70 45.70 37.30			
2구간	14.305k	-45	58 56 56 58 60	51.0	-1.80 -1.90 -1.90 -1.80 -1.70	56.20 54.10 54.10 56.20 58.30	56.8	23.0	113.7
			54 50 54 54 50		-2.00 -2.20 -2.00 -2.00 -2.20	52.00 47.80 52.00 52.00 47.80			
			58 58 50 60 44		-1.80 -1.80 -2.20 -1.70 -2.50	56.20 56.20 47.80 58.30 41.50			
2구간	14.305k	-45	50 50 50 50 50	51.0	-2.20 -2.20 -2.20 -2.20 -2.20	47.80 47.80 47.80 47.80 47.80	56.8	23.0	113.7
			48 48 48 50 48		-2.30 -2.30 -2.30 -2.20 -2.30	45.70 45.70 45.70 47.80 45.70			
			40 60 60 58 58		-2.70 -1.70 -1.70 -1.80 -1.80	37.30 58.30 58.30 56.20 56.20			
2구간	14.305k	-45	54 54 58 58 56	51.0	-2.00 -2.00 -1.80 -1.80 -1.90	52.00 52.00 56.20 56.20 54.10	56.8	23.0	113.7
			40 30 30 48 48		-2.70 -3.10 -3.10 -2.30 -2.30	37.30 26.90 26.90 45.70 45.70			
			60 60 58 50 40		-1.70 -1.70 -1.80 -2.20 -2.70	58.30 58.30 56.20 47.80 37.30			

상주절토09 반발도법에 의한 압축강도 추정(암반강도)

구 분	측정위치	타격방향	측정치	평균치	보정값	보정후 측정치	상위50% 평균값(대표값)	암석의 밀도 (kN/㎡)	일축압축강도 추정(Mpa)
1구간	14.580k	-45	60 60 60 60 40	52.7	-1.70 -1.70 -1.70 -1.70 -2.70	58.30 58.30 58.30 58.30 37.30	57.9	23.0	118.8
			40 40 58 58 58		-2.70 -2.70 -1.80 -1.80 -1.80	37.30 37.30 56.20 56.20 56.20			
			60 60 60 60 40		-1.70 -1.70 -1.70 -1.70 -2.70	58.30 58.30 58.30 58.30 37.30			
			38 40 52 54 56		-2.78 -2.70 -2.10 -2.00 -1.90	35.22 37.30 49.90 52.00 54.10			
1구간	14.585k	-45	52 54 56 58 40	55.7	-2.10 -2.00 -1.90 -1.80 -2.70	49.90 52.00 54.10 56.20 37.30	57.9	23.0	118.8
			60 60 58 60 60		-1.70 -1.70 -1.80 -1.70 -1.70	58.30 58.30 56.20 58.30 58.30			
			56 58 60 60 28		-1.90 -1.80 -1.70 -1.70 -3.16	54.10 56.20 58.30 58.30 24.84			
			60 58 60 58 58		-1.70 -1.80 -1.70 -1.80 -1.80	58.30 56.20 58.30 56.20 56.20			
1구간	14.590k	-45	60 60 60 60 60	52.1	-1.70 -1.70 -1.70 -1.70 -1.70	58.30 58.30 58.30 58.30 58.30	56.2	23.0	110.7
			28 58 54 50 60		-3.16 -1.80 -2.00 -2.20 -1.70	24.84 56.20 52.00 47.80 58.30			
			48 48 48 40 40		-2.30 -2.30 -2.30 -2.70 -2.70	45.70 45.70 45.70 37.30 37.30			
			54 52 54 54 54		-2.00 -2.10 -2.00 -2.00 -2.00	52.00 49.90 52.00 52.00 52.00			
2구간	14.600k	-45	52 58 58 60 56	52.2	-2.10 -1.80 -1.80 -1.70 -1.90	49.90 56.20 56.20 58.30 54.10	57.3	23.0	115.7
			42 60 54 60 60		-2.60 -1.70 -2.00 -1.70 -1.70	39.40 58.30 52.00 58.30 58.30			
			58 60 60 38 38		-1.80 -1.70 -1.70 -2.78 -2.78	56.20 58.30 58.30 35.22 35.22			
			50 48 40 40 52		-2.20 -2.30 -2.70 -2.70 -2.10	47.80 45.70 37.30 37.30 49.90			
2구간	14.605k	-45	60 48 60 56 60	56.6	-1.70 -2.30 -1.70 -1.90 -1.70	58.30 45.70 58.30 54.10 58.30	58.1	23.0	119.9
			60 58 60 56 54		-1.70 -1.80 -1.70 -1.90 -2.00	58.30 56.20 58.30 54.10 52.00			
			48 48 60 60 60		-2.30 -2.30 -1.70 -1.70 -1.70	45.70 45.70 58.30 58.30 58.30			
			50 58 58 58 60		-2.20 -1.80 -1.80 -1.80 -1.70	47.80 56.20 56.20 56.20 58.30			
2구간	14.610k	-45	50 60 60 60 60	50.8	-2.20 -1.70 -1.70 -1.70 -1.70	47.80 58.30 58.30 58.30 58.30	56.2	23.0	110.7
			50 52 42 58 58		-2.20 -2.10 -2.60 -1.80 -1.80	47.80 49.90 39.40 56.20 56.20			
			48 50 58 40 40		-2.30 -2.20 -1.80 -2.70 -2.70	45.70 47.80 56.20 37.30 37.30			
			58 56 40 38 38		-1.80 -1.90 -2.70 -2.78 -2.78	56.20 54.10 37.30 35.22 35.22			
3구간	14.795k	-45	60 58 58 52 40	55.8	-1.70 -1.80 -1.80 -2.10 -2.70	58.30 56.20 56.20 49.90 37.30	57.9	23.0	118.8
			50 58 56 58 60		-2.20 -1.80 -1.90 -1.80 -1.70	47.80 56.20 54.10 56.20 58.30			
			50 60 60 60 60		-2.20 -1.70 -1.70 -1.70 -1.70	47.80 58.30 58.30 58.30 58.30			
			54 60 44 60 58		-2.00 -1.70 -2.50 -1.70 -1.80	52.00 58.30 41.50 58.30 56.20			
3구간	14.800k	-45	60 60 48 60 60	52.8	-1.70 -1.70 -2.30 -1.70 -1.70	58.30 58.30 45.70 58.30 58.30	57.3	23.0	115.7
			50 40 52 60 58		-2.20 -2.70 -2.10 -1.70 -1.80	47.80 37.30 49.90 58.30 56.20			
			40 50 60 58 58		-2.70 -2.20 -1.70 -1.80 -1.80	37.30 47.80 58.30 56.20 56.20			
			42 40 56 52 52		-2.60 -2.70 -1.90 -2.10 -2.10	39.40 37.30 54.10 49.90 49.90			
3구간	14.810k	-45	58 60 58 52 60	54.3	-1.80 -1.70 -1.80 -2.10 -1.70	56.20 58.30 56.20 49.90 58.30	57.7	23.0	117.8
			60 58 58 60 58		-1.70 -1.80 -1.80 -1.70 -1.80	58.30 56.20 56.20 58.30 56.20			
			38 60 60 60 38		-2.78 -1.70 -1.70 -1.70 -2.78	35.22 58.30 58.30 58.30 35.22			
			54 44 44 50 56		-2.00 -2.50 -2.50 -2.20 -1.90	52.00 41.50 41.50 47.80 54.10			

상주철토10 반발도법에 의한 압축강도 추정(암반강도)

구 분	측정위치	타격방향	측정치					평균치	보정값					보정후 측정치					상위50% 평균값(대표값)	암석의 밀도 (kN/㎡)	일축압축강도 추정(Mpa)
1구간	15.400k	-45	44	52	50	34	44	46.2	-2.50	-2.10	-2.20	-2.94	-2.50	41.50	49.90	47.80	31.06	41.50	52.4	23.0	94.3
			56	50	56	56	58		-1.90	-2.20	-1.90	-1.90	-1.80	54.10	47.80	54.10	54.10	56.20			
			54	56	56	44	50		-2.00	-1.90	-1.90	-2.50	-2.20	52.00	54.10	54.10	41.50	47.80			
			30	38	38	30	28		-3.10	-2.78	-2.78	-3.10	-3.16	26.90	35.22	35.22	26.90	24.84			
1구간	15.450k	-45	54	40	54	56	56	48.4	-2.00	-2.70	-2.00	-1.90	-1.90	52.00	37.30	52.00	54.10	54.10	52.0	23.0	92.6
			48	48	50	50	52		-2.30	-2.30	-2.20	-2.20	-2.10	45.70	45.70	47.80	47.80	49.90			
			50	38	38	38	30		-2.20	-2.78	-2.78	-2.78	-3.10	47.80	35.22	35.22	35.22	26.90			
			48	50	56	54	58		-2.30	-2.20	-1.90	-2.00	-1.80	45.70	47.80	54.10	52.00	56.20			
1구간	15.500k	-45	50	56	56	56	56	48.8	-2.20	-1.90	-1.90	-1.90	-1.90	47.80	54.10	54.10	54.10	54.10	53.7	23.0	99.5
			44	40	58	58	58		-2.50	-2.70	-1.80	-1.80	-1.80	41.50	37.30	56.20	56.20	56.20			
			56	52	50	50	44		-1.90	-2.10	-2.20	-2.20	-2.50	54.10	49.90	47.80	47.80	41.50			
			44	40	30	38	40		-2.50	-2.70	-3.10	-2.78	-2.70	41.50	37.30	26.90	35.22	37.30			
								#DIV/0!	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	23.0	#N/A
									#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A			
									#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A			
									#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A			

상주철토11 반발도법에 의한 압축강도 추정(암반강도)

구 분	측정위치	타격방향	측정치	평균치	보정값	보정후 측정치	상위50% 평균값(대표값)	암석의 밀도 (kN/㎡)	일축압축강도 추정(Mpa)
1구간	16.000k	-45	56 54 40 54 54	49.2	-1.90 -2.00 -2.70 -2.00 -2.00	54.10 52.00 37.30 52.00 52.00	54.5	23.0	103.1
			56 40 40 38 40		-1.90 -2.70 -2.70 -2.78 -2.70	54.10 37.30 37.30 35.22 37.30			
			50 56 58 58 36		-2.20 -1.90 -1.80 -1.80 -2.86	47.80 54.10 56.20 56.20 33.14			
			58 60 48 38 50		-1.80 -1.70 -2.30 -2.78 -2.20	56.20 58.30 45.70 35.22 47.80			
1구간	15.990k	-45	60 58 58 50 58	53.5	-1.70 -1.80 -1.80 -2.20 -1.80	58.30 56.20 56.20 47.80 56.20	56.2	23.0	110.7
			58 54 54 60 54		-1.80 -2.00 -2.00 -1.70 -2.00	56.20 52.00 52.00 58.30 52.00			
			60 50 38 38 50		-1.70 -2.20 -2.78 -2.78 -2.20	58.30 47.80 35.22 35.22 47.80			
			56 54 52 58 50		-1.90 -2.00 -2.10 -1.80 -2.20	54.10 52.00 49.90 56.20 47.80			
1구간	15.950k	-45	60 58 58 50 58	54.7	-1.70 -1.80 -1.80 -2.20 -1.80	58.30 56.20 56.20 47.80 56.20	57.5	23.0	116.8
			58 52 60 60 60		-1.80 -2.10 -1.70 -1.70 -1.70	56.20 49.90 58.30 58.30 58.30			
			60 52 58 54 60		-1.70 -2.10 -1.80 -2.00 -1.70	58.30 49.90 56.20 52.00 58.30			
			54 58 40 38 46		-2.00 -1.80 -2.70 -2.78 -2.40	52.00 56.20 37.30 35.22 43.60			
				#DIV/0!	#N/A #N/A #N/A #N/A #N/A	#N/A #N/A #N/A #N/A #N/A	#N/A	23.0	#N/A
					#N/A #N/A #N/A #N/A #N/A	#N/A #N/A #N/A #N/A #N/A			
					#N/A #N/A #N/A #N/A #N/A	#N/A #N/A #N/A #N/A #N/A			
					#N/A #N/A #N/A #N/A #N/A	#N/A #N/A #N/A #N/A #N/A			

영천철토12 반발도법에 의한 압축강도 추정(암반강도)

구 분	측정위치	타격방향	측정치	평균치	보정값	보정후 측정치	상위50% 평균값(대표값)	암석의 밀도 (kN/㎡)	일축압축강도 추정(Mpa)
1구간	16.864k	-45	52 52 52 50 52	48.5	-2.10 -2.10 -2.10 -2.20 -2.10	49.90 49.90 49.90 47.80 49.90	52.2	23.0	93.5
			42 40 42 48 44		-2.60 -2.70 -2.60 -2.30 -2.50	39.40 37.30 39.40 45.70 41.50			
			56 58 56 40 40		-1.90 -1.80 -1.90 -2.70 -2.70	54.10 56.20 54.10 37.30 37.30			
			42 40 56 58 50		-2.60 -2.70 -1.90 -1.80 -2.20	39.40 37.30 54.10 56.20 47.80			
1구간	16.900k	-45	50 50 50 50 50	47.6	-2.20 -2.20 -2.20 -2.20 -2.20	47.80 47.80 47.80 47.80 47.80	51.8	23.0	91.8
			42 40 40 48 38		-2.60 -2.70 -2.70 -2.30 -2.78	39.40 37.30 37.30 45.70 35.22			
			50 58 56 56 54		-2.20 -1.80 -1.90 -1.90 -2.00	47.80 56.20 54.10 54.10 52.00			
			58 56 40 38 28		-1.80 -1.90 -2.70 -2.78 -3.16	56.20 54.10 37.30 35.22 24.84			
1구간	17.000k	-45	40 48 50 48 40	48.6	-2.70 -2.30 -2.20 -2.30 -2.70	37.30 45.70 47.80 45.70 37.30	51.8	23.0	91.8
			50 50 58 56 54		-2.20 -2.20 -1.80 -1.90 -2.00	47.80 47.80 56.20 54.10 52.00			
			56 52 52 52 58		-1.90 -2.10 -2.10 -2.10 -1.80	54.10 49.90 49.90 49.90 56.20			
			40 38 42 48 40		-2.70 -2.78 -2.60 -2.30 -2.70	37.30 35.22 39.40 45.70 37.30			
2구간	17.030k	-45	50 50 58 58 58	49.2	-2.20 -2.20 -1.80 -1.80 -1.80	47.80 47.80 56.20 56.20 56.20	53.1	23.0	96.9
			50 58 56 56 56		-2.20 -1.80 -1.90 -1.90 -1.90	47.80 56.20 54.10 54.10 54.10			
			40 38 38 48 46		-2.70 -2.78 -2.78 -2.30 -2.40	37.30 35.22 35.22 45.70 43.60			
			48 48 48 40 40		-2.30 -2.30 -2.30 -2.70 -2.70	45.70 45.70 45.70 37.30 37.30			
2구간	17.100k	-45	40 50 50 48 48	50.7	-2.70 -2.20 -2.20 -2.30 -2.30	37.30 47.80 47.80 45.70 45.70	52.2	23.0	93.5
			46 46 48 48 48		-2.40 -2.40 -2.30 -2.30 -2.30	43.60 43.60 45.70 45.70 45.70			
			50 58 56 54 56		-2.20 -1.80 -1.90 -2.00 -1.90	47.80 56.20 54.10 52.00 54.10			
			56 56 56 50 50		-1.90 -1.90 -1.90 -2.20 -2.20	54.10 54.10 54.10 47.80 47.80			
2구간	17.200k	-45	56 50 56 56 56	48.2	-1.90 -2.20 -1.90 -1.90 -1.90	54.10 47.80 54.10 54.10 54.10	52.0	23.0	92.6
			48 50 38 36 38		-2.30 -2.20 -2.78 -2.86 -2.78	45.70 47.80 35.22 33.14 35.22			
			44 44 40 44 44		-2.50 -2.50 -2.70 -2.50 -2.50	41.50 41.50 37.30 41.50 41.50			
			48 50 54 54 58		-2.30 -2.20 -2.00 -2.00 -1.80	45.70 47.80 52.00 52.00 56.20			

상주철토13 반발도법에 의한 압축강도 추정(암반강도)

구 분	측정위치	타격방향	측정치					평균치	보정값					보정후 측정치					상위50% 평균값(대표값)	암석의 밀도 (kN/㎡)	일축압축강도 추정(Mpa)
			50	44	54	54	42		-2.20	-2.50	-2.00	-2.00	-2.60	47.80	41.50	52.00	52.00	39.40			
1구간	16.984k	-45	48	50	50	48	48	48.0	-2.30	-2.20	-2.20	-2.30	-2.30	45.70	47.80	47.80	45.70	45.70	49.5	23.0	83.3
			46	42	56	54	52		-2.40	-2.60	-1.90	-2.00	-2.10	43.60	39.40	54.10	52.00	49.90			
			48	44	46	40	44		-2.30	-2.50	-2.40	-2.70	-2.50	45.70	41.50	43.60	37.30	41.50			
			40	42	44	42	50		-2.70	-2.60	-2.50	-2.60	-2.20	37.30	39.40	41.50	39.40	47.80			
1구간	17.000k	-45	58	52	50	54	58	48.9	-1.80	-2.10	-2.20	-2.00	-1.80	56.20	49.90	47.80	52.00	56.20	51.0	23.0	88.6
			50	48	50	46	48		-2.20	-2.30	-2.20	-2.40	-2.30	47.80	45.70	47.80	43.60	45.70			
			44	44	54	54	50		-2.50	-2.50	-2.00	-2.00	-2.20	41.50	41.50	52.00	52.00	47.80			
			42	50	52	54	42		-2.60	-2.20	-2.10	-2.00	-2.60	39.40	47.80	49.90	52.00	39.40			
2구간	17.054k	-45	56	46	44	50	44	47.6	-1.90	-2.40	-2.50	-2.20	-2.50	54.10	43.60	41.50	47.80	41.50	51.0	23.0	88.6
			38	56	54	54	54		-2.78	-1.90	-2.00	-2.00	-2.00	35.22	54.10	52.00	52.00	52.00			
			40	48	48	50	30		-2.70	-2.30	-2.30	-2.20	-3.10	37.30	45.70	47.80	26.90				
			50	40	40	50	38		-2.20	-2.70	-2.70	-2.20	-2.78	47.80	37.30	37.30	47.80	35.22			
2구간	17.100k	-45	30	38	38	40	48	46.5	-3.10	-2.78	-2.78	-2.70	-2.30	26.90	35.22	35.22	37.30	45.70	50.1	23.0	85.5
			50	56	56	54	48		-2.20	-1.90	-1.90	-2.00	-2.30	47.80	54.10	54.10	52.00	45.70			
			50	54	52	48	50		-2.20	-2.00	-2.10	-2.30	-2.20	47.80	52.00	49.90	45.70	47.80			
			50	42	50	40	50		-2.20	-2.60	-2.20	-2.70	-2.20	47.80	39.40	47.80	37.30	47.80			
3구간	17.184k	-45	48	44	52	54	52	47.0	-2.30	-2.50	-2.10	-2.00	-2.10	45.70	41.50	49.90	52.00	49.90	49.7	23.0	84.0
			40	38	38	40	42		-2.70	-2.78	-2.78	-2.70	-2.60	37.30	35.22	35.22	37.30	39.40			
			54	54	52	50	50		-2.00	-2.00	-2.10	-2.20	-2.20	52.00	52.00	49.90	47.80	47.80			
			50	44	44	44	44		-2.20	-2.50	-2.50	-2.50	-2.50	47.80	41.50	41.50	41.50	41.50			
3구간	17.200k	-45	40	40	50	54	54	47.4	-2.70	-2.70	-2.20	-2.00	-2.00	37.30	37.30	47.80	52.00	52.00	50.5	23.0	87.0
			52	54	54	52	54		-2.10	-2.00	-2.00	-2.10	-2.00	49.90	52.00	52.00	49.90	52.00			
			40	38	38	52	50		-2.70	-2.78	-2.78	-2.10	-2.20	37.30	35.22	35.22	49.90	47.80			

상주철토14 반발도법에 의한 압축강도 추정(암반강도)

구 분	측정위치	타격방향	측정치					평균치	보정값					보정후 측정치					상위50% 평균값(대표값)	암석의 밀도 (kN/㎡)	일축압축강도 추정(Mpa)
1구간	17.344k	-45	50	38	38	54	54	47.9	-2.20	-2.78	-2.78	-2.00	-2.00	47.80	35.22	35.22	52.00	52.00	52.2	23.0	93.5
			58	58	56	54	50		-1.80	-1.80	-1.90	-2.00	-2.20	56.20	56.20	54.10	52.00	47.80			
			40	38	40	40	40		-2.70	-2.78	-2.70	-2.70	-2.70	37.30	35.22	37.30	37.30	37.30			
			46	48	48	50	58		-2.40	-2.30	-2.30	-2.20	-1.80	43.60	45.70	45.70	47.80	56.20			
1구간	17.374k	-45	48	48	48	48	48	48.9	-2.30	-2.30	-2.30	-2.30	-2.30	45.70	45.70	45.70	45.70	45.70	52.4	23.0	94.3
			50	56	54	54	54		-2.20	-1.90	-2.00	-2.00	-2.00	47.80	54.10	52.00	52.00	52.00			
			50	56	56	56	58		-2.20	-1.90	-1.90	-1.90	-1.80	47.80	54.10	54.10	54.10	56.20			
			40	38	38	40	38		-2.70	-2.78	-2.78	-2.70	-2.78	37.30	35.22	35.22	37.30	35.22			
1구간	17.440k	-45	40	48	48	46	48	51.5	-2.70	-2.30	-2.30	-2.40	-2.30	37.30	45.70	45.70	43.60	45.70	52.2	23.0	93.5
			50	56	56	54	52		-2.20	-1.90	-1.90	-2.00	-2.10	47.80	54.10	54.10	52.00	49.90			
			56	56	52	54	54		-1.90	-1.90	-2.10	-2.00	-2.00	54.10	54.10	49.90	52.00	52.00			
			52	52	52	52	52		-2.10	-2.10	-2.10	-2.10	-2.10	49.90	49.90	49.90	49.90	49.90			
								#DIV/0!	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	23.0	#N/A
									#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A			
									#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A			
									#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A			

상주철토15 반발도법에 의한 압축강도 추정(암반강도)

구 분	측정위치	타격방향	측정치					평균치	보정값					보정후 측정치					상위50% 평균값(대표값)	암석의 밀도 (kN/㎡)	일축압축강도 추정(Mpa)
1구간	18.280k	-45	48	48	50	50	54	50.6	-2.30	-2.30	-2.20	-2.20	-2.00	45.70	45.70	47.80	47.80	52.00	52.0	23.0	92.6
			44	48	50	58	58		-2.50	-2.30	-2.20	-1.80	-1.80	41.50	45.70	47.80	56.20	56.20			
			46	46	46	48	48		-2.40	-2.40	-2.40	-2.30	-2.30	43.60	43.60	43.60	45.70	45.70			
			56	56	54	54	50		-1.90	-1.90	-2.00	-2.00	-2.20	54.10	54.10	52.00	52.00	47.80			
1구간	18.300k	-45	50	50	48	48	48	49.4	-2.20	-2.20	-2.30	-2.30	-2.30	47.80	47.80	45.70	45.70	45.70	51.4	23.0	90.2
			38	38	50	54	54		-2.78	-2.78	-2.20	-2.00	-2.00	35.22	35.22	47.80	52.00	52.00			
			56	56	54	54	56		-1.90	-1.90	-2.00	-2.00	-1.90	54.10	54.10	52.00	52.00	54.10			
			50	48	48	40	48		-2.20	-2.30	-2.30	-2.70	-2.30	47.80	45.70	45.70	37.30	45.70			
1구간	18.320k	-45	50	50	40	40	40	48.3	-2.20	-2.20	-2.70	-2.70	-2.70	47.80	47.80	37.30	37.30	37.30	51.4	23.0	90.2
			48	48	40	38	38		-2.30	-2.30	-2.70	-2.78	-2.78	45.70	45.70	37.30	35.22	35.22			
			56	54	54	52	56		-1.90	-2.00	-2.00	-2.10	-1.90	54.10	52.00	52.00	49.90	54.10			
			52	54	56	50	50		-2.10	-2.00	-1.90	-2.20	-2.20	49.90	52.00	54.10	47.80	47.80			
								#DIV/0!	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	23.0	#N/A
									#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A			
									#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A			
									#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A			

영천철토18 반발도법에 의한 압축강도 추정(암반강도)

구 분	측정위치	타격방향	측정치	평균치	보정값	보정후 측정치	상위50% 평균값(대표값)	암석의 밀도 (kN/㎡)	일축압축강도 추정(Mpa)
1구간	22.960k	-45	48 46 46 46 44	48.2	-2.30 -2.40 -2.40 -2.40 -2.50	45.70 43.60 43.60 43.60 41.50	51.0	23.0	88.6
			40 38 38 40 48		-2.70 -2.78 -2.78 -2.70 -2.30	37.30 35.22 35.22 37.30 45.70			
			50 54 56 56 56		-2.20 -2.00 -1.90 -1.90 -1.90	47.80 52.00 54.10 54.10 54.10			
			50 50 50 54 54		-2.20 -2.20 -2.20 -2.00 -2.00	47.80 47.80 47.80 52.00 52.00			
1구간	22.965k	-45	48 50 40 38 38	47.5	-2.30 -2.20 -2.70 -2.78 -2.78	45.70 47.80 37.30 35.22 35.22	51.0	23.0	88.6
			40 44 46 48 40		-2.70 -2.50 -2.40 -2.30 -2.70	37.30 41.50 43.60 45.70 37.30			
			38 54 54 54 50		-2.78 -2.00 -2.00 -2.00 -2.20	35.22 52.00 52.00 52.00 47.80			
			56 58 50 54 50		-1.90 -1.80 -2.20 -2.00 -2.20	54.10 56.20 47.80 52.00 47.80			
1구간	22.970k	-45	48 40 40 40 44	46.3	-2.30 -2.70 -2.70 -2.70 -2.50	45.70 37.30 37.30 37.30 41.50	49.5	23.0	83.3
			38 38 38 40 44		-2.78 -2.78 -2.78 -2.70 -2.50	35.22 35.22 35.22 37.30 41.50			
			50 50 54 50 50		-2.20 -2.20 -2.00 -2.20 -2.20	47.80 47.80 52.00 47.80 47.80			
			54 52 50 54 52		-2.00 -2.10 -2.20 -2.00 -2.10	52.00 49.90 47.80 52.00 49.90			
1구간	22.975k	-45	48 46 44 44 44	48.2	-2.30 -2.40 -2.50 -2.50 -2.50	45.70 43.60 41.50 41.50 41.50	49.7	23.0	84.0
			40 44 48 50 50		-2.70 -2.50 -2.30 -2.20 -2.20	37.30 41.50 45.70 47.80 47.80			
			56 50 54 50 48		-1.90 -2.20 -2.00 -2.20 -2.30	54.10 47.80 52.00 47.80 45.70			
			40 48 50 56 54		-2.70 -2.30 -2.20 -1.90 -2.00	37.30 45.70 47.80 54.10 52.00			
1구간	22.980k	-45	38 38 40 40 48	47.1	-2.78 -2.78 -2.70 -2.70 -2.30	35.22 35.22 37.30 37.30 45.70	48.6	23.0	80.3
			44 48 48 46 48		-2.50 -2.30 -2.30 -2.40 -2.30	41.50 45.70 45.70 43.60 45.70			
			46 52 52 46 52		-2.40 -2.10 -2.10 -2.40 -2.10	43.60 49.90 49.90 43.60 49.90			
			50 48 52 54 52		-2.20 -2.30 -2.10 -2.00 -2.10	47.80 45.70 49.90 52.00 49.90			
1구간	22.985k	-45	48 48 50 50 50	48.1	-2.30 -2.30 -2.20 -2.20 -2.20	45.70 45.70 47.80 47.80 47.80	50.3	23.0	86.3
			38 38 40 40 48		-2.78 -2.78 -2.70 -2.70 -2.30	35.22 35.22 37.30 37.30 45.70			
			54 54 52 50 54		-2.00 -2.00 -2.10 -2.20 -2.00	52.00 52.00 49.90 47.80 52.00			
			52 56 40 48 52		-2.10 -1.90 -2.70 -2.30 -2.10	49.90 54.10 37.30 45.70 49.90			

영천철토19 반발도법에 의한 압축강도 추정(암반강도)

구 분	측정위치	타격방향	측정치					평균치	보정값					보정후 측정치					상위50% 평균값(대표값)	암석의 밀도 (kN/㎡)	일축압축강도 추정(Mpa)
1구간	24.834k	-45	38	38	40	40	44	42.8	-2.78	-2.78	-2.70	-2.70	-2.50	35.22	35.22	37.30	37.30	41.50	45.7	23.0	70.9
			50	50	48	48	46		-2.20	-2.20	-2.30	-2.30	-2.40	47.80	47.80	45.70	45.70	43.60			
			48	40	30	30	48		-2.30	-2.70	-3.10	-3.10	-2.30	45.70	37.30	26.90	26.90	45.70			
			48	44	50	36	40		-2.30	-2.50	-2.20	-2.86	-2.70	45.70	41.50	47.80	33.14	37.30			
1구간	24.840k	-45	48	42	40	30	40	42.6	-2.30	-2.60	-2.70	-3.10	-2.70	45.70	39.40	37.30	26.90	37.30	47.2	23.0	75.5
			46	30	54	54	48		-2.40	-3.10	-2.00	-2.00	-2.30	43.60	26.90	52.00	52.00	45.70			
			50	54	30	50	36		-2.20	-2.00	-3.10	-2.20	-2.86	47.80	52.00	26.90	47.80	33.14			
			48	38	38	38	38		-2.30	-2.78	-2.78	-2.78	-2.78	45.70	35.22	35.22	35.22	35.22			
1구간	24.890k	-45	48	40	40	40	40	44.8	-2.30	-2.70	-2.70	-2.70	-2.70	45.70	37.30	37.30	37.30	37.30	47.4	23.0	76.2
			46	46	48	40	40		-2.40	-2.40	-2.30	-2.70	-2.70	43.60	43.60	45.70	37.30	37.30			
			58	58	50	50	48		-1.80	-1.80	-2.20	-2.20	-2.30	56.20	56.20	47.80	47.80	45.70			
			40	40	40	44	40		-2.70	-2.70	-2.70	-2.50	-2.70	37.30	37.30	37.30	41.50	37.30			
1구간	24.895k	-45	48	46	48	30	50	44.6	-2.30	-2.40	-2.30	-3.10	-2.20	45.70	43.60	45.70	26.90	47.80	46.5	23.0	73.5
			48	30	48	48	30		-2.30	-3.10	-2.30	-2.30	-3.10	45.70	26.90	45.70	45.70	26.90			
			40	50	50	48	48		-2.70	-2.20	-2.20	-2.30	-2.30	37.30	47.80	47.80	45.70	45.70			
			44	40	48	48	50		-2.50	-2.70	-2.30	-2.30	-2.20	41.50	37.30	45.70	45.70	47.80			

영천절토20 반발도법에 의한 압축강도 추정(암반강도)

구 분	측정위치	타격방향	측정치					평균치	보정값					보정후 측정치					상위50% 평균값(대표값)	암석의 밀도 (kN/㎡)	일축압축강도 추정(Mpa)
1구간	25.990k	-45	50	50	40	46	40	47.1	-2.20	-2.20	-2.70	-2.40	-2.70	47.80	47.80	37.30	43.60	37.30	49.9	23.0	84.8
			36	36	40	40	54		-2.86	-2.86	-2.70	-2.70	-2.00	33.14	33.14	37.30	37.30	52.00			
			54	50	58	50	54		-2.00	-2.20	-1.80	-2.20	-2.00	52.00	47.80	56.20	47.80	52.00			
			50	48	48	48	50		-2.20	-2.30	-2.30	-2.30	-2.20	47.80	45.70	45.70	45.70	47.80			
1구간	26.000k	-45	50	50	38	38	40	46.8	-2.20	-2.20	-2.78	-2.78	-2.70	47.80	47.80	35.22	35.22	37.30	49.3	23.0	82.5
			40	40	50	54	54		-2.70	-2.70	-2.20	-2.00	-2.00	37.30	37.30	47.80	52.00	52.00			
			44	44	46	44	50		-2.50	-2.50	-2.40	-2.50	-2.20	41.50	41.50	43.60	41.50	47.80			
			58	50	48	48	50		-1.80	-2.20	-2.30	-2.30	-2.20	56.20	47.80	45.70	45.70	47.80			
1구간	26.010k	-45	48	48	40	48	48	46.0	-2.30	-2.30	-2.70	-2.30	-2.30	45.70	45.70	37.30	45.70	45.70	48.9	23.0	81.1
			38	38	38	38	30		-2.78	-2.78	-2.78	-2.78	-3.10	35.22	35.22	35.22	35.22	26.90			
			50	54	54	50	54		-2.20	-2.00	-2.00	-2.20	-2.00	47.80	52.00	52.00	47.80	52.00			
			48	44	50	52	50		-2.30	-2.50	-2.20	-2.10	-2.20	45.70	41.50	47.80	49.90	47.80			
1구간	26.020k	-45	40	52	48	36	34	44.8	-2.70	-2.10	-2.30	-2.86	-2.94	37.30	49.90	45.70	33.14	31.06	49.1	23.0	81.8
			50	38	52	52	52		-2.20	-2.78	-2.10	-2.10	-2.10	47.80	35.22	49.90	49.90	49.90			
			40	34	34	40	50		-2.70	-2.94	-2.94	-2.70	-2.20	37.30	31.06	31.06	37.30	47.80			
			44	52	52	52	44		-2.50	-2.10	-2.10	-2.10	-2.50	41.50	49.90	49.90	49.90	41.50			

영천절토21 반발도법에 의한 압축강도 추정(암반강도)

구 분	측정위치	타격방향	측정치	평균치	보정값	보정후 측정치	상위50% 평균값(대표값)	암석의 밀도 (kN/㎡)	일축압축강도 추정(Mpa)
1구간	26.794k	-45	46 40 40 40 40	47.6	-2.40 -2.70 -2.70 -2.70 -2.70	43.60 37.30 37.30 37.30 37.30	50.1	23.0	85.5
			40 40 48 48 48		-2.70 -2.70 -2.30 -2.30 -2.30	37.30 37.30 45.70 45.70 45.70			
			50 54 54 50 54		-2.20 -2.00 -2.00 -2.20 -2.00	47.80 52.00 52.00 47.80 52.00			
			52 52 52 50 54		-2.10 -2.10 -2.10 -2.20 -2.00	49.90 49.90 49.90 47.80 52.00			
1구간	26.800k	-45	46 48 50 50 52	48.5	-2.40 -2.30 -2.20 -2.20 -2.10	43.60 45.70 47.80 47.80 49.90	50.5	23.0	87.0
			46 50 50 54 54		-2.40 -2.20 -2.20 -2.00 -2.00	43.60 47.80 47.80 52.00 52.00			
			40 38 38 40 48		-2.70 -2.78 -2.78 -2.70 -2.30	37.30 35.22 35.22 37.30 45.70			
			54 52 52 54 54		-2.00 -2.10 -2.10 -2.00 -2.00	52.00 49.90 49.90 52.00 52.00			
1구간	26.854k	-45	40 40 38 52 52	47.8	-2.70 -2.70 -2.78 -2.10 -2.10	37.30 37.30 35.22 49.90 49.90	49.1	23.0	81.8
			54 50 50 50 50		-2.00 -2.20 -2.20 -2.20 -2.20	52.00 47.80 47.80 47.80 47.80			
			44 44 44 50 50		-2.50 -2.50 -2.50 -2.20 -2.20	41.50 41.50 41.50 47.80 47.80			
			48 48 52 52 48		-2.30 -2.30 -2.10 -2.10 -2.30	45.70 45.70 49.90 49.90 45.70			
1구간	26.860k	-45	50 52 52 52 54	48.0	-2.20 -2.10 -2.10 -2.10 -2.00	47.80 49.90 49.90 49.90 52.00	51.0	23.0	88.6
			56 46 44 44 44		-1.90 -2.40 -2.50 -2.50 -2.50	54.10 43.60 41.50 41.50 41.50			
			44 38 38 38 44		-2.50 -2.78 -2.78 -2.78 -2.50	41.50 35.22 35.22 35.22 41.50			
			50 54 54 54 52		-2.20 -2.00 -2.00 -2.00 -2.10	47.80 52.00 52.00 52.00 49.90			
2구간	26.934k	-45	50 50 52 52 52	50.8	-2.20 -2.20 -2.10 -2.10 -2.10	47.80 47.80 49.90 49.90 49.90	50.7	23.0	87.8
			48 46 48 48 46		-2.30 -2.40 -2.30 -2.30 -2.40	45.70 43.60 45.70 45.70 43.60			
			52 52 54 54 54		-2.10 -2.10 -2.00 -2.00 -2.00	49.90 49.90 52.00 52.00 52.00			
			52 52 50 50 54		-2.10 -2.10 -2.20 -2.20 -2.00	49.90 49.90 47.80 47.80 52.00			
2구간	26.940k	-45	38 38 36 48 40	47.2	-2.78 -2.78 -2.86 -2.30 -2.70	35.22 35.22 33.14 45.70 37.30	50.5	23.0	87.0
			46 48 44 40 40		-2.40 -2.30 -2.50 -2.70 -2.70	43.60 45.70 41.50 37.30 37.30			
			52 54 56 54 56		-2.10 -2.00 -1.90 -2.00 -1.90	49.90 52.00 54.10 52.00 54.10			
			50 50 50 52 52		-2.20 -2.20 -2.20 -2.10 -2.10	47.80 47.80 47.80 49.90 49.90			
2구간	26.994k	-45	44 44 44 46 46	49.9	-2.50 -2.50 -2.50 -2.40 -2.40	41.50 41.50 41.50 43.60 43.60	51.0	23.0	88.6
			48 48 48 50 50		-2.30 -2.30 -2.30 -2.20 -2.20	45.70 45.70 45.70 47.80 47.80			
			54 54 54 54 54		-2.00 -2.00 -2.00 -2.00 -2.00	52.00 52.00 52.00 52.00 52.00			
			54 52 52 52 50		-2.00 -2.10 -2.10 -2.10 -2.20	52.00 49.90 49.90 49.90 47.80			
2구간	27.000k	-45	44 38 38 30 38	47.0	-2.50 -2.78 -2.78 -3.10 -2.78	41.50 35.22 35.22 26.90 35.22	49.3	23.0	82.5
			44 48 48 48 50		-2.50 -2.30 -2.30 -2.30 -2.20	41.50 45.70 45.70 45.70 47.80			
			50 50 52 52 52		-2.20 -2.20 -2.10 -2.10 -2.10	47.80 47.80 49.90 49.90 49.90			
			54 52 52 50 50		-2.00 -2.10 -2.10 -2.20 -2.20	52.00 49.90 49.90 47.80 47.80			

영천절토22 반발도법에 의한 압축강도 추정(암반강도)

구 분	측정위치	타격방향	측정치					평균치	보정값					보정후 측정치					상위50% 평균값(대표값)	암석의 밀도 (kN/㎡)	일축압축강도 추정(Mpa)
1구간	27.564k	-45	40	38	52	52	48	47.0	-2.70	-2.78	-2.10	-2.10	-2.30	37.30	35.22	49.90	49.90	45.70	50.1	23.0	85.5
			40	34	34	46	46		-2.70	-2.94	-2.94	-2.40	-2.40	37.30	31.06	31.06	43.60	43.60			
			52	54	50	58	44		-2.10	-2.00	-2.20	-1.80	-2.50	49.90	52.00	47.80	56.20	41.50			
			52	52	48	50	50		-2.10	-2.10	-2.30	-2.20	-2.20	49.90	49.90	45.70	47.80	47.80			
1구간	27.569k	-45	40	52	52	52	52	47.1	-2.70	-2.10	-2.10	-2.10	-2.10	37.30	49.90	49.90	49.90	49.90	49.9	23.0	84.8
			38	38	50	40	40		-2.78	-2.78	-2.20	-2.70	-2.70	35.22	35.22	47.80	37.30	37.30			
			50	50	48	52	52		-2.20	-2.20	-2.30	-2.10	-2.10	47.80	47.80	45.70	49.90	49.90			
			48	38	48	44	58		-2.30	-2.78	-2.30	-2.50	-1.80	45.70	35.22	45.70	41.50	56.20			
1구간	27.644k	-45	44	40	48	48	40	47.2	-2.50	-2.70	-2.30	-2.30	-2.70	41.50	37.30	45.70	45.70	37.30	49.7	23.0	84.0
			40	38	52	52	52		-2.70	-2.78	-2.10	-2.10	-2.10	37.30	35.22	49.90	49.90	49.90			
			52	54	54	52	52		-2.10	-2.00	-2.00	-2.10	-2.10	49.90	52.00	52.00	49.90	49.90			
			50	46	46	46	38		-2.20	-2.40	-2.40	-2.40	-2.78	47.80	43.60	43.60	43.60	35.22			
1구간	27.649k	-45	38	30	54	52	40	45.5	-2.78	-3.10	-2.00	-2.10	-2.70	35.22	26.90	52.00	49.90	37.30	49.5	23.0	83.3
			50	54	54	50	50		-2.20	-2.00	-2.00	-2.20	-2.20	47.80	52.00	52.00	47.80	47.80			
			44	54	54	40	40		-2.50	-2.00	-2.00	-2.70	-2.70	41.50	52.00	52.00	37.30	37.30			
			38	40	40	44	44		-2.78	-2.70	-2.70	-2.50	-2.50	35.22	37.30	37.30	41.50	41.50			

영천철도23 반발도법에 의한 압축강도 추정(암반강도)

구 분	측정위치	타격방향	측정치	평균치	보정값	보정후 측정치	상위50% 평균값(대표값)	암석의 밀도 (kN/m³)	일축압축강도 추정(Mpa)
1구간	27.724k	0	46 47 46 43 44	47.1	-2.40 -2.35 -2.40 -2.55 -2.50	43.60 44.65 43.60 40.45 41.50	47.1	23.0	75.2
			50 48 50 45 50		-2.20 -2.30 -2.20 -2.45 -2.20	47.80 45.70 47.80 42.55 47.80			
			51 48 51 45 40		-2.15 -2.30 -2.15 -2.45 -2.70	48.85 45.70 48.85 42.55 37.30			
			50 46 48 47 47		-2.20 -2.40 -2.30 -2.35 -2.35	47.80 43.60 45.70 44.65 44.65			
1구간	27.744k	0	51 51 52 41 54	47.4	-2.15 -2.15 -2.10 -2.65 -2.00	48.85 48.85 49.90 38.35 52.00	49.5	23.0	83.3
			51 41 43 46 41		-2.15 -2.65 -2.55 -2.40 -2.65	48.85 38.35 40.45 43.60 38.35			
			42 49 47 45 43		-2.60 -2.25 -2.35 -2.45 -2.55	39.40 46.75 44.65 42.55 40.45			
			43 47 55 55 51		-2.55 -2.35 -1.95 -1.95 -2.15	40.45 44.65 53.05 53.05 48.85			
1구간	27.804k	0	41 51 50 53 55	48.2	-2.65 -2.15 -2.20 -2.05 -1.95	38.35 48.85 47.80 50.95 53.05	49.6	23.0	83.6
			46 48 54 47 53		-2.40 -2.30 -2.00 -2.35 -2.05	43.60 45.70 52.00 44.65 50.95			
			47 46 41 49 48		-2.35 -2.40 -2.65 -2.25 -2.30	44.65 43.60 38.35 46.75 45.70			
			43 41 47 54 50		-2.55 -2.65 -2.35 -2.00 -2.20	40.45 38.35 44.65 52.00 47.80			
2구간	27.814k	0	47 45 55 46 48	48.8	-2.35 -2.45 -1.95 -2.40 -2.30	44.65 42.55 53.05 43.60 45.70	50.7	23.0	87.8
			54 51 52 47 42		-2.00 -2.15 -2.10 -2.35 -2.60	52.00 48.85 49.90 44.65 39.40			
			41 43 54 54 52		-2.65 -2.55 -2.00 -2.00 -2.10	38.35 40.45 52.00 52.00 49.90			
			43 52 49 45 55		-2.55 -2.10 -2.25 -2.45 -1.95	40.45 49.90 46.75 42.55 53.05			
2구간	28.074k	0	50 48 45 47 48	46.1	-2.20 -2.30 -2.45 -2.35 -2.30	47.80 45.70 42.55 44.65 45.70	45.8	23.0	71.3
			41 45 43 45 49		-2.65 -2.45 -2.55 -2.45 -2.25	38.35 42.55 40.45 42.55 46.75			
			49 48 47 48 46		-2.25 -2.30 -2.35 -2.30 -2.40	46.75 45.70 44.65 45.70 43.60			
			46 47 45 42 43		-2.40 -2.35 -2.45 -2.60 -2.55	43.60 44.65 42.55 39.40 40.45			
2구간	28.084k	0	54 42 46 48 49	48.7	-2.00 -2.60 -2.40 -2.30 -2.25	52.00 39.40 43.60 45.70 46.75	50.0	23.0	85.1
			50 54 51 40 48		-2.20 -2.00 -2.15 -2.70 -2.30	47.80 52.00 48.85 37.30 45.70			
			41 44 54 52 50		-2.65 -2.50 -2.00 -2.10 -2.20	38.35 41.50 52.00 49.90 47.80			
			48 50 53 53 47		-2.30 -2.20 -2.05 -2.05 -2.35	45.70 47.80 50.95 50.95 44.65			

상주절토24 반발도법에 의한 압축강도 추정(암반강도)

구 분	측정위치	타격방향	측정치					평균치	보정값					보정후 측정치					상위50% 평균값(대표값)	암석의 밀도 (kN/m³)	일축압축강도 추정(Mpa)
1구간	30.473k	0	59	42	45	46	52	51.5	-1.75	-2.60	-2.45	-2.40	-2.10	57.25	39.40	42.55	43.60	49.90	52.6	23.0	95.1
			50	52	54	54	51		-2.20	-2.10	-2.00	-2.00	-2.15	47.80	49.90	52.00	52.00	48.85			
			53	57	52	49	51		-2.05	-1.85	-2.10	-2.25	-2.15	50.95	55.15	49.90	46.75	48.85			
			49	50	51	60	53		-2.25	-2.20	-2.15	-1.70	-2.05	46.75	47.80	48.85	58.30	50.95			
1구간	30.493k	0	56	48	49	47	55	53.0	-1.90	-2.30	-2.25	-2.35	-1.95	54.10	45.70	46.75	44.65	53.05	56.1	23.0	110.2
			54	59	41	43	59		-2.00	-1.75	-2.65	-2.55	-1.75	52.00	57.25	38.35	40.45	57.25			
			60	59	55	44	48		-1.70	-1.75	-1.95	-2.50	-2.30	58.30	57.25	53.05	41.50	45.70			
			51	60	60	56	55		-2.15	-1.70	-1.70	-1.90	-1.95	48.85	58.30	58.30	54.10	53.05			
1구간	30.533k	0	47	43	55	46	60	52.8	-2.35	-2.55	-1.95	-2.40	-1.70	44.65	40.45	53.05	43.60	58.30	57.1	23.0	115.2
			60	57	44	42	58		-1.70	-1.85	-2.50	-2.60	-1.80	58.30	55.15	41.50	39.40	56.20			
			59	60	41	42	55		-1.75	-1.70	-2.65	-2.60	-1.95	57.25	58.30	38.35	39.40	53.05			
			57	51	60	60	58		-1.85	-2.15	-1.70	-1.70	-1.80	55.15	48.85	58.30	58.30	56.20			

영천절토25 반발도법에 의한 압축강도 추정(암반강도)

구 분	측정위치	타격방향	측정치	평균치	보정값	보정후 측정치	상위50% 평균값(대표값)	암석의 밀도 (kN/m³)	일축압축강도 추정(Mpa)
1구간	31.333k (맞은편)	0	59 51 57 56 56	55.8	-1.75 -2.15 -1.85 -1.90 -1.90	57.25 48.85 55.15 54.10 54.10	57.0	23.0	114.7
			50 52 53 59 60		-2.20 -2.10 -2.05 -1.75 -1.70	47.80 49.90 50.95 57.25 58.30			
			59 60 59 60 59		-1.75 -1.70 -1.75 -1.70 -1.75	57.25 58.30 57.25 58.30 57.25			
			52 53 54 55 52		-2.10 -2.05 -2.00 -1.95 -2.10	49.90 50.95 52.00 53.05 49.90			
1구간	31.343k	0	54 60 60 47 41	52.5	-2.00 -1.70 -1.70 -2.35 -2.65	52.00 58.30 58.30 44.65 38.35	57.4	23.0	116.2
			51 50 55 43 60		-2.15 -2.20 -1.95 -2.55 -1.70	48.85 47.80 53.05 40.45 58.30			
			40 44 58 60 60		-2.70 -2.50 -1.80 -1.70 -1.70	37.30 41.50 56.20 58.30 58.30			
			60 41 48 59 59		-1.70 -2.65 -2.30 -1.75 -1.75	58.30 38.35 45.70 57.25 57.25			
2구간	31.513k	0	54 55 53 56 51	51.9	-2.00 -1.95 -2.05 -1.90 -2.15	52.00 53.05 50.95 54.10 48.85	53.7	23.0	99.5
			50 55 47 49 49		-2.20 -1.95 -2.35 -2.25 -2.25	47.80 53.05 44.65 46.75 46.75			
			41 44 48 50 55		-2.65 -2.50 -2.30 -2.20 -1.95	38.35 41.50 45.70 47.80 53.05			
			56 57 58 55 55		-1.90 -1.85 -1.80 -1.95 -1.95	54.10 55.15 56.20 53.05 53.05			
2구간	31.533k	0	56 57 48 47 55	50.6	-1.90 -1.85 -2.30 -2.35 -1.95	54.10 55.15 45.70 44.65 53.05	54.2	23.0	101.7
			51 44 44 47 56		-2.15 -2.50 -2.50 -2.35 -1.90	48.85 41.50 41.50 44.65 54.10			
			55 45 44 49 59		-1.95 -2.45 -2.50 -2.25 -1.75	53.05 42.55 41.50 46.75 57.25			
			42 41 58 57 57		-2.60 -2.65 -1.80 -1.85 -1.85	39.40 38.35 56.20 55.15 55.15			
2구간	31.553k	0	52 51 51 51 55	55.2	-2.10 -2.15 -2.15 -2.15 -1.95	49.90 48.85 48.85 48.85 53.05	56.7	23.0	113.2
			58 60 52 53 54		-1.80 -1.70 -2.10 -2.05 -2.00	56.20 58.30 49.90 50.95 52.00			
			59 59 59 59 58		-1.75 -1.75 -1.75 -1.75 -1.80	57.25 57.25 57.25 57.25 56.20			
			59 59 52 51 52		-1.75 -1.75 -2.10 -2.15 -2.10	57.25 57.25 49.90 48.85 49.90			
3구간	31.573k	0	47 48 50 43 41	53.7	-2.35 -2.30 -2.20 -2.55 -2.65	44.65 45.70 47.80 40.45 38.35	56.6	23.0	112.7
			52 54 56 56 58		-2.10 -2.00 -1.90 -1.90 -1.80	49.90 52.00 54.10 54.10 56.20			
			60 60 58 59 59		-1.70 -1.70 -1.80 -1.75 -1.75	58.30 58.30 56.20 57.25 57.25			
			59 59 52 52 51		-1.75 -1.75 -2.10 -2.10 -2.15	57.25 57.25 49.90 49.90 48.85			

영천절토26 반발도법에 의한 압축강도 추정(암반강도)

구 분	측정위치	타격방향	측정치					평균치	보정값					보정후 측정치					상위50% 평균값(대표값)	암석의 밀도 (kN/m³)	일축압축강도 추정(Mpa)
2구간	33.818k	0	41	43	35	37	35	46.5	-2.65	-2.55	-2.90	-2.82	-2.90	38.35	40.45	32.10	34.18	32.10	49.6	23.0	83.6
			44	38	50	47	45		-2.50	-2.78	-2.20	-2.35	-2.45	41.50	35.22	47.80	44.65	42.55			
			48	52	53	51	53		-2.30	-2.10	-2.05	-2.15	-2.05	45.70	49.90	50.95	48.85	50.95			
			53	49	50	53	53		-2.05	-2.25	-2.20	-2.05	-2.05	50.95	46.75	47.80	50.95	50.95			
2구간	33.818k	0	45	59	45	43	55	50.1	-2.45	-1.75	-2.45	-2.55	-1.95	42.55	57.25	42.55	40.45	53.05	52.5	23.0	94.7
			41	44	55	51	55		-2.65	-2.50	-1.95	-2.15	-1.95	38.35	41.50	53.05	48.85	53.05			
			45	47	59	48	48		-2.45	-2.35	-1.75	-2.30	-2.30	42.55	44.65	57.25	45.70	45.70			
			51	50	53	53	54		-2.15	-2.20	-2.05	-2.05	-2.00	48.85	47.80	50.95	50.95	52.00			
2구간	33.818k	0	51	50	53	54	45	49.8	-2.15	-2.20	-2.05	-2.00	-2.45	48.85	47.80	50.95	52.00	42.55	53.1	23.0	96.9
			47	42	40	40	49		-2.35	-2.60	-2.70	-2.70	-2.25	44.65	39.40	37.30	37.30	46.75			
			50	58	55	56	59		-2.20	-1.80	-1.95	-1.90	-1.75	47.80	56.20	53.05	54.10	57.25			
			47	44	41	55	59		-2.35	-2.50	-2.65	-1.95	-1.75	44.65	41.50	38.35	53.05	57.25			

상주절토27 반발도법에 의한 압축강도 추정(암반강도)

구 분	측정위치	타격방향	측정치					평균치	보정값					보정후 측정치					상위50% 평균값(대표값)	암석의 밀도 (kN/m³)	일축압축강도 추정(Mpa)
1구간	36.255k	0	59	48	59	52	57	53.0	-1.75	-2.30	-1.75	-2.10	-1.85	57.25	45.70	57.25	49.90	55.15	56.8	23.0	113.7
			41	59	60	60	48		-2.65	-1.75	-1.70	-1.70	-2.30	38.35	57.25	58.30	58.30	45.70			
			44	43	60	60	54		-2.50	-2.55	-1.70	-1.70	-2.00	41.50	40.45	58.30	58.30	52.00			
			41	47	55	56	56		-2.65	-2.35	-1.95	-1.90	-1.90	38.35	44.65	53.05	54.10	54.10			
1구간	36.275k	0	51	53	52	53	54	51.4	-2.15	-2.05	-2.10	-2.05	-2.00	48.85	50.95	49.90	50.95	52.00	52.2	23.0	93.5
			48	50	50	50	51		-2.30	-2.20	-2.20	-2.20	-2.15	45.70	47.80	47.80	47.80	48.85			
			53	58	54	56	57		-2.05	-1.80	-2.00	-1.90	-1.85	50.95	56.20	52.00	54.10	55.15			
			50	52	42	47	46		-2.20	-2.10	-2.60	-2.35	-2.40	47.80	49.90	39.40	44.65	43.60			
1구간	36.295k	0	41	47	55	59	59	52.5	-2.65	-2.35	-1.95	-1.75	-1.75	38.35	44.65	53.05	57.25	57.25	55.7	23.0	108.2
			58	44	43	48	59		-1.80	-2.50	-2.55	-2.30	-1.75	56.20	41.50	40.45	45.70	57.25			
			48	47	55	54	52		-2.30	-2.35	-1.95	-2.00	-2.10	45.70	44.65	53.05	52.00	49.90			
			51	58	59	58	55		-2.15	-1.80	-1.75	-1.80	-1.95	48.85	56.20	57.25	56.20	53.05			

영천철토28 반발도법에 의한 압축강도 추정(암반강도)

구 분	측정위치	타격방향	측정치	평균치	보정값	보정후 측정치	상위50% 평균값(대표값)	암석의 밀도 (kN/m³)	일축압축강도 추정(Mpa)
1구간	37.215k	0	50 47 51 49 50	51.4	-2.20 -2.35 -2.15 -2.25 -2.20	47.80 44.65 48.85 46.75 47.80	51.6	23.0	91.0
			48 49 50 51 56		-2.30 -2.25 -2.20 -2.15 -1.90	45.70 46.75 47.80 48.85 54.10			
			54 50 51 50 57		-2.00 -2.20 -2.15 -2.20 -1.85	52.00 47.80 48.85 47.80 55.15			
			48 51 54 55 56		-2.30 -2.15 -2.00 -1.95 -1.90	45.70 48.85 52.00 53.05 54.10			
1구간	37.235k	0	45 48 54 52 55	50.9	-2.45 -2.30 -2.00 -2.10 -1.95	42.55 45.70 52.00 49.90 53.05	52.4	23.0	94.3
			47 42 55 48 47		-2.35 -2.60 -1.95 -2.30 -2.35	44.65 39.40 53.05 45.70 44.65			
			56 55 48 48 49		-1.90 -1.95 -2.30 -2.30 -2.25	54.10 53.05 45.70 45.70 46.75			
			51 55 53 54 55		-2.15 -1.95 -2.05 -2.00 -1.95	48.85 53.05 50.95 52.00 53.05			
1구간	37.255k	0	47 56 59 51 51	50.9	-2.35 -1.90 -1.75 -2.15 -2.15	44.65 54.10 57.25 48.85 48.85	52.7	23.0	95.6
			47 44 42 55 53		-2.35 -2.50 -2.60 -1.95 -2.05	44.65 41.50 39.40 53.05 50.95			
			53 51 54 52 48		-2.05 -2.15 -2.00 -2.10 -2.30	50.95 48.85 52.00 49.90 45.70			
			51 55 44 46 59		-2.15 -1.95 -2.50 -2.40 -1.75	48.85 53.05 41.50 43.60 57.25			
2구간	37.315k	0	44 42 55 55 50	50.7	-2.50 -2.60 -1.95 -1.95 -2.20	41.50 39.40 53.05 53.05 47.80	53.2	23.0	97.3
			51 50 54 59 49		-2.15 -2.20 -2.00 -1.75 -2.25	48.85 47.80 52.00 57.25 46.75			
			48 47 45 43 59		-2.30 -2.35 -2.45 -2.55 -1.75	45.70 44.65 42.55 40.45 57.25			
			59 58 51 50 44		-1.75 -1.80 -2.15 -2.20 -2.50	57.25 56.20 48.85 47.80 41.50			
2구간	37.325k	0	42 46 50 50 59	51.1	-2.60 -2.40 -2.20 -2.20 -1.75	39.40 43.60 47.80 47.80 57.25	53.1	23.0	96.9
			50 58 57 51 51		-2.20 -1.80 -1.85 -2.15 -2.15	47.80 56.20 55.15 48.85 48.85			
			53 52 54 48 45		-2.05 -2.10 -2.00 -2.30 -2.45	50.95 49.90 52.00 45.70 42.55			
			51 45 44 58 57		-2.15 -2.45 -2.50 -1.80 -1.85	48.85 42.55 41.50 56.20 55.15			
2구간	37.335k	0	53 50 59 59 55	53.4	-2.05 -2.20 -1.75 -1.75 -1.95	50.95 47.80 57.25 57.25 53.05	54.5	23.0	103.1
			46 50 50 50 51		-2.40 -2.20 -2.20 -2.20 -2.15	43.60 47.80 47.80 47.80 48.85			
			54 54 52 52 51		-2.00 -2.00 -2.10 -2.10 -2.15	52.00 52.00 49.90 49.90 48.85			
			57 57 57 59 51		-1.85 -1.85 -1.85 -1.75 -2.15	55.15 55.15 55.15 57.25 48.85			

상주절토29 반발도법에 의한 압축강도 추정(암반강도)

구 분	측정위치	타격방향	측정치	평균치	보정값	보정후 측정치	상위50% 평균값(대표값)	암석의 밀도 (kN/m³)	일축압축강도 추정(Mpa)
1구간	38.205k	0	44 48 54 59 60	52.7	-2.50 -2.30 -2.00 -1.75 -1.70	41.50 45.70 52.00 57.25 58.30	54.9	23.0	104.9
			59 51 50 47 48		-1.75 -2.15 -2.20 -2.35 -2.30	57.25 48.85 47.80 44.65 45.70			
			49 48 54 58 56		-2.25 -2.30 -2.00 -1.80 -1.90	46.75 45.70 52.00 56.20 54.10			
			56 57 50 51 55		-1.90 -1.85 -2.20 -2.15 -1.95	54.10 55.15 47.80 48.85 53.05			
1구간	38.225k	0	46 44 48 49 41	51.3	-2.40 -2.50 -2.30 -2.25 -2.65	43.60 41.50 45.70 46.75 38.35	53.1	23.0	96.9
			45 50 51 51 52		-2.45 -2.20 -2.15 -2.15 -2.10	42.55 47.80 48.85 48.85 49.90			
			53 58 60 59 50		-2.05 -1.80 -1.70 -1.75 -2.20	50.95 56.20 58.30 57.25 47.80			
			52 54 52 53 57		-2.10 -2.00 -2.10 -2.05 -1.85	49.90 52.00 49.90 50.95 55.15			
1구간	38.245k	0	51 50 55 58 59	53.8	-2.15 -2.20 -1.95 -1.80 -1.75	48.85 47.80 53.05 56.20 57.25	55.2	23.0	105.9
			48 51 50 58 55		-2.30 -2.15 -2.20 -1.80 -1.95	45.70 48.85 47.80 56.20 53.05			
			56 57 51 50 53		-1.90 -1.85 -2.15 -2.20 -2.05	54.10 55.15 48.85 47.80 50.95			
			50 51 55 58 59		-2.20 -2.15 -1.95 -1.80 -1.75	47.80 48.85 53.05 56.20 57.25			
2구간	38.325k	0	60 52 54 49 51	53.0	-1.70 -2.10 -2.00 -2.25 -2.15	58.30 49.90 52.00 46.75 48.85	54.0	23.0	100.8
			50 55 59 48 47		-2.20 -1.95 -1.75 -2.30 -2.35	47.80 53.05 57.25 45.70 44.65			
			53 54 50 50 52		-2.05 -2.00 -2.20 -2.20 -2.10	50.95 52.00 47.80 47.80 49.90			
			51 53 60 52 59		-2.15 -2.05 -1.70 -2.10 -1.75	48.85 50.95 58.30 49.90 57.25			
2구간	38.365k	0	55 59 59 50 50	52.6	-1.95 -1.75 -1.75 -2.20 -2.20	53.05 57.25 57.25 47.80 47.80	55.4	23.0	106.8
			51 47 48 60 59		-2.15 -2.35 -2.30 -1.70 -1.75	48.85 44.65 45.70 58.30 57.25			
			50 47 44 42 58		-2.20 -2.35 -2.50 -2.60 -1.80	47.80 44.65 41.50 39.40 56.20			
			57 55 56 54 50		-1.85 -1.95 -1.90 -2.00 -2.20	55.15 53.05 54.10 52.00 47.80			
2구간	38.385k	0	59 55 48 47 59	52.5	-1.75 -1.95 -2.30 -2.35 -1.75	57.25 53.05 45.70 44.65 57.25	55.6	23.0	107.8
			56 51 50 60 60		-1.90 -2.15 -2.20 -1.70 -1.70	54.10 48.85 47.80 58.30 58.30			
			44 43 54 52 44		-2.50 -2.55 -2.00 -2.10 -2.50	41.50 40.45 52.00 49.90 41.50			
			48 51 60 59 50		-2.30 -2.15 -1.70 -1.75 -2.20	45.70 48.85 58.30 57.25 47.80			

상주절토30 반발도법에 의한 압축강도 추정(암반강도)

구 분	측정위치	타격방향	측정치					평균치	보정값					보정후 측정치					상위50% 평균값(대표값)	암석의 밀도 (kN/m³)	일축압축강도 추정(Mpa)
1구간	38.595k	0	57	58	50	51	53	53.3	-1.85	-1.80	-2.20	-2.15	-2.05	55.15	56.20	47.80	48.85	50.95	54.3	23.0	102.2
			50	51	56	55	51		-2.20	-2.15	-1.90	-1.95	-2.15	47.80	48.85	54.10	53.05	48.85			
			58	58	50	57	58		-1.80	-1.80	-2.20	-1.85	-1.80	56.20	56.20	47.80	55.15	56.20			
			51	51	51	52	48		-2.15	-2.15	-2.15	-2.10	-2.30	48.85	48.85	48.85	49.90	45.70			
1구간	38.600k	0	51	50	55	57	58	56.2	-2.15	-2.20	-1.95	-1.85	-1.80	48.85	47.80	53.05	55.15	56.20	57.1	23.0	115.2
			59	59	60	60	58		-1.75	-1.75	-1.70	-1.70	-1.80	57.25	57.25	58.30	58.30	56.20			
			54	51	52	53	57		-2.00	-2.15	-2.10	-2.05	-1.85	52.00	48.85	49.90	50.95	55.15			
			55	56	59	59	60		-1.95	-1.90	-1.75	-1.75	-1.70	53.05	54.10	57.25	57.25	58.30			
1구간	38.610k	0	51	50	54	53	58	54.5	-2.15	-2.20	-2.00	-2.05	-1.80	48.85	47.80	52.00	50.95	56.20	56.5	23.0	112.2
			51	50	53	55	59		-2.15	-2.20	-2.05	-1.95	-1.75	48.85	47.80	50.95	53.05	57.25			
			60	60	51	49	48		-1.70	-1.70	-2.15	-2.25	-2.30	58.30	58.30	48.85	46.75	45.70			
			50	59	59	59	60		-2.20	-1.75	-1.75	-1.75	-1.70	47.80	57.25	57.25	57.25	58.30			

영천절토31 반발도법에 의한 압축강도 추정(암반강도)

구 분	측정위치	타격방향	측정치	평균치	보정값	보정후 측정치	상위50% 평균값(대표값)	암석의 밀도 (kN/m³)	일축압축강도 추정(Mpa)
1구간	40.155k	0	55 56 48 49 60	52.3	-1.95 -1.90 -2.30 -2.25 -1.70	53.05 54.10 45.70 46.75 58.30	55.8	23.0	108.7
			51 55 53 60 59		-2.15 -1.95 -2.05 -1.70 -1.75	48.85 53.05 50.95 58.30 57.25			
			48 44 59 51 41		-2.30 -2.50 -1.75 -2.15 -2.65	45.70 41.50 57.25 48.85 38.35			
			43 42 55 59 58		-2.55 -2.60 -1.95 -1.75 -1.80	40.45 39.40 53.05 57.25 56.20			
1구간	40.165k	0	50 50 56 55 35	49.0	-2.20 -2.20 -1.90 -1.95 -2.90	47.80 47.80 54.10 53.05 32.10	53.5	23.0	98.6
			31 33 40 45 47		-3.06 -2.98 -2.70 -2.45 -2.35	27.94 30.02 37.30 42.55 44.65			
			56 54 56 52 50		-1.90 -2.00 -1.90 -2.10 -2.20	54.10 52.00 54.10 49.90 47.80			
			59 52 56 58 45		-1.75 -2.10 -1.90 -1.80 -2.45	57.25 49.90 54.10 56.20 42.55			
1구간	40.175k	0	55 51 48 42 44	51.2	-1.95 -2.15 -2.30 -2.60 -2.50	53.05 48.85 45.70 39.40 41.50	54.7	23.0	104.0
			43 45 55 59 55		-2.55 -2.45 -1.95 -1.75 -1.95	40.45 42.55 53.05 57.25 53.05			
			41 42 54 50 51		-2.65 -2.60 -2.00 -2.20 -2.15	38.35 39.40 52.00 47.80 48.85			
			58 59 51 60 60		-1.80 -1.75 -2.15 -1.70 -1.70	56.20 57.25 48.85 58.30 58.30			

영천철토32 반발도법에 의한 압축강도 추정(암반강도)

구 분	측정위치	타격방향	측정치	평균치	보정값	보정후 측정치	상위50% 평균값(대표값)	암석의 밀도 (kN/m³)	일축압축강도 추정(Mpa)
1구간	40.565k	0	46 48 45 54 52	49.7	-2.40 -2.30 -2.45 -2.00 -2.10	43.60 45.70 42.55 52.00 49.90	51.8	23.0	91.8
			53 54 55 50 48		-2.05 -2.00 -1.95 -2.20 -2.30	50.95 52.00 53.05 47.80 45.70			
			54 52 53 54 44		-2.00 -2.10 -2.05 -2.00 -2.50	52.00 49.90 50.95 52.00 41.50			
			41 42 40 54 55		-2.65 -2.60 -2.70 -2.00 -1.95	38.35 39.40 37.30 52.00 53.05			
1구간	40.605k	0	49 48 55 56 58	53.8	-2.25 -2.30 -1.95 -1.90 -1.80	46.75 45.70 53.05 54.10 56.20	57.1	23.0	115.2
			58 50 60 60 41		-1.80 -2.20 -1.70 -1.70 -2.65	56.20 47.80 58.30 58.30 38.35			
			44 43 59 54 60		-2.50 -2.55 -1.75 -2.00 -1.70	41.50 40.45 57.25 52.00 58.30			
			60 53 59 59 50		-1.70 -2.05 -1.75 -1.75 -2.20	58.30 50.95 57.25 57.25 47.80			
1구간	40.615k	0	60 60 48 53 41	51.3	-1.70 -1.70 -2.30 -2.05 -2.65	58.30 58.30 45.70 50.95 38.35	54.9	23.0	104.9
			44 49 52 59 57		-2.50 -2.25 -2.10 -1.75 -1.85	41.50 46.75 49.90 57.25 55.15			
			60 54 52 51 46		-1.70 -2.00 -2.10 -2.15 -2.40	58.30 52.00 49.90 48.85 43.60			
			43 57 56 42 41		-2.55 -1.85 -1.90 -2.60 -2.65	40.45 55.15 54.10 39.40 38.35			
1구간	40.685k	0	50 55 60 40 59	53.7	-2.20 -1.95 -1.70 -2.70 -1.75	47.80 53.05 58.30 37.30 57.25	57.1	23.0	115.2
			45 44 60 42 59		-2.45 -2.50 -1.70 -2.60 -1.75	42.55 41.50 58.30 39.40 57.25			
			58 60 52 59 50		-1.80 -1.70 -2.10 -1.75 -2.20	56.20 58.30 49.90 57.25 47.80			
			60 54 53 59 55		-1.70 -2.00 -2.05 -1.75 -1.95	58.30 52.00 50.95 57.25 53.05			
2구간	40.815k	0	46 42 41 47 47	48.7	-2.40 -2.60 -2.65 -2.35 -2.35	43.60 39.40 38.35 44.65 44.65	53.7	23.0	99.5
			31 32 37 60 47		-3.06 -3.02 -2.82 -1.70 -2.35	27.94 28.98 34.18 58.30 44.65			
			52 48 55 56 47		-2.10 -2.30 -1.95 -1.90 -2.35	49.90 45.70 53.05 54.10 44.65			
			57 60 56 53 59		-1.85 -1.70 -1.90 -2.05 -1.75	55.15 58.30 54.10 50.95 57.25			
2구간	40.845k	0	55 52 60 50 60	55.0	-1.95 -2.10 -1.70 -2.20 -1.70	53.05 49.90 58.30 47.80 58.30	57.3	23.0	115.7
			59 48 59 45 60		-1.75 -2.30 -1.75 -2.45 -1.70	57.25 45.70 57.25 42.55 58.30			
			56 50 59 59 52		-1.90 -2.20 -1.75 -1.75 -2.10	54.10 47.80 57.25 57.25 49.90			
			53 54 59 59 50		-2.05 -2.00 -1.75 -1.75 -2.20	50.95 52.00 57.25 57.25 47.80			

영천절토33 반발도법에 의한 압축강도 추정(암반강도)

구 분	측정위치	타격방향	측정치	평균치	보정값	보정후 측정치	상위50% 평균값(대표값)	암석의 밀도 (kN/m³)	일축압축강도 추정(Mpa)
1구간	0+420k	0	48 49 45 47 37	45.5	-2.30 -2.25 -2.45 -2.35 -2.82	45.70 46.75 42.55 44.65 34.18	47.6	23.0	76.9
			46 34 35 38 49		-2.40 -2.94 -2.90 -2.78 -2.25	43.60 31.06 32.10 35.22 46.75			
			47 48 49 47 51		-2.35 -2.30 -2.25 -2.35 -2.15	44.65 45.70 46.75 44.65 48.85			
			51 44 42 44 59		-2.15 -2.50 -2.60 -2.50 -1.75	48.85 41.50 39.40 41.50 57.25			
1구간	0+440k	0	51 57 36 41 33	43.4	-2.15 -1.85 -2.86 -2.65 -2.98	48.85 55.15 33.14 38.35 30.02	46.5	23.0	73.5
			26 29 48 45 49		-3.22 -3.13 -2.30 -2.45 -2.25	22.78 25.87 45.70 42.55 46.75			
			44 44 52 45 44		-2.50 -2.50 -2.10 -2.45 -2.50	41.50 41.50 49.90 42.55 41.50			
			39 49 48 44 43		-2.74 -2.25 -2.30 -2.50 -2.55	36.26 46.75 45.70 41.50 40.45			
2구간	0+460k	0	48 50 51 59 60	48.2	-2.30 -2.20 -2.15 -1.75 -1.70	45.70 47.80 48.85 57.25 58.30	49.7	23.0	84.0
			48 47 46 55 51		-2.30 -2.35 -2.40 -1.95 -2.15	45.70 44.65 43.60 53.05 48.85			
			48 42 42 43 44		-2.30 -2.60 -2.60 -2.55 -2.50	45.70 39.40 39.40 40.45 41.50			
			46 47 48 45 43		-2.40 -2.35 -2.30 -2.45 -2.55	43.60 44.65 45.70 42.55 40.45			
2구간	0+520k	0	53 55 54 50 57	52.5	-2.05 -1.95 -2.00 -2.20 -1.85	50.95 53.05 52.00 47.80 55.15	53.3	23.0	97.7
			59 55 53 54 53		-1.75 -1.95 -2.05 -2.00 -2.05	57.25 53.05 50.95 52.00 50.95			
			50 55 54 48 42		-2.20 -1.95 -2.00 -2.30 -2.60	47.80 53.05 52.00 45.70 39.40			
			51 50 54 47 55		-2.15 -2.20 -2.00 -2.35 -1.95	48.85 47.80 52.00 44.65 53.05			
2구간	0+600k	0	42 40 58 54 53	50.7	-2.60 -2.70 -1.80 -2.00 -2.05	39.40 37.30 56.20 52.00 50.95	54.2	23.0	101.7
			48 49 59 55 48		-2.30 -2.25 -1.75 -1.95 -2.30	45.70 46.75 57.25 53.05 45.70			
			47 44 42 54 39		-2.35 -2.50 -2.60 -2.00 -2.74	44.65 41.50 39.40 52.00 36.26			
			58 59 54 55 55		-1.80 -1.75 -2.00 -1.95 -1.95	56.20 57.25 52.00 53.05 53.05			
2구간	0+620k	0	60 52 52 55 55	50.6	-1.70 -2.10 -2.10 -1.95 -1.95	58.30 49.90 49.90 53.05 53.05	54.0	23.0	100.8
			47 48 56 55 47		-2.35 -2.30 -1.90 -1.95 -2.35	44.65 45.70 54.10 53.05 44.65			
			60 56 55 50 43		-1.70 -1.90 -1.95 -2.20 -2.55	58.30 54.10 53.05 47.80 40.45			
			29 54 46 39 53		-3.13 -2.00 -2.40 -2.74 -2.05	25.87 52.00 43.60 36.26 50.95			

영천절토34 반발도법에 의한 압축강도 추정(암반강도)

구 분	측정위치	타격방향	측정치					평균치	보정값					보정후 측정치					상위50% 평균값(대표값)	암석의 밀도 (kN/m³)	일축압축강도 추정(Mpa)
1구간	2.000k	0	55	54	44	51	51	49.4	-1.95	-2.00	-2.50	-2.15	-2.15	53.05	52.00	41.50	48.85	48.85	55.4	23.0	106.8
			29	32	60	60	37		-3.13	-3.02	-1.70	-1.70	-2.82	25.87	28.98	58.30	58.30	34.18			
			59	54	54	59	60		-1.75	-2.00	-2.00	-1.75	-1.70	57.25	52.00	52.00	57.25	58.30			
			49	57	46	26	51		-2.25	-1.85	-2.40	-3.22	-2.15	46.75	55.15	43.60	22.78	48.85			
1구간	2.050k	0	48	47	38	54	55	51.8	-2.30	-2.35	-2.78	-2.00	-1.95	45.70	44.65	35.22	52.00	53.05	55.0	23.0	105.4
			56	52	50	51	60		-1.90	-2.10	-2.20	-2.15	-1.70	54.10	49.90	47.80	48.85	58.30			
			44	59	58	47	58		-2.50	-1.75	-1.80	-2.35	-1.80	41.50	57.25	56.20	44.65	56.20			
			58	55	47	43	56		-1.80	-1.95	-2.35	-2.55	-1.90	56.20	53.05	44.65	40.45	54.10			
1구간	2.090k	0	54	51	59	60	55	51.3	-2.00	-2.15	-1.75	-1.70	-1.95	52.00	48.85	57.25	58.30	53.05	54.9	23.0	104.9
			58	51	41	42	59		-1.80	-2.15	-2.65	-2.60	-1.75	56.20	48.85	38.35	39.40	57.25			
			41	38	45	54	55		-2.65	-2.78	-2.45	-2.00	-1.95	38.35	35.22	42.55	52.00	53.05			
			57	56	46	48	55		-1.85	-1.90	-2.40	-2.30	-1.95	55.15	54.10	43.60	45.70	53.05			

상주절토35 반발도법에 의한 압축강도 추정(암반강도)

[illegible]

상주절토36 반발도법에 의한 압축강도 추정(암반강도)

구 분	측정위치	타격방향	측정치	평균치	보정값	보정후 측정치	상위50% 평균값(대표값)	암석의 밀도 (kN/m³)	일축압축강도 추정(Mpa)
1구간	53.128k	0	44 42 58 59 54	52.3	-2.50 -2.60 -1.80 -1.75 -2.00	41.50 39.40 56.20 57.25 52.00	56.9	23.0	114.2
			52 58 57 56 60		-2.10 -1.80 -1.85 -1.90 -1.70	49.90 56.20 55.15 54.10 58.30			
			39 42 60 45 58		-2.74 -2.60 -1.70 -2.45 -1.80	36.26 39.40 58.30 42.55 56.20			
			60 41 44 58 59		-1.70 -2.65 -2.50 -1.80 -1.75	58.30 38.35 41.50 56.20 57.25			
1구간	53.168k	0	55 54 50 41 35	48.7	-1.95 -2.00 -2.20 -2.65 -2.90	53.05 52.00 47.80 38.35 32.10	54.0	23.0	100.8
			26 27 60 60 53		-3.22 -3.19 -1.70 -1.70 -2.05	22.78 23.81 58.30 58.30 50.95			
			54 54 52 55 54		-2.00 -2.00 -2.10 -1.95 -2.00	52.00 52.00 49.90 53.05 52.00			
			39 59 48 54 43		-2.74 -1.75 -2.30 -2.00 -2.55	36.26 57.25 45.70 52.00 40.45			
1구간	53.208k	0	43 54 53 58 48	51.1	-2.55 -2.00 -2.05 -1.80 -2.30	40.45 52.00 50.95 56.20 45.70	53.6	23.0	99.0
			47 44 56 57 58		-2.35 -2.50 -1.90 -1.85 -1.80	44.65 41.50 54.10 55.15 56.20			
			48 41 42 55 51		-2.30 -2.65 -2.60 -1.95 -2.15	45.70 38.35 39.40 53.05 48.85			
			50 54 52 55 55		-2.20 -2.00 -2.10 -1.95 -1.95	47.80 52.00 49.90 53.05 53.05			
2구간	53.328k	0	57 58 51 50 60	52.6	-1.85 -1.80 -2.15 -2.20 -1.70	55.15 56.20 48.85 47.80 58.30	55.7	23.0	108.2
			48 42 46 54 44		-2.30 -2.60 -2.40 -2.00 -2.50	45.70 39.40 43.60 52.00 41.50			
			48 54 58 60 60		-2.30 -2.00 -1.80 -1.70 -1.70	45.70 52.00 56.20 58.30 58.30			
			60 54 51 50 47		-1.70 -2.00 -2.15 -2.20 -2.35	58.30 52.00 48.85 47.80 44.65			
2구간	53.368k	0	60 60 57 58 58	51.3	-1.70 -1.70 -1.85 -1.80 -1.80	58.30 58.30 55.15 56.20 56.20	56.5	23.0	112.2
			47 48 58 60 53		-2.35 -2.30 -1.80 -1.70 -2.05	44.65 45.70 56.20 58.30 50.95			
			50 46 43 50 43		-2.20 -2.40 -2.55 -2.20 -2.55	47.80 43.60 40.45 47.80 40.45			
			29 60 48 38 59		-3.13 -1.70 -2.30 -2.78 -1.75	25.87 58.30 45.70 35.22 57.25			
2구간	53.388k	0	44 45 55 56 60	51.5	-2.50 -2.45 -1.95 -1.90 -1.70	41.50 42.55 53.05 54.10 58.30	55.8	23.0	108.7
			59 55 54 47 42		-1.75 -1.95 -2.00 -2.35 -2.60	57.25 53.05 52.00 44.65 39.40			
			44 40 55 60 59		-2.50 -2.70 -1.95 -1.70 -1.75	41.50 37.30 53.05 58.30 57.25			
			40 57 56 42 59		-2.70 -1.85 -1.90 -2.60 -1.75	37.30 55.15 54.10 39.40 57.25			

상주절토37 반발도법에 의한 압축강도 추정(암반강도)

구 분	측정위치	타격방향	측정치	평균치	보정값	보정후 측정치	상위50% 평균값(대표값)	암석의 밀도 (kN/m³)	일축압축강도 추정(Mpa)
1구간	54.080k	0	49 52 51 45 45	46.7	-2.25 -2.10 -2.15 -2.45 -2.45	46.75 49.90 48.85 42.55 42.55	50.4	23.0	86.7
			26 27 38 51 47		-3.22 -3.19 -2.78 -2.15 -2.35	22.78 23.81 35.22 48.85 44.65			
			54 54 50 55 54		-2.00 -2.00 -2.20 -1.95 -2.00	52.00 52.00 47.80 53.05 52.00			
			43 55 46 44 47		-2.55 -1.95 -2.40 -2.50 -2.35	40.45 53.05 43.60 41.50 44.65			
1구간	54.130k	0	38 37 48 45 42	46.3	-2.78 -2.82 -2.30 -2.45 -2.60	35.22 34.18 45.70 42.55 39.40	49.2	23.0	82.2
			51 44 50 52 48		-2.15 -2.50 -2.20 -2.10 -2.30	48.85 41.50 47.80 49.90 45.70			
			47 48 54 52 38		-2.35 -2.30 -2.00 -2.10 -2.78	44.65 45.70 52.00 49.90 35.22			
			36 38 54 55 49		-2.86 -2.78 -2.00 -1.95 -2.25	33.14 35.22 52.00 53.05 46.75			
1구간	54.300k	0	44 48 51 59 38	47.8	-2.50 -2.30 -2.15 -1.75 -2.78	41.50 45.70 48.85 57.25 35.22	50.6	23.0	87.4
			37 44 42 45 58		-2.82 -2.50 -2.60 -2.45 -1.80	34.18 41.50 39.40 42.55 56.20			
			57 44 45 55 54		-1.85 -2.50 -2.45 -1.95 -2.00	55.15 41.50 42.55 53.05 52.00			
			48 47 44 46 50		-2.30 -2.35 -2.50 -2.40 -2.20	45.70 44.65 41.50 43.60 47.80			
2구간	54.320k	0	60 58 52 60 58	50.6	-1.70 -1.80 -2.10 -1.70 -1.80	58.30 56.20 49.90 58.30 56.20	53.5	23.0	98.6
			37 46 48 50 52		-2.82 -2.40 -2.30 -2.20 -2.10	34.18 43.60 45.70 47.80 49.90			
			50 46 45 50 47		-2.20 -2.40 -2.45 -2.20 -2.35	47.80 43.60 42.55 47.80 44.65			
			51 56 52 38 55		-2.15 -1.90 -2.10 -2.78 -1.95	48.85 54.10 49.90 35.22 53.05			
2구간	54.340k	0	55 58 48 49 41	54.1	-1.95 -1.80 -2.30 -2.25 -2.65	53.05 56.20 45.70 46.75 38.35	55.9	23.0	109.2
			51 53 54 60 59		-2.15 -2.05 -2.00 -1.70 -1.75	48.85 50.95 52.00 58.30 57.25			
			57 58 55 54 53		-1.85 -1.80 -1.95 -2.00 -2.05	55.15 56.20 53.05 52.00 50.95			
			58 59 58 54 48		-1.80 -1.75 -1.80 -2.00 -2.30	56.20 57.25 56.20 52.00 45.70			
2구간	54.360k	0	38 48 42 55 52	50.3	-2.78 -2.30 -2.60 -1.95 -2.10	35.22 45.70 39.40 53.05 49.90	52.6	23.0	95.1
			44 48 46 47 55		-2.50 -2.30 -2.40 -2.35 -1.95	41.50 45.70 43.60 44.65 53.05			
			56 51 53 54 53		-1.90 -2.15 -2.05 -2.00 -2.05	54.10 48.85 50.95 52.00 50.95			
			58 56 54 48 48		-1.80 -1.90 -2.00 -2.30 -2.30	56.20 54.10 52.00 45.70 45.70			
4구간	54.630k	0	52 49 47 56 58	47.5	-2.10 -2.25 -2.35 -1.90 -1.80	49.90 46.75 44.65 54.10 56.20	50.6	23.0	87.4
			47 46 47 49 37		-2.35 -2.40 -2.35 -2.25 -2.82	44.65 43.60 44.65 46.75 34.18			
			50 46 44 50 44		-2.20 -2.40 -2.50 -2.20 -2.50	47.80 43.60 41.50 47.80 41.50			
			29 58 50 35 55		-3.13 -1.80 -2.20 -2.90 -1.95	25.87 56.20 47.80 32.10 53.05			
4구간	54.640k	0	44 38 45 49 51	47.7	-2.50 -2.78 -2.45 -2.25 -2.15	41.50 35.22 42.55 46.75 48.85	50.4	23.0	86.7
			45 55 51 53 42		-2.45 -1.95 -2.15 -2.05 -2.60	42.55 53.05 48.85 50.95 39.40			
			38 36 50 45 54		-2.78 -2.86 -2.20 -2.45 -2.00	35.22 33.14 47.80 42.55 52.00			
			47 55 51 48 56		-2.35 -1.95 -2.15 -2.30 -1.90	44.65 53.05 48.85 45.70 54.10			
4구간	54.650k	0	47 48 42 55 53	48.5	-2.35 -2.30 -2.60 -1.95 -2.05	44.65 45.70 39.40 53.05 50.95	50.7	23.0	87.8
			54 51 47 44 42		-2.00 -2.15 -2.35 -2.50 -2.60	52.00 48.85 44.65 41.50 39.40			
			38 44 42 47 56		-2.78 -2.50 -2.60 -2.35 -1.90	35.22 41.50 39.40 44.65 54.10			
			52 54 53 50 50		-2.10 -2.00 -2.05 -2.20 -2.20	49.90 52.00 50.95 47.80 47.80			

영천철토38 반발도법에 의한 압축강도 추정(암반강도)

구 분	측정위치	타격방향	측정치	평균치	보정값	보정후 측정치	상위50% 평균값(대표값)	암석의 밀도 (kN/m³)	일축압축강도 추정(Mpa)
1구간	54.618k	0	55 59 51 53 53	48.9	-1.95 -1.75 -2.15 -2.05 -2.05	53.05 57.25 48.85 50.95 50.95	53.8	23.0	99.9
			24 25 37 45 52		-3.28 -3.25 -2.82 -2.45 -2.10	20.72 21.75 34.18 42.55 49.90			
			58 54 54 57 58		-1.80 -2.00 -2.00 -1.85 -1.80	56.20 52.00 52.00 55.15 56.20			
			54 55 44 42 47		-2.00 -1.95 -2.50 -2.60 -2.35	52.00 53.05 41.50 39.40 44.65			
			54 48 47 49 55		-2.00 -2.30 -2.35 -2.25 -1.95	52.00 45.70 44.65 46.75 53.05			
1구간	54.658k	0	54 53 54 59 42	51.8	-2.00 -2.05 -2.00 -1.75 -2.60	52.00 50.95 52.00 57.25 39.40	54.5	23.0	103.1
			43 47 45 60 55		-2.55 -2.35 -2.45 -1.70 -1.95	40.45 44.65 42.55 58.30 53.05			
			48 49 60 57 56		-2.30 -2.25 -1.70 -1.85 -1.90	45.70 46.75 58.30 55.15 54.10			
			55 51 51 50 48		-1.95 -2.15 -2.15 -2.20 -2.30	53.05 48.85 48.85 47.80 45.70			
			59 55 60 59 55		-1.75 -1.95 -1.70 -1.75 -1.95	57.25 53.05 58.30 57.25 53.05			
1구간	54.678k	0	48 42 54 52 59	52.8	-2.30 -2.60 -2.00 -2.10 -1.75	45.70 39.40 52.00 49.90 57.25	55.3	23.0	106.3
			58 57 40 51 52		-1.80 -1.85 -2.70 -2.15 -2.10	56.20 55.15 37.30 48.85 49.90			
			54 48 59 42 45		-2.00 -2.30 -1.75 -2.60 -2.45	52.00 45.70 57.25 39.40 42.55			
			46 44 40 48 49		-2.40 -2.50 -2.70 -2.30 -2.25	43.60 41.50 37.30 45.70 46.75			
			51 50 54 52 54		-2.15 -2.20 -2.00 -2.10 -2.00	48.85 47.80 52.00 49.90 52.00			
2구간	54.718k	0	54 51 50 49 44	49.2	-2.00 -2.15 -2.20 -2.25 -2.50	52.00 48.85 47.80 46.75 41.50	50.8	23.0	88.2
			48 47 50 54 54		-2.30 -2.35 -2.20 -2.00 -2.00	45.70 44.65 47.80 52.00 52.00			
			40 38 41 42 50		-2.70 -2.78 -2.65 -2.60 -2.20	37.30 35.22 38.35 39.40 47.80			
			54 51 40 48 46		-2.00 -2.15 -2.70 -2.30 -2.40	52.00 48.85 37.30 45.70 43.60			
			50 53 57 48 54		-2.20 -2.05 -1.85 -2.30 -2.00	47.80 50.95 55.15 45.70 52.00			
2구간	54.738k	0	51 54 47 53 55	48.3	-2.15 -2.00 -2.35 -2.05 -1.95	48.85 52.00 44.65 50.95 53.05	50.6	23.0	87.4
			37 38 41 45 35		-2.82 -2.78 -2.65 -2.45 -2.90	34.18 35.22 38.35 42.55 32.10			
			44 44 45 52 49		-2.50 -2.50 -2.45 -2.10 -2.25	41.50 41.50 42.55 49.90 46.75			
			54 55 52 49 55		-2.00 -1.95 -2.10 -2.25 -1.95	52.00 53.05 49.90 46.75 53.05			
			54 50 47 53 57		-2.00 -2.20 -2.35 -2.05 -1.85	52.00 47.80 44.65 50.95 55.15			
2구간	54.778k	0	49 50 55 57 51	47.8	-2.25 -2.20 -1.95 -1.85 -2.15	46.75 47.80 53.05 55.15 48.85	51.0	23.0	88.6
			60 52 55 60 55		-1.70 -2.10 -1.95 -1.70 -1.95	58.30 49.90 53.05 58.30 53.05			
			29 56 48 39 55		-3.13 -1.90 -2.30 -2.74 -1.95	25.87 54.10 45.70 36.26 53.05			
			58 56 48 49 55		-1.80 -1.90 -2.30 -2.25 -1.95	56.20 54.10 45.70 46.75 53.05			
			42 40 40 48 47		-2.60 -2.70 -2.70 -2.30 -2.35	39.40 37.30 37.30 45.70 44.65			
3구간	54.818k	0	54 56 58 51 50	51.1	-2.00 -1.90 -1.80 -2.15 -2.20	52.00 54.10 56.20 48.85 47.80	54.7	23.0	104.0
			47 44 59 60 59		-2.35 -2.50 -1.75 -1.70 -1.75	44.65 41.50 57.25 58.30 57.25			
			44 47 48 55 59		-2.50 -2.35 -2.30 -1.95 -1.75	41.50 44.65 45.70 53.05 57.25			
			59 58 57 45 45		-1.75 -1.80 -1.85 -2.45 -2.45	57.25 56.20 55.15 42.55 42.55			
			48 47 45 43 58		-2.30 -2.35 -2.45 -2.55 -1.80	45.70 44.65 42.55 40.45 56.20			
3구간	54.898k	0	57 60 40 42 58	50.8	-1.85 -1.70 -2.70 -2.60 -1.80	55.15 58.30 37.30 39.40 56.20	55.0	23.0	105.4

영천철토39 반발도법에 의한 압축강도 추정(암반강도)

구 분	측정위치	타격방향	측정치	평균치	보정값	보정후 측정치	상위50% 평균값(대표값)	암석의 밀도 (kN/m³)	일축압축강도 추정(Mpa)
1구간	55,238k	0	44 58 48 57 56	47.7	-2.50 -1.80 -2.30 -1.85 -1.90	41.50 56.20 45.70 55.15 54.10	51.0	23.0	88.6
			43 41 55 52 55		-2.55 -2.65 -1.95 -2.10 -1.95	40.45 38.35 53.05 49.90 53.05			
			43 44 45 47 40		-2.55 -2.50 -2.45 -2.35 -2.70	40.45 41.50 42.55 44.65 37.30			
			38 41 44 51 51		-2.78 -2.65 -2.50 -2.15 -2.15	35.22 38.35 41.50 48.85 48.85			
1구간	55,248k	0	34 38 45 50 51	48.2	-2.94 -2.78 -2.45 -2.20 -2.15	31.06 35.22 42.55 47.80 48.85	50.0	23.0	85.1
			44 42 49 49 51		-2.50 -2.60 -2.25 -2.25 -2.15	41.50 39.40 46.75 46.75 48.85			
			55 51 52 47 48		-1.95 -2.15 -2.10 -2.35 -2.30	53.05 48.85 49.90 44.65 45.70			
			46 54 52 55 50		-2.40 -2.00 -2.10 -1.95 -2.20	43.60 52.00 49.90 53.05 47.80			
1구간	55,268k	0	48 52 40 51 43	46.7	-2.30 -2.10 -2.70 -2.15 -2.55	45.70 49.90 37.30 48.85 40.45	50.3	23.0	86.3
			26 35 42 49 51		-3.22 -2.90 -2.60 -2.25 -2.15	22.78 32.10 39.40 46.75 48.85			
			52 48 56 49 58		-2.10 -2.30 -1.90 -2.25 -1.80	49.90 45.70 54.10 46.75 56.20			
			39 55 48 51 41		-2.74 -1.95 -2.30 -2.15 -2.65	36.26 53.05 45.70 48.85 38.35			
2구간	55,388k	0	46 48 55 59 57	52.3	-2.40 -2.30 -1.95 -1.75 -1.85	43.60 45.70 53.05 57.25 55.15	55.6	23.0	107.8
			51 41 42 55 52		-2.15 -2.65 -2.60 -1.95 -2.10	48.85 38.35 39.40 53.05 49.90			
			56 42 59 60 60		-1.90 -2.60 -1.75 -1.70 -1.70	54.10 39.40 57.25 58.30 58.30			
			53 54 50 47 59		-2.05 -2.00 -2.20 -2.35 -1.75	50.95 52.00 47.80 44.65 57.25			
2구간	55,408k	0	60 56 53 57 59	49.6	-1.70 -1.90 -2.05 -1.85 -1.75	58.30 54.10 50.95 55.15 57.25	52.8	23.0	96.0
			49 50 57 55 45		-2.25 -2.20 -1.85 -1.95 -2.45	46.75 47.80 55.15 53.05 42.55			
			50 48 41 48 43		-2.20 -2.30 -2.65 -2.30 -2.55	47.80 45.70 38.35 45.70 40.45			
			39 51 43 40 48		-2.74 -2.15 -2.55 -2.70 -2.30	36.26 48.85 40.45 37.30 45.70			
2구간	55,418k	0	58 59 58 50 50	53.1	-1.80 -1.75 -1.80 -2.20 -2.20	56.20 57.25 56.20 47.80 47.80	54.8	23.0	104.5
			58 54 56 48 49		-1.80 -2.00 -1.90 -2.30 -2.25	56.20 52.00 54.10 45.70 46.75			
			48 47 50 51 55		-2.30 -2.35 -2.20 -2.15 -1.95	45.70 44.65 47.80 48.85 53.05			
			51 50 55 56 58		-2.15 -2.20 -1.95 -1.90 -1.80	48.85 47.80 53.05 54.10 56.20			

영천절토40 반발도법에 의한 압축강도 추정(암반강도)

구 분	측정위치	타격방향	측정치					평균치	보정값					보정후 측정치					상위50% 평균값(대표값)	암석의 밀도 (kN/m³)	일축압축강도 추정(Mpa)
1구간	56.178k	0	54	52	48	44	60	51.8	-2.00	-2.10	-2.30	-2.50	-1.70	52.00	49.90	45.70	41.50	58.30	55.3	23.0	106.3
			42	40	38	52	54		-2.60	-2.70	-2.78	-2.10	-2.00	39.40	37.30	35.22	49.90	52.00			
			59	50	50	58	57		-1.75	-2.20	-2.20	-1.80	-1.85	57.25	47.80	47.80	56.20	55.15			
			48	59	54	56	60		-2.30	-1.75	-2.00	-1.90	-1.70	45.70	57.25	52.00	54.10	58.30			
1구간	56.188k	0	44	56	48	59	42	52.2	-2.50	-1.90	-2.30	-1.75	-2.60	41.50	54.10	45.70	57.25	39.40	54.5	23.0	103.1
			58	54	52	52	59		-1.80	-2.00	-2.10	-2.10	-1.75	56.20	52.00	49.90	49.90	57.25			
			52	50	50	48	56		-2.10	-2.20	-2.20	-2.30	-1.90	49.90	47.80	47.80	45.70	54.10			
			55	57	52	42	58		-1.95	-1.85	-2.10	-2.60	-1.80	53.05	55.15	49.90	39.40	56.20			
1구간	56.218k	0	55	56	48	37	43	49.9	-1.95	-1.90	-2.30	-2.82	-2.55	53.05	54.10	45.70	34.18	40.45	54.0	23.0	100.8
			40	51	58	59	41		-2.70	-2.15	-1.80	-1.75	-2.65	37.30	48.85	56.20	57.25	38.35			
			50	52	55	60	58		-2.20	-2.10	-1.95	-1.70	-1.80	47.80	49.90	53.05	58.30	56.20			
			39	55	48	51	41		-2.74	-1.95	-2.30	-2.15	-2.65	36.26	53.05	45.70	48.85	38.35			

영천철도41 반발도법에 의한 압축강도 추정(암반강도)

구 분	측정위치	타격방향	측정치	평균치	보정값	보정후 측정치	상위50% 평균값(대표값)	암석의 밀도 (kN/m³)	일축압축강도 추정(Mpa)
1구간	57.878k	0	48 49 51 51 51	48.3	-2.30 -2.25 -2.15 -2.15 -2.15	45.70 46.75 48.85 48.85 48.85	50.4	23.0	86.7
			44 38 54 47 47		-2.50 -2.78 -2.00 -2.35 -2.35	41.50 35.22 52.00 44.65 44.65			
			49 54 42 41 40		-2.25 -2.00 -2.60 -2.65 -2.70	46.75 52.00 39.40 38.35 37.30			
			45 55 52 53 55		-2.45 -1.95 -2.10 -2.05 -1.95	42.55 53.05 49.90 50.95 53.05			
1구간	57.888k	0	54 52 48 50 50	49.0	-2.00 -2.10 -2.30 -2.20 -2.20	52.00 49.90 45.70 47.80 47.80	50.7	23.0	87.8
			42 43 50 54 52		-2.60 -2.55 -2.20 -2.00 -2.10	39.40 40.45 47.80 52.00 49.90			
			47 46 38 48 55		-2.35 -2.40 -2.78 -2.30 -1.95	44.65 43.60 35.22 45.70 53.05			
			47 52 54 42 55		-2.35 -2.10 -2.00 -2.60 -1.95	44.65 49.90 52.00 39.40 53.05			
1구간	57.898k	0	49 48 36 43 43	45.8	-2.25 -2.30 -2.86 -2.55 -2.55	46.75 45.70 33.14 40.45 40.45	49.0	23.0	81.4
			26 47 40 59 51		-3.22 -2.35 -2.70 -1.75 -2.15	22.78 44.65 37.30 57.25 48.85			
			48 50 54 51 50		-2.30 -2.20 -2.00 -2.15 -2.20	45.70 47.80 52.00 48.85 47.80			
			39 49 42 50 41		-2.74 -2.25 -2.60 -2.20 -2.65	36.26 46.75 39.40 47.80 38.35			
2구간	57.958k	0	44 42 38 50 50	47.6	-2.50 -2.60 -2.78 -2.20 -2.20	41.50 39.40 35.22 47.80 47.80	50.1	23.0	85.5
			51 52 54 47 44		-2.15 -2.10 -2.00 -2.35 -2.50	48.85 49.90 52.00 44.65 41.50			
			45 42 48 52 52		-2.45 -2.60 -2.30 -2.10 -2.10	42.55 39.40 45.70 49.90 49.90			
			54 52 40 40 55		-2.00 -2.10 -2.70 -2.70 -1.95	52.00 49.90 37.30 37.30 53.05			
2구간	57.968k	0	54 50 44 44 42	48.0	-2.00 -2.20 -2.50 -2.50 -2.60	52.00 47.80 41.50 41.50 39.40	49.7	23.0	84.0
			47 40 38 37 50		-2.35 -2.70 -2.78 -2.82 -2.20	44.65 37.30 35.22 34.18 47.80			
			50 52 51 51 51		-2.20 -2.10 -2.15 -2.15 -2.15	47.80 49.90 48.85 48.85 48.85			
			52 54 50 50 53		-2.10 -2.00 -2.20 -2.20 -2.05	49.90 52.00 47.80 47.80 50.95			
2구간	57.978k	0	51 54 47 51 51	49.4	-2.15 -2.00 -2.35 -2.15 -2.15	48.85 52.00 44.65 48.85 48.85	50.5	23.0	87.0
			47 48 57 59 49		-2.35 -2.30 -1.85 -1.75 -2.25	44.65 45.70 55.15 57.25 46.75			
			50 50 49 51 48		-2.20 -2.20 -2.25 -2.15 -2.30	47.80 47.80 46.75 48.85 45.70			
			45 52 42 39 47		-2.45 -2.10 -2.60 -2.74 -2.35	42.55 49.90 39.40 36.26 44.65			

상주절토42 반발도법에 의한 압축강도 추정(암반강도)

구 분	측정위치	타격방향	측정치					평균치	보정값					보정후 측정치					상위50% 평균값(대표값)	암석의 밀도 (kN/m³)	일축압축강도 추정(Mpa)
1구간	58.668k	0	50	52	44	33	36	45.7	-2.20	-2.10	-2.50	-2.98	-2.86	47.80	49.90	41.50	30.02	33.14	49.0	23.0	81.4
			35	45	52	55	37		-2.90	-2.45	-2.10	-1.95	-2.82	32.10	42.55	49.90	53.05	34.18			
			50	48	46	49	52		-2.20	-2.30	-2.40	-2.25	-2.10	47.80	45.70	43.60	46.75	49.90			
			39	55	48	46	41		-2.74	-1.95	-2.30	-2.40	-2.65	36.26	53.05	45.70	43.60	38.35			
1구간	58.710k	0	40	42	55	54	51	47.1	-2.70	-2.60	-1.95	-2.00	-2.15	37.30	39.40	53.05	52.00	48.85	49.9	23.0	84.8
			39	40	45	51	51		-2.74	-2.70	-2.45	-2.15	-2.15	36.26	37.30	42.55	48.85	48.85			
			52	53	54	48	47		-2.10	-2.05	-2.00	-2.30	-2.35	49.90	50.95	52.00	45.70	44.65			
			44	43	34	50	49		-2.50	-2.55	-2.94	-2.20	-2.25	41.50	40.45	31.06	47.80	46.75			
1구간	58.778k	0	47	50	38	37	40	47.5	-2.35	-2.20	-2.78	-2.82	-2.70	44.65	47.80	35.22	34.18	37.30	49.4	23.0	82.9
			44	47	42	43	50		-2.50	-2.35	-2.60	-2.55	-2.20	41.50	44.65	39.40	40.45	47.80			
			48	49	51	52	54		-2.30	-2.25	-2.15	-2.10	-2.00	45.70	46.75	48.85	49.90	52.00			
			51	53	50	48	55		-2.15	-2.05	-2.20	-2.30	-1.95	48.85	50.95	47.80	45.70	53.05			

상주절토43 반발도법에 의한 압축강도 추정(암반강도)

구 분	측정위치	타격방향	측정치					평균치	보정값					보정후 측정치					상위50% 평균값(대표값)	암석의 밀도 (kN/m³)	일축압축강도 추정(Mpa)
1구간	58.948k	0	43	58	52	59	43	50.2	-2.55	-1.80	-2.10	-1.75	-2.55	40.45	56.20	49.90	57.25	40.45	54.0	23.0	100.8
			36	43	60	53	51		-2.86	-2.55	-1.70	-2.05	-2.15	33.14	40.45	58.30	50.95	48.85			
			50	52	52	49	60		-2.20	-2.10	-2.10	-2.25	-1.70	47.80	49.90	49.90	46.75	58.30			
			39	59	54	50	41		-2.74	-1.75	-2.00	-2.20	-2.65	36.26	57.25	52.00	47.80	38.35			
1구간	58.988k	0	51	48	47	55	59	52.4	-2.15	-2.30	-2.35	-1.95	-1.75	48.85	45.70	44.65	53.05	57.25	54.8	23.0	104.5
			43	59	58	54	55		-2.55	-1.75	-1.80	-2.00	-1.95	40.45	57.25	56.20	52.00	53.05			
			45	57	56	50	55		-2.45	-1.85	-1.90	-2.20	-1.95	42.55	55.15	54.10	47.80	53.05			
			54	47	46	50	59		-2.00	-2.35	-2.40	-2.20	-1.75	52.00	44.65	43.60	47.80	57.25			
1구간	59.015k	0	43	48	58	57	55	51.5	-2.55	-2.30	-1.80	-1.85	-1.95	40.45	45.70	56.20	55.15	53.05	53.9	23.0	100.4
			45	57	59	50	52		-2.45	-1.85	-1.75	-2.20	-2.10	42.55	55.15	57.25	47.80	49.90			
			54	55	49	42	44		-2.00	-1.95	-2.25	-2.60	-2.50	52.00	53.05	46.75	39.40	41.50			
			48	52	54	57	51		-2.30	-2.10	-2.00	-1.85	-2.15	45.70	49.90	52.00	55.15	48.85			

상주절토44 반발도법에 의한 압축강도 추정(암반강도)

구 분	측정위치	타격방향	측정치	평균치	보정값	보정후 측정치	상위50% 평균값(대표값)	암석의 밀도 (kN/m³)	일축압축강도 추정(Mpa)
1구간	66.478k	0	48 42 43 38 54	48.5	-2.30 -2.60 -2.55 -2.78 -2.00	45.70 39.40 40.45 35.22 52.00	51.0	23.0	88.6
			38 48 49 55 50		-2.78 -2.30 -2.25 -1.95 -2.20	35.22 45.70 46.75 53.05 47.80			
			42 48 54 45 55		-2.60 -2.30 -2.00 -2.45 -1.95	39.40 45.70 52.00 42.55 53.05			
			54 51 53 48 55		-2.00 -2.15 -2.05 -2.30 -1.95	52.00 48.85 50.95 45.70 53.05			
1구간	66.486k	0	48 42 52 52 53	48.9	-2.30 -2.60 -2.10 -2.10 -2.05	45.70 39.40 49.90 49.90 50.95	50.8	23.0	88.2
			47 42 38 54 48		-2.35 -2.60 -2.78 -2.00 -2.30	44.65 39.40 35.22 52.00 45.70			
			52 54 43 41 55		-2.10 -2.00 -2.55 -2.65 -1.95	49.90 52.00 40.45 38.35 53.05			
			56 50 50 50 51		-1.90 -2.20 -2.20 -2.20 -2.15	54.10 47.80 47.80 47.80 48.85			
1구간	66.498k	0	45 42 44 53 47	45.3	-2.45 -2.60 -2.50 -2.05 -2.35	42.55 39.40 41.50 50.95 44.65	49.3	23.0	82.5
			26 33 44 49 47		-3.22 -2.98 -2.50 -2.25 -2.35	22.78 30.02 41.50 46.75 44.65			
			56 55 52 53 52		-1.90 -1.95 -2.10 -2.05 -2.10	54.10 53.05 49.90 50.95 49.90			
			29 41 50 46 41		-3.13 -2.65 -2.20 -2.40 -2.65	25.87 38.35 47.80 43.60 38.35			
2구간	66.553k	0	46 48 55 60 60	53.5	-2.40 -2.30 -1.95 -1.70 -1.70	43.60 45.70 53.05 58.30 58.30	56.5	23.0	112.2
			58 59 51 40 44		-1.80 -1.75 -2.15 -2.70 -2.50	56.20 57.25 48.85 37.30 41.50			
			47 54 58 60 57		-2.35 -2.00 -1.80 -1.70 -1.85	44.65 52.00 56.20 58.30 55.15			
			56 52 50 54 60		-1.90 -2.10 -2.20 -2.00 -1.70	54.10 49.90 47.80 52.00 58.30			
2구간	66.578k	0	44 54 58 59 59	53.6	-2.50 -2.00 -1.80 -1.75 -1.75	41.50 52.00 56.20 57.25 57.25	57.0	23.0	114.7
			48 57 42 47 60		-2.30 -1.85 -2.60 -2.35 -1.70	45.70 55.15 39.40 44.65 58.30			
			42 60 60 58 59		-2.60 -1.70 -1.70 -1.80 -1.75	39.40 58.30 58.30 56.20 57.25			
			43 52 58 56 55		-2.55 -2.10 -1.80 -1.90 -1.95	40.45 49.90 56.20 54.10 53.05			
2구간	66.588k	0	57 32 33 59 57	49.5	-1.85 -3.02 -2.98 -1.75 -1.85	55.15 28.98 30.02 57.25 55.15	53.5	23.0	98.6
			47 48 55 57 51		-2.35 -2.30 -1.95 -1.85 -2.15	44.65 45.70 53.05 55.15 48.85			
			42 48 39 50 51		-2.60 -2.30 -2.74 -2.20 -2.15	39.40 45.70 36.26 47.80 48.85			
			49 58 54 47 55		-2.25 -1.80 -2.00 -2.35 -1.95	46.75 56.20 52.00 44.65 53.05			

영천절토45 반발도법에 의한 압축강도 추정(암반강도)

구 분	측정위치	타격방향	측정치					평균치	보정값					보정후 측정치					상위50% 평균값(대표값)	암석의 밀도 (kN/㎡)	일축압축강도 추정(Mpa)
1구간	61.158k	0	60	60	59	60	60	59.7	-1.70	-1.70	-1.75	-1.70	-1.70	58.30	58.30	57.25	58.30	58.30	58.3	23.0	121.0
			60	59	60	60	59		-1.70	-1.75	-1.70	-1.70	-1.75	58.30	57.25	58.30	58.30	57.25			
			59	59	60	60	59		-1.75	-1.75	-1.70	-1.70	-1.75	57.25	57.25	58.30	58.30	57.25			
			60	60	60	59	60		-1.70	-1.70	-1.70	-1.75	-1.70	58.30	58.30	58.30	57.25	58.30			
1구간	69.167k	0	58	57	59	57	58	57.9	-1.80	-1.85	-1.75	-1.85	-1.80	56.20	55.15	57.25	55.15	56.20	57.5	23.0	116.8
			56	60	59	52	53		-1.90	-1.70	-1.75	-2.10	-2.05	54.10	58.30	57.25	49.90	50.95			
			60	60	58	58	59		-1.70	-1.70	-1.80	-1.80	-1.75	58.30	58.30	56.20	56.20	57.25			
			58	59	58	60	58		-1.80	-1.75	-1.80	-1.70	-1.80	56.20	57.25	56.20	58.30	56.20			
1구간	69.185k	0	50	60	60	58	59	55.8	-2.20	-1.70	-1.70	-1.80	-1.75	47.80	58.30	58.30	56.20	57.25	56.5	23.0	112.2
			57	56	58	52	55		-1.85	-1.90	-1.80	-2.10	-1.95	55.15	54.10	56.20	49.90	53.05			
			55	54	55	53	52		-1.95	-2.00	-1.95	-2.05	-2.10	53.05	52.00	53.05	50.95	49.90			
			58	59	51	55	58		-1.80	-1.75	-2.15	-1.95	-1.80	56.20	57.25	48.85	53.05	56.20			
								#DIV/0!	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	23.0	#N/A
									#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A			
									#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A			
									#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A			

영천철도46 반발도법에 의한 압축강도 추정(암반강도)

구 분	측정위치	타격방향	측정치					평균치	보정값					보정후 측정치					상위50% 평균값(대표값)	암석의 밀도 (kN/m³)	일축압축강도 추정(Mpa)
1구간	70.135k	0	42	58	42	46	56	50.5	-2.60	-1.80	-2.60	-2.40	-1.90	39.40	56.20	39.40	43.60	54.10	55.4	23.0	106.8
			51	50	42	42	40		-2.15	-2.20	-2.60	-2.60	-2.70	48.85	47.80	39.40	39.40	37.30			
			59	54	50	58	59		-1.75	-2.00	-2.20	-1.80	-1.75	57.25	52.00	47.80	56.20	57.25			
			42	41	59	59	59		-2.60	-2.65	-1.75	-1.75	-1.75	39.40	38.35	57.25	57.25	57.25			
1구간	70.150k	0	58	50	52	51	49	52.7	-1.80	-2.20	-2.10	-2.15	-2.25	56.20	47.80	49.90	48.85	46.75	55.3	23.0	106.3
			47	54	49	42	41		-2.35	-2.00	-2.25	-2.60	-2.65	44.65	52.00	46.75	39.40	38.35			
			58	58	50	58	51		-1.80	-1.80	-2.20	-1.80	-2.15	56.20	56.20	47.80	56.20	48.85			
			55	56	57	58	59		-1.95	-1.90	-1.85	-1.80	-1.75	53.05	54.10	55.15	56.20	57.25			
1구간	70.158k	0	47	49	55	52	51	53.4	-2.35	-2.25	-1.95	-2.10	-2.15	44.65	46.75	53.05	49.90	48.85	54.6	23.0	103.5
			55	53	52	53	58		-1.95	-2.05	-2.10	-2.05	-1.80	53.05	50.95	49.90	50.95	56.20			
			59	59	58	57	50		-1.75	-1.75	-1.80	-1.85	-2.20	57.25	57.25	56.20	55.15	47.80			
			49	49	58	52	52		-2.25	-2.25	-1.80	-2.10	-2.10	46.75	46.75	56.20	49.90	49.90			
2구간	70.279k	0	58	48	59	51	50	53.9	-1.80	-2.30	-1.75	-2.15	-2.20	56.20	45.70	57.25	48.85	47.80	54.9	23.0	104.9
			55	58	51	49	52		-1.95	-1.80	-2.15	-2.25	-2.10	53.05	56.20	48.85	46.75	49.90			
			58	50	55	53	54		-1.80	-2.20	-1.95	-2.05	-2.00	56.20	47.80	53.05	50.95	52.00			
			55	53	52	58	58		-1.95	-2.05	-2.10	-1.80	-1.80	53.05	50.95	49.90	56.20	56.20			
2구간	70.290k	0	52	54	60	50	57	54.7	-2.10	-2.00	-1.70	-2.20	-1.85	49.90	52.00	58.30	47.80	55.15	55.0	23.0	105.4
			53	57	52	56	57		-2.05	-1.85	-2.10	-1.90	-1.85	50.95	55.15	49.90	54.10	55.15			
			56	50	55	51	55		-1.90	-2.20	-1.95	-2.15	-1.95	54.10	47.80	53.05	48.85	53.05			
			58	58	54	55	54		-1.80	-1.80	-2.00	-1.95	-2.00	56.20	56.20	52.00	53.05	52.00			
2구간	70.298k	0	51	50	51	58	58	53.9	-2.15	-2.20	-2.15	-1.80	-1.80	48.85	47.80	48.85	56.20	56.20	55.8	23.0	108.7
			57	49	52	60	58		-1.85	-2.25	-2.10	-1.70	-1.80	55.15	46.75	49.90	58.30	56.20			
			48	57	51	58	49		-2.30	-1.85	-2.15	-1.80	-2.25	45.70	55.15	48.85	56.20	46.75			
			51	50	57	58	55		-2.15	-2.20	-1.85	-1.80	-1.95	48.85	47.80	55.15	56.20	53.05			

상주절토47 반발도법에 의한 압축강도 추정(암반강도)

구 분	측정위치	타격방향	측정치					평균치	보정값					보정후 측정치					상위50% 평균값(대표값)	암석의 밀도 (kN/m³)	일축압축강도 추정(Mpa)
1구간	70.650k	0	56	56	60	52	56	56.0	-1.90	-1.90	-1.70	-2.10	-1.90	54.10	54.10	58.30	49.90	54.10	56.7	23.0	113.2
			54	59	52	52	60		-2.00	-1.75	-2.10	-2.10	-1.70	52.00	57.25	49.90	49.90	58.30			
			52	58	56	58	58		-2.10	-1.80	-1.90	-1.80	-1.80	49.90	56.20	54.10	56.20	56.20			
			59	58	52	52	59		-1.75	-1.80	-2.10	-2.10	-1.75	57.25	56.20	49.90	49.90	57.25			
1구간	70.663k	0	56	60	59	52	48	55.7	-1.90	-1.70	-1.75	-2.10	-2.30	54.10	58.30	57.25	49.90	45.70	57.0	23.0	114.7
			52	52	60	60	60		-2.10	-2.10	-1.70	-1.70	-1.70	49.90	49.90	58.30	58.30	58.30			
			58	51	58	58	51		-1.80	-2.15	-1.80	-1.80	-2.15	56.20	48.85	56.20	56.20	48.85			
			55	55	56	59	53		-1.95	-1.95	-1.90	-1.75	-2.05	53.05	53.05	54.10	57.25	50.95			
1구간	70.675k	0	53	54	57	52	55	54.9	-2.05	-2.00	-1.85	-2.10	-1.95	50.95	52.00	55.15	49.90	53.05	55.4	23.0	106.8
			55	59	56	53	57		-1.95	-1.75	-1.90	-2.05	-1.85	53.05	57.25	54.10	50.95	55.15			
			55	50	58	52	51		-1.95	-2.20	-1.80	-2.10	-2.15	53.05	47.80	56.20	49.90	48.85			
			53	56	60	59	52		-2.05	-1.90	-1.70	-1.75	-2.10	50.95	54.10	58.30	57.25	49.90			
2구간	70.690k	0	51	52	52	60	51	54.7	-2.15	-2.10	-2.10	-1.70	-2.15	48.85	49.90	49.90	58.30	48.85	55.8	23.0	108.7
			58	59	58	54	53		-1.80	-1.75	-1.80	-2.00	-2.05	56.20	57.25	56.20	52.00	50.95			
			56	58	57	51	58		-1.90	-1.80	-1.85	-2.15	-1.80	54.10	56.20	55.15	48.85	56.20			
			52	52	50	58	53		-2.10	-2.10	-2.20	-1.80	-2.05	49.90	49.90	47.80	56.20	50.95			
2구간	70.700k	0	58	54	59	52	53	54.9	-1.80	-2.00	-1.75	-2.10	-2.05	56.20	52.00	57.25	49.90	50.95	56.1	23.0	110.2
			55	58	59	51	52		-1.95	-1.80	-1.75	-2.15	-2.10	53.05	56.20	57.25	48.85	49.90			
			50	50	58	58	51		-2.20	-2.20	-1.80	-1.80	-2.15	47.80	47.80	56.20	56.20	48.85			
			58	59	51	57	55		-1.80	-1.75	-2.15	-1.85	-1.95	56.20	57.25	48.85	55.15	53.05			
2구간	70.706k	0	59	52	52	54	52	55.7	-1.75	-2.10	-2.10	-2.00	-2.10	57.25	49.90	49.90	52.00	49.90	56.5	23.0	112.2
			59	51	56	59	58		-1.75	-2.15	-1.90	-1.75	-1.80	57.25	48.85	54.10	57.25	56.20			
			60	58	52	52	55		-1.70	-1.80	-2.10	-2.10	-1.95	58.30	56.20	49.90	49.90	53.05			
			60	57	55	57	55		-1.70	-1.85	-1.95	-1.85	-1.95	58.30	55.15	53.05	55.15	53.05			

영천절토48 반발도법에 의한 압축강도 추정(암반강도)

구 분	측정위치	타격방향	측정치					평균치	보정값					보정후 측정치					상위50% 평균값(대표값)	암석의 밀도 (kN/㎡)	일축압축강도 추정(Mpa)
건너편	71.120k	0	52	46	50	48	43	49.2	-2.10	-2.40	-2.20	-2.30	-2.55	49.90	43.60	47.80	45.70	40.45	49.3	23.0	82.5
			50	52	48	51	51		-2.20	-2.10	-2.30	-2.15	-2.15	47.80	49.90	45.70	48.85	48.85			
			42	45	54	50	50		-2.60	-2.45	-2.00	-2.20	-2.20	39.40	42.55	52.00	47.80	47.80			
			49	50	54	48	50		-2.25	-2.20	-2.00	-2.30	-2.20	46.75	47.80	52.00	45.70	47.80			
								#DIV/0!	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	23.0	#N/A
									#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A			
									#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A			
									#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A			
								#DIV/0!	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	23.0	#N/A
									#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A			
									#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A			
									#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A			
								#DIV/0!	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	23.0	#N/A
									#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A			
									#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A			
									#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A			

상주절토49 반발도법에 의한 압축강도 추정(암반강도)

구 분	측정위치	타격방향	측정치					평균치	보정값					보정후 측정치					상위50% 평균값(대표값)	암석의 밀도 (kN/㎡)	일축압축강도 추정(Mpa)
1구간	71.130k	0	56	52	53	50	51	51.2	-1.90	-2.10	-2.05	-2.20	-2.15	54.10	49.90	50.95	47.80	48.85	51.0	23.0	88.6
			53	52	50	51	50		-2.05	-2.10	-2.20	-2.15	-2.20	50.95	49.90	47.80	48.85	47.80			
			52	50	51	53	40		-2.10	-2.20	-2.15	-2.05	-2.70	49.90	47.80	48.85	50.95	37.30			
			55	50	51	53	50		-1.95	-2.20	-2.15	-2.05	-2.20	53.05	47.80	48.85	50.95	47.80			
1구간	71.137k	0	51	50	48	49	51	50.8	-2.15	-2.20	-2.30	-2.25	-2.15	48.85	47.80	45.70	46.75	48.85	50.7	23.0	87.8
			48	54	52	51	50		-2.30	-2.00	-2.10	-2.15	-2.20	45.70	52.00	49.90	48.85	47.80			
			48	50	58	48	48		-2.30	-2.20	-1.80	-2.30	-2.30	45.70	47.80	56.20	45.70	45.70			
			50	54	49	51	56		-2.20	-2.00	-2.25	-2.15	-1.90	47.80	52.00	46.75	48.85	54.10			
1구간	71.148k	0	50	58	51	50	52	51.5	-2.20	-1.80	-2.15	-2.20	-2.10	47.80	56.20	48.85	47.80	49.90	51.0	23.0	88.6
			50	52	52	54	50		-2.20	-2.10	-2.10	-2.00	-2.20	47.80	49.90	49.90	52.00	47.80			
			52	50	48	49	50		-2.10	-2.20	-2.30	-2.25	-2.20	49.90	47.80	45.70	46.75	47.80			
			51	53	52	52	53		-2.15	-2.05	-2.10	-2.10	-2.05	48.85	50.95	49.90	49.90	50.95			
								#DIV/0!	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	23.0	#N/A
									#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A			
									#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A			
									#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A			

상주절토50 반발도법에 의한 압축강도 추정(암반강도)

구 분	측정위치	타격방향	측정치	평균치	보정값	보정후 측정치	상위50% 평균값(대표값)	암석의 밀도 (kN/m³)	일축압축강도 추정(Mpa)
1구간	71.518k	0	44 48 50 44 50	49.1	-2.50 -2.30 -2.20 -2.50 -2.20	41.50 45.70 47.80 41.50 47.80	49.8	23.0	84.4
			48 42 49 50 52		-2.30 -2.60 -2.25 -2.20 -2.10	45.70 39.40 46.75 47.80 49.90			
			53 55 53 48 48		-2.05 -1.95 -2.05 -2.30 -2.30	50.95 53.05 50.95 45.70 45.70			
			42 50 50 53 53		-2.60 -2.20 -2.20 -2.05 -2.05	39.40 47.80 47.80 50.95 50.95			
1구간	71.523k	0	51 50 48 48 49	50.2	-2.15 -2.20 -2.30 -2.30 -2.25	48.85 47.80 45.70 45.70 46.75	49.7	23.0	84.0
			53 48 51 50 52		-2.05 -2.30 -2.15 -2.20 -2.10	50.95 45.70 48.85 47.80 49.90			
			50 53 50 48 49		-2.20 -2.05 -2.20 -2.30 -2.25	47.80 50.95 47.80 45.70 46.75			
			49 48 48 55 53		-2.25 -2.30 -2.30 -1.95 -2.05	46.75 45.70 53.05 50.95			
1구간	71.535k	0	47 53 48 50 50	50.2	-2.35 -2.05 -2.30 -2.20 -2.20	44.65 50.95 45.70 47.80 47.80	50.4	23.0	86.7
			52 50 53 50 46		-2.10 -2.20 -2.05 -2.20 -2.40	49.90 47.80 50.95 47.80 43.60			
			49 48 41 58 50		-2.25 -2.30 -2.65 -1.80 -2.20	46.75 45.70 38.35 56.20 47.80			
			50 50 52 53 54		-2.20 -2.20 -2.10 -2.05 -2.00	47.80 47.80 49.90 50.95 52.00			
1구간	71.600k	0	44 48 50 44 50	48.6	-2.50 -2.30 -2.20 -2.50 -2.20	41.50 45.70 47.80 41.50 47.80	49.1	23.0	81.8
			48 42 49 50 52		-2.30 -2.60 -2.25 -2.20 -2.10	45.70 39.40 46.75 47.80 49.90			
			53 55 53 48 48		-2.05 -1.95 -2.05 -2.30 -2.30	50.95 53.05 50.95 45.70 45.70			
			42 50 50 48 48		-2.60 -2.20 -2.20 -2.30 -2.30	39.40 47.80 47.80 45.70 45.70			
1구간	71.607k	0	51 52 50 55 53	50.4	-2.15 -2.10 -2.20 -1.95 -2.05	48.85 49.90 47.80 53.05 50.95	50.6	23.0	87.4
			53 48 48 50 50		-2.05 -2.30 -2.30 -2.20 -2.20	50.95 45.70 45.70 47.80 47.80			
			50 40 48 49 50		-2.20 -2.70 -2.30 -2.25 -2.20	47.80 37.30 45.70 46.75 47.80			
			55 53 55 48 50		-1.95 -2.05 -1.95 -2.30 -2.20	53.05 50.95 53.05 45.70 47.80			
1구간	71.613k	0	50 50 46 53 55	50.4	-2.20 -2.20 -2.40 -2.05 -1.95	47.80 47.80 43.60 50.95 53.05	50.6	23.0	87.4
			48 48 50 50 55		-2.30 -2.30 -2.20 -2.20 -1.95	45.70 45.70 47.80 47.80 53.05			
			55 53 42 53 48		-1.95 -2.05 -2.60 -2.05 -2.30	53.05 50.95 39.40 50.95 45.70			
			50 50 49 50 53		-2.20 -2.20 -2.25 -2.20 -2.05	47.80 47.80 46.75 47.80 50.95			

영천절토51 반발도법에 의한 압축강도 추정(암반강도)

구 분	측정위치	타격방향	측정치					평균치	보정값					보정후 측정치					상위50% 평균값(대표값)	암석의 밀도 (kN/m³)	일축압축강도 추정(Mpa)	
			56	58	54	50	46		-1.90	-1.80	-2.00	-2.20	-2.40	54.10	56.20	52.00	47.80	43.60				
1구간	72.478k	0	48	52	49	47	49	49.6	-2.30	-2.10	-2.25	-2.35	-2.25	45.70	49.90	46.75	44.65	46.75	50.7	23.0	87.8	
			51	53	50	48	47		-2.15	-2.05	-2.20	-2.30	-2.35	48.85	50.95	47.80	45.70	44.65				
			40	50	54	40	49		-2.70	-2.20	-2.00	-2.70	-2.25	37.30	47.80	52.00	37.30	46.75				
			47	49	47	49	45		-2.35	-2.25	-2.35	-2.25	-2.45	44.65	46.75	44.65	46.75	42.55				
1구간	72.486k	0	53	50	48	58	54	50.1	-2.05	-2.20	-2.30	-1.80	-2.00	50.95	47.80	45.70	56.20	52.00	51.0	23.0	88.6	
			48	47	49	47	45		-2.30	-2.35	-2.25	-2.35	-2.45	45.70	44.65	46.75	44.65	42.55				
			55	53	50	48	59		-1.95	-2.05	-2.20	-2.30	-1.75	53.05	50.95	47.80	45.70	57.25				
1구간	72.495k	0	55	54	55	49	52	50.5	-1.95	-2.00	-1.95	-2.25	-2.10	53.05	52.00	53.05	46.75	49.90	50.7	23.0	87.8	
			49	47	49	50	48		-2.25	-2.35	-2.25	-2.20	-2.30	46.75	44.65	46.75	47.80	45.70				
			48	47	50	54	50		-2.30	-2.35	-2.20	-2.00	-2.20	45.70	44.65	47.80	52.00	47.80				
			55	53	49	47	49		-1.95	-2.05	-2.25	-2.35	-2.25	53.05	50.95	46.75	44.65	46.75				
							#DIV/0!	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A					
							#DIV/0!	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A				
							#DIV/0!	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A			
							#DIV/0!	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A			
							#DIV/0!	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A			

영천절토52 반발도법에 의한 압축강도 추정(암반강도)

구 분	측정위치	타격방향	측정치					평균치	보정값					보정후 측정치					상위50% 평균값(대표값)	암석의 밀도 (kN/㎡)	일축압축강도 추정(Mpa)
1구간	72.873k	0	48	49	48	47	45	48.5	-2.30	-2.25	-2.30	-2.35	-2.45	45.70	46.75	45.70	44.65	42.55	48.7	23.0	80.7
			51	52	50	48	49		-2.15	-2.10	-2.20	-2.30	-2.25	48.85	49.90	47.80	45.70	46.75			
			43	43	42	48	49		-2.55	-2.55	-2.60	-2.30	-2.25	40.45	40.45	39.40	45.70	46.75			
			50	52	52	54	50		-2.20	-2.10	-2.10	-2.00	-2.20	47.80	49.90	49.90	52.00	47.80			
			52	52	50	53	51		-2.10	-2.10	-2.20	-2.05	-2.15	49.90	49.90	47.80	50.95	48.85			
1구간	72.885k	0	49	50	50	48	47	49.4	-2.25	-2.20	-2.20	-2.30	-2.35	46.75	47.80	47.80	45.70	44.65	49.0	23.0	81.4
			49	43	45	48	48		-2.25	-2.55	-2.45	-2.30	-2.30	46.75	40.45	42.55	45.70	45.70			
			51	51	51	50	50		-2.15	-2.15	-2.15	-2.20	-2.20	48.85	48.85	48.85	47.80	47.80			
			51	53	54	52	48		-2.15	-2.05	-2.00	-2.10	-2.30	48.85	50.95	52.00	49.90	45.70			
			42	41	40	50	47		-2.60	-2.65	-2.70	-2.20	-2.35	39.40	38.35	37.30	47.80	44.65			
1구간	72.900k	0	50	43	49	48	47	47.5	-2.20	-2.55	-2.25	-2.30	-2.35	47.80	40.45	46.75	45.70	44.65	48.6	23.0	80.3
			50	41	44	50	49		-2.20	-2.65	-2.50	-2.20	-2.25	47.80	38.35	41.50	47.80	46.75			
									#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A			
									#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A			
									#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A			
								#DIV/0!	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	23.0	#N/A
									#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A			
									#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A			
									#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A			
									#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A			

영천절토53 반발도법에 의한 압축강도 추정(암반강도)

[illegible]

영천절토54 반발도법에 의한 압축강도 추정(암반강도)

구 분	측정위치	타격방향	측정치					평균치	보정값					보정후 측정치					상위50% 평균값(대표값)	암석의 밀도 (kN/㎡)	일축압축강도 추정(Mpa)
1구간	74.398k	0	55	52	50	48	49	49.4	-1.95	-2.10	-2.20	-2.30	-2.25	53.05	49.90	47.80	45.70	46.75	49.6	23.0	83.6
			48	49	52	50	55		-2.30	-2.25	-2.10	-2.20	-1.95	45.70	46.75	49.90	47.80	53.05			
			42	45	48	47	50		-2.60	-2.45	-2.30	-2.35	-2.20	39.40	42.55	45.70	44.65	47.80			
			47	48	49	52	52		-2.35	-2.30	-2.25	-2.10	-2.10	44.65	45.70	46.75	49.90	49.90			
1구간	74.405k	0	45	48	49	49	48	49.1	-2.45	-2.30	-2.25	-2.25	-2.30	42.55	45.70	46.75	46.75	45.70	48.9	23.0	81.1
			50	50	51	55	48		-2.20	-2.20	-2.15	-1.95	-2.30	47.80	47.80	48.85	53.05	45.70			
			53	53	51	48	48		-2.05	-2.05	-2.15	-2.30	-2.30	50.95	50.95	48.85	45.70	45.70			
			49	45	44	49	48		-2.25	-2.45	-2.50	-2.25	-2.30	46.75	42.55	41.50	46.75	45.70			
1구간	74.440k	0	55	52	52	48	51	48.7	-1.95	-2.10	-2.10	-2.30	-2.15	53.05	49.90	49.90	45.70	48.85	48.5	23.0	80.0
			49	50	51	42	44		-2.25	-2.20	-2.15	-2.60	-2.50	46.75	47.80	48.85	39.40	41.50			
			46	48	48	49	49		-2.40	-2.30	-2.30	-2.25	-2.25	43.60	45.70	45.70	46.75	46.75			
			49	48	47	46	49		-2.25	-2.30	-2.35	-2.40	-2.25	46.75	45.70	44.65	43.60	46.75			
								#DIV/0!	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	23.0	#N/A
									#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A			
									#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A			
									#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A			

영천절토55 반발도법에 의한 압축강도 추정(암반강도)

구 분	측정위치	타격방향	측정치					평균치	보정값					보정후 측정치					상위50% 평균값(대표값)	암석의 밀도 (kN/㎡)	일축압축강도 추정(Mpa)
1구간	74.791k	0	45	48	49	52	55	50.2	-2.45	-2.30	-2.25	-2.10	-1.95	42.55	45.70	46.75	49.90	53.05	50.6	23.0	87.4
			55	48	50	51	52		-1.95	-2.30	-2.20	-2.15	-2.10	53.05	45.70	47.80	48.85	49.90			
			49	49	50	49	49		-2.25	-2.25	-2.20	-2.25	-2.25	46.75	46.75	47.80	46.75	46.75			
			48	52	55	55	43		-2.30	-2.10	-1.95	-1.95	-2.55	45.70	49.90	53.05	53.05	40.45			
1구간	74.803k	0	48	49	50	50	52	50.4	-2.30	-2.25	-2.20	-2.20	-2.10	45.70	46.75	47.80	47.80	49.90	50.6	23.0	87.4
			55	59	48	45	53		-1.95	-1.75	-2.30	-2.45	-2.05	53.05	57.25	45.70	42.55	50.95			
			48	48	49	49	47		-2.30	-2.30	-2.25	-2.25	-2.35	45.70	45.70	46.75	46.75	44.65			
			50	51	52	52	53		-2.20	-2.15	-2.10	-2.10	-2.05	47.80	48.85	49.90	49.90	50.95			
1구간	74.828k	0	54	52	48	50	46	50.0	-2.00	-2.10	-2.30	-2.20	-2.40	52.00	49.90	45.70	47.80	43.60	49.6	23.0	83.6
			49	53	47	53	51		-2.25	-2.05	-2.35	-2.05	-2.15	46.75	50.95	44.65	50.95	48.85			
			53	50	51	49	48		-2.05	-2.20	-2.15	-2.25	-2.30	50.95	47.80	48.85	46.75	45.70			
			49	48	49	50	50		-2.25	-2.30	-2.25	-2.20	-2.20	46.75	45.70	46.75	47.80	47.80			
								#DIV/0!	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	23.0	#N/A
									#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A			
									#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A			
									#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A			

상주절토56 반발도법에 의한 압축강도 추정(암반강도)

[illegible]

영천절토57 반발도법에 의한 압축강도 추정(암반강도)

구 분	측정위치	타격방향	측정치	평균치	보정값	보정후 측정치	상위50% 평균값(대표값)	암석의 밀도 (kN/m³)	일축압축강도 추정(Mpa)
1구간	75.228k	0	51 50 48 47 49	47.7	-2.15 -2.20 -2.30 -2.35 -2.25	48.85 47.80 45.70 44.65 46.75	48.3	23.0	79.3
			46 45 52 55 51		-2.40 -2.45 -2.10 -1.95 -2.15	43.60 42.55 49.90 53.05 48.85			
			48 38 38 47 45		-2.30 -2.78 -2.78 -2.35 -2.45	45.70 35.22 35.22 44.65 42.55			
			50 49 48 47 50		-2.20 -2.25 -2.30 -2.35 -2.20	47.80 46.75 45.70 44.65 47.80			
1구간	75.267k	0	47 54 48 50 51	50.0	-2.35 -2.00 -2.30 -2.20 -2.15	44.65 52.00 45.70 47.80 48.85	49.6	23.0	83.6
			54 53 50 49 49		-2.00 -2.05 -2.20 -2.25 -2.25	52.00 50.95 47.80 46.75 46.75			
			50 51 49 48 50		-2.20 -2.15 -2.25 -2.30 -2.20	47.80 48.85 46.75 45.70 47.80			
			48 47 54 47 50		-2.30 -2.35 -2.00 -2.35 -2.20	45.70 44.65 52.00 44.65 47.80			
1구간	75.288k	0	50 52 53 50 51	49.5	-2.20 -2.10 -2.05 -2.20 -2.15	47.80 49.90 50.95 47.80 48.85	49.0	23.0	81.4
			48 49 48 49 49		-2.30 -2.25 -2.30 -2.25 -2.25	45.70 46.75 45.70 46.75 46.75			
			50 49 48 48 50		-2.20 -2.25 -2.30 -2.30 -2.20	47.80 46.75 45.70 45.70 47.80			
			47 54 44 49 52		-2.35 -2.00 -2.50 -2.25 -2.10	44.65 52.00 41.50 46.75 49.90			
2구간	75.338k	0	47 54 48 50 51	49.8	-2.35 -2.00 -2.30 -2.20 -2.15	44.65 52.00 45.70 47.80 48.85	49.4	23.0	82.9
			54 53 50 49 48		-2.00 -2.05 -2.20 -2.25 -2.30	52.00 50.95 47.80 46.75 45.70			
			50 51 48 50 51		-2.20 -2.15 -2.30 -2.20 -2.15	47.80 48.85 45.70 47.80 48.85			
			48 47 49 47 51		-2.30 -2.35 -2.25 -2.35 -2.15	45.70 44.65 46.75 44.65 48.85			
2구간	75.348k	0	49 48 51 47 47	49.0	-2.25 -2.30 -2.15 -2.35 -2.35	46.75 45.70 48.85 44.65 44.65	49.0	23.0	81.4
			50 50 49 49 52		-2.20 -2.20 -2.25 -2.25 -2.10	47.80 47.80 46.75 46.75 49.90			
			51 47 54 49 54		-2.15 -2.35 -2.00 -2.25 -2.00	48.85 44.65 52.00 46.75 52.00			
			48 38 50 47 50		-2.30 -2.78 -2.20 -2.35 -2.20	45.70 35.22 47.80 44.65 47.80			
2구간	75.353k	0	50 49 50 50 51	50.4	-2.20 -2.25 -2.20 -2.20 -2.15	47.80 46.75 47.80 47.80 48.85	49.9	23.0	84.8
			47 54 52 49 49		-2.35 -2.00 -2.10 -2.25 -2.25	44.65 52.00 49.90 46.75 46.75			
			47 49 54 48 50		-2.35 -2.25 -2.00 -2.30 -2.20	44.65 46.75 52.00 45.70 47.80			
			50 51 52 53 53		-2.20 -2.15 -2.10 -2.05 -2.05	47.80 48.85 49.90 50.95 50.95			

영천절토58 반발도법에 의한 압축강도 추정(암반강도)

구 분	측정위치	타격방향	측정치	평균치	보정값	보정후 측정치	상위50% 평균값(대표값)	암석의 밀도 (kN/m³)	일축압축강도 추정(Mpa)
1구간	1.000k	0	42 45 48 49 50	46.3	-2.60 -2.45 -2.30 -2.25 -2.20	39.40 42.55 45.70 46.75 47.80	47.9	23.0	77.9
			48 48 49 51 38		-2.30 -2.30 -2.25 -2.15 -2.78	45.70 45.70 46.75 48.85 35.22			
			40 40 45 54 50		-2.70 -2.70 -2.45 -2.00 -2.20	37.30 37.30 42.55 52.00 47.80			
			38 44 54 46 46		-2.78 -2.50 -2.00 -2.40 -2.40	35.22 41.50 52.00 43.60 43.60			
1구간	1.020k	0	45 48 47 50 50	50.0	-2.45 -2.30 -2.35 -2.20 -2.20	42.55 45.70 44.65 47.80 47.80	49.6	23.0	83.6
			52 51 53 48 49		-2.10 -2.15 -2.05 -2.30 -2.25	49.90 48.85 50.95 45.70 46.75			
			47 49 50 52 52		-2.35 -2.25 -2.20 -2.10 -2.10	44.65 46.75 47.80 49.90 49.90			
			52 53 52 50 50		-2.10 -2.05 -2.10 -2.20 -2.20	49.90 50.95 49.90 47.80 47.80			
1구간	1.035k	0	48 52 52 53 50	50.8	-2.30 -2.10 -2.10 -2.05 -2.20	45.70 49.90 49.90 50.95 47.80	50.4	23.0	86.7
			51 53 51 53 50		-2.15 -2.05 -2.15 -2.05 -2.20	48.85 50.95 48.85 50.95 47.80			
			49 48 48 48 49		-2.25 -2.30 -2.30 -2.30 -2.25	46.75 45.70 45.70 45.70 46.75			
			50 51 55 53 52		-2.20 -2.15 -1.95 -2.05 -2.10	47.80 48.85 53.05 50.95 49.90			
2구간	1.215k	0	45 48 49 49 51	49.8	-2.45 -2.30 -2.25 -2.25 -2.15	42.55 45.70 46.75 46.75 48.85	49.5	23.0	83.3
			53 53 52 55 50		-2.05 -2.05 -2.10 -1.95 -2.20	50.95 50.95 49.90 53.05 47.80			
			48 48 49 50 50		-2.30 -2.30 -2.25 -2.20 -2.20	45.70 45.70 46.75 47.80 47.80			
			48 48 48 53 48		-2.30 -2.30 -2.30 -2.05 -2.30	45.70 45.70 45.70 50.95 45.70			
2구간	1.220k	0	51 55 49 50 52	50.6	-2.15 -1.95 -2.25 -2.20 -2.10	48.85 53.05 46.75 47.80 49.90	50.3	23.0	86.3
			48 49 47 52 50		-2.30 -2.25 -2.35 -2.10 -2.20	45.70 46.75 44.65 49.90 47.80			
			53 52 45 52 53		-2.05 -2.10 -2.45 -2.10 -2.05	50.95 49.90 42.55 49.90 50.95			
			50 52 52 50 50		-2.20 -2.10 -2.10 -2.20 -2.20	47.80 49.90 49.90 47.80 47.80			
2구간	1.240k	0	48 49 50 50 51	47.9	-2.30 -2.25 -2.20 -2.20 -2.15	45.70 46.75 47.80 47.80 48.85	48.3	23.0	79.3
			50 48 47 44 45		-2.20 -2.30 -2.35 -2.50 -2.45	47.80 45.70 44.65 41.50 42.55			
			54 44 41 40 51		-2.00 -2.50 -2.65 -2.70 -2.15	52.00 41.50 38.35 37.30 48.85			
			48 51 50 47 49		-2.30 -2.15 -2.20 -2.35 -2.25	45.70 48.85 47.80 44.65 46.75			

영천절토59 반발도법에 의한 압축강도 추정(암반강도)

[illegible]

영천절토60 반발도법에 의한 압축강도 추정(암반강도)

구 분	측정위치	타격방향	측정치					평균치	보정값					보정후 측정치					상위50% 평균값(대표값)	암석의 밀도 (kN/m³)	일축압축강도 추정(Mpa)
1구간	0.185k	0	50	53	49	49	49	49.7	-2.20	-2.05	-2.25	-2.25	-2.25	47.80	50.95	46.75	46.75	46.75	49.2	23.0	82.2
			53	53	50	50	52		-2.05	-2.05	-2.20	-2.20	-2.10	50.95	50.95	47.80	47.80	49.90			
			50	51	51	48	48		-2.20	-2.15	-2.15	-2.30	-2.30	47.80	48.85	48.85	45.70	45.70			
			49	46	47	49	47		-2.25	-2.40	-2.35	-2.25	-2.35	46.75	43.60	44.65	46.75	44.65			
			50	53	53	50	53		-2.20	-2.05	-2.05	-2.20	-2.05	47.80	50.95	50.95	47.80	50.95			
1구간	0.200k	0	53	50	51	48	50	50.4	-2.05	-2.20	-2.15	-2.30	-2.20	50.95	47.80	48.85	45.70	47.80	50.3	23.0	86.3
			51	46	47	50	51		-2.15	-2.40	-2.35	-2.20	-2.15	48.85	43.60	44.65	47.80	48.85			
			53	53	53	46	47		-2.05	-2.05	-2.05	-2.40	-2.35	50.95	50.95	50.95	43.60	44.65			
			50	36	48	46	49		-2.20	-2.86	-2.30	-2.40	-2.25	47.80	33.14	45.70	43.60	46.75			
			52	51	50	53	55		-2.10	-2.15	-2.20	-2.05	-1.95	49.90	48.85	47.80	50.95	53.05			
1구간	0.210k	0	48	49	48	50	51	49.8	-2.30	-2.25	-2.30	-2.20	-2.15	45.70	46.75	45.70	47.80	48.85	50.1	23.0	85.5
			51	50	54	55	50		-2.15	-2.20	-2.00	-1.95	-2.20	48.85	47.80	52.00	53.05	47.80			
									#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A			
								#DIV/0!	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	23.0	#N/A
									#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A			
									#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A			
									#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A			

영천절토61 반발도법에 의한 압축강도 추정(암반강도)

구 분	측정위치	타격방향	측정치					평균치	보정값					보정후 측정치					상위50% 평균값(대표값)	암석의 밀도 (KN/m³)	일축압축강도 추정(Mpa)
1구간	R-D 0.430k	0	48	38	50	42	48	47.9	-2.30	-2.78	-2.20	-2.60	-2.30	45.70	35.22	47.80	39.40	45.70	48.5	23.0	80.0
			46	48	50	51	50		-2.40	-2.30	-2.20	-2.15	-2.20	43.60	45.70	47.80	48.85	47.80			
			48	40	44	52	52		-2.30	-2.70	-2.50	-2.10	-2.10	45.70	37.30	41.50	49.90	49.90			
			53	52	48	48	49		-2.05	-2.10	-2.30	-2.30	-2.25	50.95	49.90	45.70	45.70	46.75			
1구간	R-D 0.440k	0	53	52	50	50	42	49.7	-2.05	-2.10	-2.20	-2.20	-2.60	50.95	49.90	47.80	47.80	39.40	49.5	23.0	83.3
			44	50	48	50	51		-2.50	-2.20	-2.30	-2.20	-2.15	41.50	47.80	45.70	47.80	48.85			
			51	50	49	48	49		-2.15	-2.20	-2.25	-2.30	-2.25	48.85	47.80	46.75	45.70	46.75			
			48	49	55	54	50		-2.30	-2.25	-1.95	-2.00	-2.20	45.70	46.75	53.05	52.00	47.80			
1구간	R-D 0.490k	0	54	50	44	50	48	49.7	-2.00	-2.20	-2.50	-2.20	-2.30	52.00	47.80	41.50	47.80	45.70	49.3	23.0	82.5
			50	42	51	49	52		-2.20	-2.60	-2.15	-2.25	-2.10	47.80	39.40	48.85	46.75	49.90			
			50	51	50	50	52		-2.20	-2.15	-2.20	-2.20	-2.10	47.80	48.85	47.80	47.80	49.90			
			49	51	48	49	53		-2.25	-2.15	-2.30	-2.25	-2.05	46.75	48.85	45.70	46.75	50.95			
2구간	R-A 1.185k	0	52	50	42	45	48	49.1	-2.10	-2.20	-2.60	-2.45	-2.30	49.90	47.80	39.40	42.55	45.70	48.4	23.0	79.6
			48	50	51	50	49		-2.30	-2.20	-2.15	-2.20	-2.25	45.70	47.80	48.85	47.80	46.75			
			49	50	51	50	49		-2.25	-2.20	-2.15	-2.20	-2.25	46.75	47.80	48.85	47.80	46.75			
			50	50	52	48	48		-2.20	-2.20	-2.10	-2.30	-2.30	47.80	47.80	49.90	45.70	45.70			
2구간	R-A 1.200k	0	46	44	50	41	50	47.7	-2.40	-2.50	-2.20	-2.65	-2.20	43.60	41.50	47.80	38.35	47.80	47.6	23.0	76.9
			48	51	50	48	47		-2.30	-2.15	-2.20	-2.30	-2.35	45.70	48.85	47.80	45.70	44.65			
			49	44	44	45	49		-2.25	-2.50	-2.50	-2.45	-2.25	46.75	41.50	41.50	42.55	46.75			
			51	50	48	48	50		-2.15	-2.20	-2.30	-2.30	-2.20	48.85	47.80	45.70	45.70	47.80			
2구간	R-A 1.215k	0	50	42	45	48	50	48.5	-2.20	-2.60	-2.45	-2.30	-2.20	47.80	39.40	42.55	45.70	47.80	48.2	23.0	78.9
			50	51	47	50	42		-2.20	-2.15	-2.35	-2.20	-2.60	47.80	48.85	44.65	47.80	39.40			
			47	48	49	50	51		-2.35	-2.30	-2.25	-2.20	-2.15	44.65	45.70	46.75	47.80	48.85			
			50	52	50	47	50		-2.20	-2.10	-2.20	-2.35	-2.20	47.80	49.90	47.80	44.65	47.80			

영천절토62 반발도법에 의한 압축강도 추정(암반강도)

구 분	측정위치	타격방향	측정치					평균치	보정값					보정후 측정치					상위50% 평균값(대표값)	암석의 밀도 (kN/m³)	일축압축강도 추정(Mpa)
1구간	77.608k	0	48	48	49	48	49	47.9	-2.30	-2.30	-2.25	-2.30	-2.25	45.70	45.70	46.75	45.70	46.75	47.2	23.0	75.5
			50	44	45	52	42		-2.20	-2.50	-2.45	-2.10	-2.60	47.80	41.50	42.55	49.90	39.40			
			48	48	49	50	50		-2.30	-2.30	-2.25	-2.20	-2.20	45.70	45.70	46.75	47.80	47.80			
			48	49	47	47	46		-2.30	-2.25	-2.35	-2.35	-2.40	45.70	46.75	44.65	44.65	43.60			
1구간	77.628k	0	52	54	55	50	48	50.0	-2.10	-2.00	-1.95	-2.20	-2.30	49.90	52.00	53.05	47.80	45.70	49.7	23.0	84.0
			49	48	50	51	52		-2.25	-2.30	-2.20	-2.15	-2.10	46.75	45.70	47.80	48.85	49.90			
			49	50	52	52	48		-2.25	-2.20	-2.10	-2.10	-2.30	46.75	47.80	49.90	49.90	45.70			
			44	48	49	49	49		-2.50	-2.30	-2.25	-2.25	-2.25	41.50	45.70	46.75	46.75	46.75			
1구간	77.637k	0	49	47	47	52	55	50.4	-2.25	-2.35	-2.35	-2.10	-1.95	46.75	44.65	44.65	49.90	53.05	50.6	23.0	87.4
			54	49	47	47	54		-2.00	-2.25	-2.35	-2.35	-2.00	52.00	46.75	44.65	44.65	52.00			
			48	54	55	50	50		-2.30	-2.00	-1.95	-2.20	-2.20	45.70	52.00	53.05	47.80	47.80			
			52	48	50	51	49		-2.10	-2.30	-2.20	-2.15	-2.25	49.90	45.70	47.80	48.85	46.75			
								#DIV/0!	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	23.0	#N/A
									#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A			
									#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A			
									#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A			

영천절토63 반발도법에 의한 압축강도 추정(암반강도)

구 분	측정위치	타격방향	측정치	평균치	보정값	보정후 측정치	상위50% 평균값(대표값)	암석의 밀도 (KN/m³)	일축압축강도 추정(Mpa)
1구간	89.553k	0	53 50 50 48 49	51.1	-2.05 -2.20 -2.20 -2.30 -2.25	50.95 47.80 47.80 45.70 46.75	50.7	23.0	87.8
			52 54 52 54 50		-2.10 -2.00 -2.10 -2.00 -2.20	49.90 52.00 49.90 52.00 47.80			
			52 53 49 49 54		-2.10 -2.05 -2.25 -2.25 -2.00	49.90 50.95 46.75 46.75 52.00			
			48 50 52 52 50		-2.30 -2.20 -2.10 -2.10 -2.20	45.70 47.80 49.90 49.90 47.80			
			52 49 49 53 50		-2.10 -2.25 -2.25 -2.05 -2.20	49.90 46.75 46.75 50.95 47.80			
1구간	89.566k	0	52 52 51 50 48	51.0	-2.10 -2.10 -2.15 -2.20 -2.30	49.90 49.90 48.85 47.80 45.70	50.4	23.0	86.7
			53 52 53 50 54		-2.05 -2.10 -2.05 -2.20 -2.00	50.95 49.90 50.95 47.80 52.00			
			50 53 49 49 50		-2.20 -2.05 -2.25 -2.25 -2.20	47.80 50.95 46.75 46.75 47.80			
			54 50 48 45 54		-2.00 -2.20 -2.30 -2.45 -2.00	52.00 47.80 45.70 42.55 52.00			
			48 52 51 50 48		-2.30 -2.10 -2.15 -2.20 -2.30	45.70 49.90 48.85 47.80 45.70			
1구간	89.578k	0	51 53 54 44 51	50.2	-2.15 -2.05 -2.00 -2.50 -2.15	48.85 50.95 52.00 41.50 48.85	50.3	23.0	86.3
			50 52 48 49 52		-2.20 -2.10 -2.30 -2.25 -2.10	47.80 49.90 45.70 46.75 49.90			
			54 58 49 52 48		-2.00 -1.80 -2.25 -2.10 -2.30	52.00 56.20 46.75 49.90 45.70			
			55 58 50 51 52		-1.95 -1.80 -2.20 -2.15 -2.10	53.05 56.20 47.80 48.85 49.90			
			54 53 59 57 52		-2.00 -2.05 -1.75 -1.85 -2.10	52.00 50.95 57.25 55.15 49.90			
2구간	89.718k	0	54 50 50 48 48	52.6	-2.00 -2.20 -2.20 -2.30 -2.30	52.00 47.80 47.80 45.70 45.70	53.5	23.0	98.6
			54 54 50 52 54		-2.00 -2.00 -2.20 -2.10 -2.00	52.00 52.00 47.80 49.90 52.00			
			49 48 48 52 53		-2.25 -2.30 -2.30 -2.10 -2.05	46.75 45.70 45.70 49.90 50.95			
			45 49 50 51 50		-2.45 -2.25 -2.20 -2.15 -2.20	42.55 46.75 47.80 48.85 47.80			
			52 53 52 53 55		-2.10 -2.05 -2.10 -2.05 -1.95	49.90 50.95 49.90 50.95 53.05			
2구간	89.724k	0	56 53 54 51 54	51.2	-1.90 -2.05 -2.00 -2.15 -2.00	54.10 50.95 52.00 48.85 52.00	51.2	23.0	89.4
			53 53 54 52 52		-2.05 -2.05 -2.00 -2.10 -2.10	50.95 50.95 52.00 49.90 49.90			
			50 53 59 59 50		-2.20 -2.05 -1.75 -1.75 -2.20	47.80 50.95 57.25 57.25 47.80			
			51 58 54 58 51		-2.15 -1.80 -2.00 -1.80 -2.15	48.85 56.20 52.00 56.20 48.85			
			54 44 51 52 50		-2.00 -2.50 -2.15 -2.10 -2.20	52.00 41.50 48.85 49.90 47.80			
2구간	89.738k	0	48 49 52 54 50	53.8	-2.30 -2.25 -2.10 -2.00 -2.20	45.70 46.75 49.90 52.00 47.80	54.0	23.0	100.8
			49 52 53 54 48		-2.25 -2.10 -2.05 -2.00 -2.30	46.75 49.90 50.95 52.00 45.70			
			54 44 52 50 50		-2.00 -2.50 -2.10 -2.20 -2.20	52.00 41.50 49.90 47.80 47.80			
			48 49 54 54 50		-2.30 -2.25 -2.00 -2.00 -2.20	45.70 46.75 52.00 52.00 47.80			
			49 52 48 49 48		-2.25 -2.10 -2.30 -2.25 -2.30	46.75 49.90 45.70 46.75 45.70			
3구간	89.878k	0	50 51 49 52 50	50.5	-2.20 -2.15 -2.25 -2.10 -2.20	47.80 48.85 46.75 49.90 47.80	50.7	23.0	87.8
			48 49 50 51 52		-2.30 -2.25 -2.20 -2.15 -2.10	45.70 46.75 47.80 48.85 49.90			
			44 49 45 41 43		-2.70 -2.25 -2.45 -2.65 -2.55	37.30 46.75 42.55 38.35 40.45			
			43 51 50 48 51		-2.55 -2.15 -2.20 -2.30 -2.15	40.45 48.85 47.80 45.70 48.85			
			54 51 50 49 48		-2.00 -2.15 -2.20 -2.25 -2.30	52.00 48.85 47.80 46.75 45.70			
3구간	89.885k	0	47 44 47 45 40	46.8	-2.35 -2.50 -2.35 -2.45 -2.70	44.65 41.50 44.65 42.55 37.30	47.9	23.0	77.9

상주절토64 반발도법에 의한 압축강도 추정(암반강도)

구 분	측정위치	타격방향	측정치				평균치	보정값					보정후 측정치					상위50% 평균값(대표값)	암석의 밀도 (KN/㎡)	일축압축강도 추정(Mpa)
1구간	89.668k	0	40	54	45	42	42	-2.70	-2.00	-2.45	-2.60	-2.60	37.30	52.00	42.55	39.40	39.40	48.6	23.0	80.3
			48	49	48	50	51	-2.30	-2.25	-2.30	-2.20	-2.15	45.70	46.75	45.70	47.80	48.85			
			53	50	48	49	49	-2.05	-2.20	-2.30	-2.25	-2.25	50.95	47.80	45.70	46.75	46.75			
			47	50	47	50	52	-2.35	-2.20	-2.35	-2.20	-2.10	44.65	47.80	44.65	47.80	49.90			
1구간	89.677k	0	50	53	49	53	49	-2.20	-2.05	-2.25	-2.05	-2.25	47.80	50.95	46.75	50.95	46.75	49.5	23.0	83.3
			52	50	49	49	45	-2.10	-2.20	-2.25	-2.25	-2.45	49.90	47.80	46.75	46.75	42.55			
			52	52	50	50	50	-2.10	-2.10	-2.20	-2.20	-2.20	49.90	49.90	47.80	47.80	47.80			
			49	48	47	50	54	-2.25	-2.30	-2.35	-2.20	-2.00	46.75	45.70	44.65	47.80	52.00			
1구간	89.688k	0	50	58	56	52	48	-2.20	-1.80	-1.90	-2.10	-2.30	47.80	56.20	54.10	49.90	45.70	50.2	23.0	85.9
			49	49	49	50	49	-2.25	-2.25	-2.25	-2.20	-2.25	46.75	46.75	46.75	47.80	46.75			
			48	50	52	52	53	-2.30	-2.20	-2.10	-2.10	-2.05	45.70	47.80	49.90	49.90	50.95			
			50	50	48	48	48	-2.20	-2.20	-2.30	-2.30	-2.30	47.80	47.80	45.70	45.70	45.70			
2구간	89.834k	0	50	50	50	49	52	-2.20	-2.20	-2.20	-2.25	-2.10	47.80	47.80	47.80	46.75	49.90	50.6	23.0	87.4
			50	54	52	50	51	-2.20	-2.00	-2.10	-2.20	-2.15	47.80	52.00	49.90	47.80	48.85			
			52	53	53	52	55	-2.10	-2.05	-2.05	-2.10	-1.95	49.90	50.95	50.95	49.90	53.05			
			50	49	52	52	50	-2.20	-2.25	-2.10	-2.10	-2.20	47.80	46.75	49.90	49.90	47.80			
2구간	89.848k	0	48	50	50	52	52	-2.30	-2.20	-2.20	-2.10	-2.10	45.70	47.80	47.80	49.90	49.90	49.8	23.0	84.4
			50	48	51	48	52	-2.20	-2.30	-2.15	-2.30	-2.10	47.80	45.70	48.85	45.70	49.90			
			54	52	51	50	54	-2.00	-2.10	-2.15	-2.20	-2.00	52.00	49.90	48.85	47.80	52.00			
			43	51	50	49	40	-2.55	-2.15	-2.20	-2.25	-2.70	40.45	48.85	47.80	46.75	37.30			
2구간	89.857k	0	53	50	50	49	52	-2.05	-2.20	-2.20	-2.25	-2.10	50.95	47.80	47.80	46.75	49.90	49.2	23.0	82.2
			47	50	52	50	50	-2.35	-2.20	-2.10	-2.20	-2.20	44.65	47.80	49.90	47.80	47.80			
			50	52	48	47	50	-2.20	-2.10	-2.30	-2.35	-2.20	47.80	49.90	45.70	44.65	47.80			
			52	50	49	48	52	-2.10	-2.20	-2.25	-2.30	-2.10	49.90	47.80	46.75	45.70	49.90			

상주절토65 반발도법에 의한 압축강도 추정(암반강도)

[illegible]

영천철토66 반발도법에 의한 압축강도 추정(압반강도)

구 분	측정위치	타격방향	측정치	평균치	보정값	보정후 측정치	상위50% 평균값(대표값)	암석의 밀도 (kN/m³)	일축압축강도 추정(Mpa)
1구간	91.898k	0	48 47 50 52 53	50.5	-2.30 -2.35 -2.20 -2.10 -2.05	45.70 44.65 47.80 49.90 50.95	50.4	23.0	86.7
			50 52 52 50 55		-2.20 -2.10 -2.10 -2.20 -1.95	47.80 49.90 49.90 47.80 53.05			
			51 48 47 48 53		-2.15 -2.30 -2.35 -2.30 -2.05	48.85 45.70 44.65 45.70 50.95			
			55 50 52 47 49		-1.95 -2.20 -2.10 -2.35 -2.25	53.05 47.80 49.90 44.65 46.75			
1구간	91.907k	0	49 51 48 50 50	50.2	-2.25 -2.15 -2.30 -2.20 -2.20	46.75 48.85 45.70 47.80 47.80	49.8	23.0	84.4
			48 47 52 53 48		-2.30 -2.35 -2.10 -2.05 -2.30	45.70 44.65 49.90 50.95 45.70			
			50 52 53 55 47		-2.20 -2.10 -2.05 -1.95 -2.35	47.80 49.90 50.95 53.05 44.65			
			51 48 49 50 52		-2.15 -2.30 -2.25 -2.20 -2.10	48.85 45.70 46.75 47.80 49.90			
1구간	91.922k	0	46 48 50 39 38	48.8	-2.40 -2.30 -2.20 -2.74 -2.78	43.60 45.70 47.80 36.26 35.22	49.8	23.0	84.4
			51 54 55 55 50		-2.15 -2.00 -1.95 -1.95 -2.20	48.85 52.00 53.05 53.05 47.80			
			49 49 48 47 47		-2.25 -2.25 -2.30 -2.35 -2.35	46.75 46.75 45.70 44.65 44.65			
			50 51 48 47 54		-2.20 -2.15 -2.30 -2.35 -2.00	47.80 48.85 45.70 44.65 52.00			
2구간	92.058k	0	48 49 50 52 53	50.1	-2.30 -2.25 -2.20 -2.10 -2.05	45.70 46.75 47.80 49.90 50.95	49.7	23.0	84.0
			47 49 51 48 47		-2.35 -2.25 -2.15 -2.30 -2.35	44.65 46.75 48.85 45.70 44.65			
			49 55 54 52 51		-2.25 -1.95 -2.00 -2.10 -2.15	46.75 53.05 52.00 49.90 48.85			
			50 48 49 50 50		-2.20 -2.30 -2.25 -2.20 -2.20	47.80 45.70 46.75 47.80 47.80			
2구간	92.070k	0	52 49 48 47 55	50.3	-2.10 -2.25 -2.30 -2.35 -1.95	49.90 46.75 45.70 44.65 53.05	50.2	23.0	85.9
			54 50 50 52 49		-2.00 -2.20 -2.20 -2.10 -2.25	52.00 47.80 47.80 49.90 46.75			
			54 48 51 48 50		-2.00 -2.30 -2.15 -2.30 -2.20	52.00 45.70 48.85 45.70 47.80			
			48 47 52 53 48		-2.30 -2.35 -2.10 -2.05 -2.30	45.70 44.65 49.90 50.95 45.70			
2구간	92.080k	0	50 52 50 48 47	50.3	-2.20 -2.10 -2.20 -2.30 -2.35	47.80 49.90 47.80 45.70 44.65	49.4	23.0	82.9
			51 48 50 50 52		-2.15 -2.30 -2.20 -2.20 -2.10	48.85 45.70 47.80 47.80 49.90			
			52 53 50 51 48		-2.10 -2.05 -2.20 -2.15 -2.30	49.90 50.95 47.80 48.85 45.70			
			52 50 52 50 50		-2.10 -2.20 -2.10 -2.20 -2.20	49.90 47.80 49.90 47.80 47.80			