

AVERAGE VALUE OF PHYSICO - MECHANICAL PROPERTIES

Layer 2 : Very soft, high plasticity blackish grey ORGANIC CLAY (OH).

Table : 1a

No	Property	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)					
	#16 (1.18 mm)					
	#30 (0.6 mm)					
	#50 (0.3 mm)		100.0	100.0	100.0	25
	#100 (0.15 mm)		99.4	100.0	95.8	25
	#200 (0.075 mm)		96.0	98.8	93.6	25
	< 0.005 mm		67.4	80.7	53.8	25
2	Natural moisture content (%)	w	88.68	105.59	65.50	25
3	Natural unit weight (g/cm ³)	γ	1.435	1.541	1.366	25
4	Dry unit weight (g/cm ³)	γ _d	0.765	0.922	0.672	25
5	Specific gravity	G _s	2.591	2.634	2.566	25
6	Porosity	n	0.70	0.74	0.65	25
7	Void ratio	e _o	2.461	2.832	1.826	25
8	Degree saturation (%)	S	94.9	99.9	87.9	25
9	Liquid limit (%)	LL	80.1	96.3	53.2	13
10	Plastic limit (%)	LP	42.2	49.2	30.4	13
11	Plastic index (%)	PI	37.9	48.4	22.8	13
12	Water plasticity ratio (%)	B	1.27	1.54	1.04	13
13	Unconfined compression (Kg/cm ²)	qu	0.121	0.210	0.089	10
14	Compression index	Cc	1.136	1.273	0.913	7
15	Coefficient of consolidation (cm ² /Kg)	Cv	2.21E-04	2.85E-04	1.52E-04	7
16	Preconsolidation pressure (kg/cm ²)	Pc	0.835	1.277	0.432	7
17	Coefficient of volumm compressibility (cm ² /g)	Mv	1.35E-04	1.61E-04	8.07E-05	7
18	Permeability (cm/sec)	k ₂₀	3.27E-08	5.83E-08	1.79E-07	7

AVERAGE VALUE OF PHYSICO - MECHANICAL PROPERTIES

Layer 3 : Very loose, blackish grey CLAYEY SAND (SC).

Table : 2a

No	Property	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)		95.1	97.3	92.8	2
	#30 (0.6 mm)		86.5	89.3	83.7	2
	#50 (0.3 mm)		66.1	68.0	64.2	2
	#100 (0.15 mm)		43.8	44.7	42.8	2
	#200 (0.075 mm)		37.0	38.6	35.3	2
	< 0.005 mm		21.7	22.8	20.5	2
2	Natural moisture content (%)	w	22.35	23.73	20.96	2
3	Natural unit weight (g/cm ³)	γ	1.948	1.949	1.946	2
4	Dry unit weight (g/cm ³)	γ _d	1.592	1.609	1.575	2
5	Specific gravity	G _s	2.657	2.660	2.653	2
6	Porosity	n	0.40	0.41	0.40	2
7	Void ratio	e _o	0.669	0.684	0.653	2
8	Degree saturation (%)	S	88.7	92.0	85.3	2
9	Liquid limit (%)	LL	21.2	21.6	20.8	2
10	Plastic limit (%)	LP	13.6	14.1	13.1	2
11	Plastic index (%)	PI	7.6	7.7	7.5	2
12	Water plasticity ratio (%)	B	1.15	1.28	1.02	2
13	Unconfined compression (Kg/cm ²)	qu	0.111			1
14	Compression index	Cc				
15	Coefficient of consolidation (cm ² /Kg)	Cv				
16	Preconsolidation pressure (kg/cm ²)	Pc				
17	Coefficient of volumm compressibility (cm ² /g)	Mv				
18	Permeability (cm/sec)	k ₂₀				

AVERAGE VALUE OF PHYSICO - MECHANICAL PROPERTIES
Layer 3a : Loose, greenish grey SILTY, CLAYEY SAND (SM-SC).

Table : 3a

No	Property	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)		97.0	97.1	96.8	2
	#30 (0.6 mm)		94.0	94.3	93.7	2
	#50 (0.3 mm)		78.1	79.4	76.8	2
	#100 (0.15 mm)		39.7	40.2	39.2	2
	#200 (0.075 mm)		28.9	29.3	28.4	2
	< 0.005 mm		18.2	19.5	16.9	2
2	Natural moisture content (%)	w	20.01	20.21	19.81	2
3	Natural unit weight (g/cm ³)	γ	2.066	2.080	2.051	2
4	Dry unit weight (g/cm ³)	γ _d	1.721	1.736	1.706	2
5	Specific gravity	G _s	2.664	2.664	2.663	2
6	Porosity	n	0.35	0.36	0.35	2
7	Void ratio	e _o	0.548	0.561	0.534	2
8	Degree saturation (%)	S	97.4	98.7	96.0	2
9	Liquid limit (%)	LL	24.7			1
10	Plastic limit (%)	LP	17.9			1
11	Plastic index (%)	PI	6.8			1
12	Water plasticity ratio (%)	B	0.28			1
13	Unconfined compression (Kg/cm ²)	qu	0.336			1
14	Compression index	C _c	0.0785			1
15	Coefficient of consolidation (cm ² /Kg)	C _v	7.15E-04			1
16	Preconsolidation pressure (kg/cm ²)	P _c	0.691			1
17	Coefficient of volumm compressibility (cm ² /g)	M _v	2.42E-05			1
18	Permeability (cm/sec)	k ₂₀	1.46E-08			1

AVERAGE VALUE OF PHYSICO - MECHANICAL PROPERTIES
Layer 4 : Stiff, very stiff, low plasticity green, brownish grey CLAY with sand. (CL).

Table : 4a

No	Property	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)		100.0	100.0	100.0	8
	#8 (2.36 mm)		99.7	100.0	97.2	8
	#16 (1.18 mm)		97.4	99.9	92.4	8
	#30 (0.6 mm)		94.7	98.9	85.8	8
	#50 (0.3 mm)		88.1	96.4	78.0	8
	#100 (0.15 mm)		79.5	91.4	66.1	8
	#200 (0.075 mm)		71.6	84.6	57.4	8
	< 0.005 mm		46.8	53.8	30.8	8
2	Natural moisture content (%)	w	20.71	22.92	15.90	8
3	Natural unit weight (g/cm ³)	γ	1.986	2.170	1.950	8
4	Dry unit weight (g/cm ³)	γ _d	1.647	1.872	1.601	8
5	Specific gravity	G _s	2.693	2.697	2.682	8
6	Porosity	n	0.39	0.41	0.30	8
7	Void ratio	e _o	0.639	0.681	0.432	8
8	Degree saturation (%)	S	87.7	98.6	83.8	8
9	Liquid limit (%)	LL	33.9	40.4	26.9	6
10	Plastic limit (%)	LP	20.2	24.0	16.3	6
11	Plastic index (%)	PI	13.7	20.9	10.6	6
12	Water plasticity ratio (%)	B	0.01	0.28	-0.28	6
13	Unconfined compression (Kg/cm ²)	qu				
14	Compression index	C _c				
15	Coefficient of consolidation (cm ² /Kg)	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				