

AVERAGE VALUE OF PHYSICA - MECHANICAL PROPERTIES

Layer 4 : Stiff, low plasticity, yellowish brownish grey SANDY LEAN CLAY (CL)

Table: 3

No	Properties	Sign	Average value.	Maximum value	Minimum value	Number of test
1	Sieve Analysis, % Passing					
	3/4" (19 mm)					
	1/2" (12.5 mm)					
	3/8" (9.5 mm)					
	#4 (4.75 mm)					
	#8 (2.36 mm)		100.0	100.0	100.0	2
	#16 (1.18 mm)		99.9	99.9	99.8	2
	#30 (0.6 mm)		98.5	98.7	98.3	2
	#50 (0.3 mm)		83.0	90.8	75.2	2
	#100 (0.15 mm)		68.4	75.0	61.8	2
	#200 (0.075 mm)		62.8	65.8	59.7	2
	<0.005 mm		35.3	41.0	29.6	2
2	Natural moisture content (%)	w	17.94	19.51	16.37	2
3	Natural unit weight (g/cm ³)	γ	1.977	1.987	1.967	2
4	Dry unit weight (g/cm ³)	γ_d	1.676	1.690	1.663	2
5	Specific gravity	G _s	2.656	2.665	2.647	2
6	Porosity	n	0.370	0.380	0.360	2
7	Void ratio	e _o	0.584	0.603	0.566	2
8	Degree saturation (%)	S	81.40	86.24	76.56	2
9	Liquid limit (%)	LL	33.8	35.1	32.5	2
10	Plastic limit (%)	LP	18.5	18.5	18.4	2
11	Plastic index (%)	PI	15.4	16.6	14.1	2
12	Water plasticity ratio (%)	B	-0.04	0.06	-0.14	2
13	Unconfined compression (Kg/cm ²)	qu	1.186	1.447	0.924	2
14	Compression index (cm ² /kg)	C _c	0.1255	0.1906	0.0603	2
15	Coefficient of consolidation (cm ² /s)	C _v	8.39E-04	1.09E-03	5.89E-04	2
16	Preconsolidation pressure (kg/cm ²)	P _c	0.838	1.192	0.483	2
17	Coefficient of volum compressibility (cm ² /g)	M _v	2.54E-05	3.47E-05	1.60E-05	2
18	Permeability (cm/sec)	k ₂₀	1.92E-08	2.13E-08	1.70E-08	2

AVERAGE VALUE OF PHYSICA - MECHANICAL PROPERTIES

Layer 4C : Medium dense, white grey POORLY GRAED SANDY with SILT (SP-SM)

Table: 4

No	Properties	Sign	Average value.	Maximum value	Minimum value	Number of test
1	Sieve Analysis, % Passing					
	3/4" (19 mm)					
	1/2" (12.5 mm)					
	3/8" (9.5 mm)					
	#4 (4.75 mm)					
	#8 (2.36 mm)		100.0			1
	#16 (1.18 mm)		99.5			1
	#30 (0.6 mm)		94.5			1
	#50 (0.3 mm)		35.2			1
	#100 (0.15 mm)		7.8			1
	#200 (0.075 mm)		5.5			1
	< 0.005 mm		0.0			1
2	Natural moisture content (%)	w	21.10			1
3	Natural unit weight (g/cm ³)	γ	1.770			1
4	Dry unit weight (g/cm ³)	γ_d	1.462			1
5	Specific gravity	G _s	2.646			1
6	Porosity	n	0.450			1
7	Void ratio	e _o	0.810			1
8	Degree saturation (%)	S	68.90			1
9	Liquid limit (%)	LL				
10	Plastic limit (%)	LP				
11	Plastic index (%)	PI				
12	Water plasticity ratio (%)	B				
13	Unconfined compression (Kg/cm ²)	qu				
14	Compression index (cm ² /kg)	C _c				
15	Coefficient of consolidation (cm ² /s)	C _v				
16	Preconsolidation pressure (kg/cm ²)	P _c				
17	Coefficient of volum compressibility (cm ² /g)	M _v				
18	Permeability (cm/sec)	k ₂₀				

AVERAGE VALUE OF PHYSICA - MECHANICAL PROPERTIES
Layer 4d : Dense, white POORLY GRAED SANDY (SP)

Table: 5

No	Properties	Sign	Average value.	Maximum value	Minimum value	Number of test
1	Sieve Analisis, % Passing					
	3/4" (19 mm)					
	1/2" (12.5 mm)					
	3/8" (9.5 mm)					
	#4 (4.75 mm)					
	#8 (2.36 mm)		100.0	100.0	100.0	2
	#16 (1.18 mm)		99.2	99.7	98.7	2
	#30 (0.6 mm)		91.8	94.2	89.3	2
	#50 (0.3 mm)		25.1	25.6	24.6	2
	#100 (0.15 mm)		3.1	4.1	2.1	2
	#200 (0.075 mm)		2.4	3.5	1.2	2
	< 0.005 mm		0.0	0.0	0.0	2
2	Natural moisture content (%)	w	15.86	16.71	15.00	2
3	Natural unit weight (g/cm ³)	γ	1.603	1.647	1.559	2
4	Dry unit weight (g/cm ³)	γ_d	1.383	1.411	1.356	2
5	Specific gravity	G _s	2.644	2.646	2.642	2
6	Porosity	n	0.480	0.490	0.470	2
7	Void ratio	e _o	0.912	0.949	0.875	2
8	Degree saturation (%)	S	46.15	50.53	41.77	2
9	Liquid limit (%)	LL				
10	Plastic limit (%)	LP				
11	Plastic index (%)	PI				
12	Water plasticity ratio (%)	B				
13	Unconfined compression (Kg/cm ²)	qu				
14	Compression index (cm ² /kg)	C _c				
15	Coefficient of consolidation (cm ² /s)	C _v				
16	Preconsolidation pressure (kg/cm ²)	P _c				
17	Coefficient of volumm compressibility (cm ² /g)	M _v				
18	Permeability (cm/sec)	k ₂₀				

2. BORING LOGS