

Physical and mechanical properties of the soils. Design values (LenTISIZ JSC 2007)

№ of geotechnical soil element	Name of geotechnical soil element	Geological index	Mass density, g/cm ³			Void ratio <i>e</i>	Water content <i>W_e</i>	Plasticity index <i>I_p</i>	Liquidity index $\frac{I_L}{C_b}$	Strength characteristics						Deformation modulus, kPa <i>E</i>	Filtration coefficient, m/day <i>K_f</i>	Method of characteristics' determination
			<i>ρ_k</i>	<i>ρ_{ULS}</i>	<i>ρ_{SLS}</i>					Friction angle, deg			Cohesion, kPa					
										<i>φ_k</i>	<i>φ_{ULS}</i>	<i>φ_{SLS}</i>	<i>c_k</i>	<i>c_{ULS}</i>	<i>c_{SLS}</i>			
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
1a	Filled soil	<i>tIV</i>								not recommended as a base ground						5.00	φ, C, E — norms of SNiP 2.02.01-83 *	
1	Silt soil	<i>tIV</i>	1.93	1.91	1.93	0.813	0.29	0.09	-	not recommended as a base ground						0.11		
2	Peaty soil	<i>bIV</i>	1.57	1.55	1.57	1.557	0.62	0.17	$\frac{0.59}{0.00}$	not recommended as a base ground						3000		0.02
3	Silty sand, medium density	<i>ImIV</i>	1.93	1.91	1.93	0.750	water saturated	-	-	27	25	27	2	1	2	12000	0.01	φ, C, E — norms of SNiP 2.02.01-83 * combined with static sounding
4	Silty loam, fluid	<i>ImIV</i>	1.88	1.87	1.88	0.936	0.34	0.09	$\frac{1.67}{0.71}$	6	5	6	7	7	7	6000	0.01	φ, C, E — laboratory report combined with static sounding
4a	Silty sand, dense	<i>ImIV</i>	2.06	2.04	2.06	0.550	water saturated	-	-	33	30	33	6	4	6	22000	0.03	
5	Sandy loam, fluid	<i>ImIV</i>	1.89	1.88	1.88	0.901	0.33	0.07	$\frac{2.00}{0.61}$	8	7	8	7	6	7	6000	0.02	
6	Ribbon and laminated loam, fluid with plastic-fluid interlayers	<i>IgIII</i>	1.87	1.86	1.86	0.971	0.36	0.10	$\frac{1.50}{0.55}$	6	5	6	6	5	6	6000	0.005	
7	Sand loam, plastic (<i>I_L</i> >0.5)	<i>gIII</i>	2.26	2.25	2.25	0.327	0.12	0.04	$\frac{0.75}{0.40}$	14	13	14	12	12	12	12000	0.005	
10	Hard loam with semi-hard interlayers	<i>IgII</i>	2.08	2.06	2.07	0.578	0.20	0.10	$\frac{-0.10}{-0.23}$	16	15	16	30	27	30	16000	<0.001	
11	Hard silty clay, stationed	<i>Vkt</i>	2.16	2.15	2.15	0.476	0.17	0.12	$\frac{-0.42}{<-0.27}$	16	14	16	109	98	109	24000	<0.001	
12	Hard laminated silty clay	<i>Vkt</i>	2.18	2.17	2.18	0.447	0.16	0.12	$\frac{-0.42}{<-0.27}$	18	17	18	111	105	111	28000	<0.001	

Note: * SNiP 2.02.01-83 Bases of Buildings and Structures

