

SECUGRID® PET GEOGRID REINFORCED RETAINING WALLS ESTIMATING CHARTS (OMEGA Modular Block)



The chart below is for material estimates only. It takes into consideration design principles of British Standard "Code of practice for Strengthened/reinforced soils and other fills (BS8006:2010-1)" and boundary conditions defined in the table below. For a detailed design please consult a qualified engineer.

	Reinf./retained soil: Clay and silt $\phi = 26^\circ, \gamma = 19 \text{ kN/m}^3$				Reinf./retained soil: Silty/clayey sand $\phi = 30^\circ, \gamma = 19 \text{ kN/m}^3$				Reinf./retained soil: Sand and gravel $\phi = 34^\circ, \gamma = 19 \text{ kN/m}^3$			
	Geogrid layers n	Geogrid lengths [m]			Geogrid layers n	Geogrid lengths [m]			Geogrid layers n	Geogrid lengths [m]		
		Surcharge load p [kPa]				Surcharge load p [kPa]				Surcharge load p [kPa]		
		5	10	20		5	10	20		5	10	20
Case 1 Wall height H: 3 m Inclination: 83°	5	2.5	3	3	5	2.5	2.5	2.5	5	2.5	2.5	2.5
	4	2.5	3	3	4	2.5	2.5	2.5	4	2.5	2.5	2.5
	3	2.5	3	3	3	2.5	2.5	2.5	3	2.5	2.5	2.5
	2	2.5	3	3	2	2.5	2.5	2.5	2	2.5	2.5	2.5
	1	2.5	3	3	1	2.5	2.5	2.5	1	2.5	2.5	2.5
Case 2 Wall height H: 4 m Inclination: 83°	7	4	4	4	7	3	3.5	3.5	7	3	3	3
	6	4	4	4	6	3	3.5	3.5	6	3	3	3
	5	4	4	4	5	3	3.5	3.5	5	3	3	3
	4	4	4	4	4	3	3.5	3.5	4	3	3	3
	3	4	4	4	3	3	3.5	3.5	3	3	3	3
	2	4	4	4*	2	3	3.5	3.5	2	3	3	3
	1	4	4	4*	1	3	3.5	3.5	1	3	3	3
Case 3 Wall height H: 5 m Inclination: 83°	9	4.5	5	5	9	4	4	4	9	3.5	3.5	3.5
	8	4.5	5	5	8	4	4	4	8	3.5	3.5	3.5
	7	4.5	5	5	7	4	4	4	7	3.5	3.5	3.5
	6	4.5	5	5	6	4	4	4	6	3.5	3.5	3.5
	5	4.5	5	5	5	4	4	4	5	3.5	3.5	3.5
	4	4.5	5	5*	4	4	4	4	4	3.5	3.5	3.5
	3	4.5	5	5*	3	4	4	4	3	3.5	3.5	3.5
	2	4.5	5	5*	2	4	4	4	2	3.5	3.5	3.5
	1	4.5	5	5*	1	4	4	4	1	3.5	3.5	3.5
Case 4 Wall height H: 6 m Inclination: 83°	10	5.5	5.5	6	10	4.5	4.5	5	10	4	4	4.5
	9	5.5	5.5	6	9	4.5	4.5	5	9	4	4	4.5
	8	5.5	5.5	6	8	4.5	4.5	5	8	4	4	4.5
	7	5.5	5.5	6*	7	4.5	4.5	5	7	4	4	4.5
	6	5.5	5.5	6*	6	4.5	4.5	5	6	4	4	4.5
	5	5.5	5.5	6*	5	4.5	4.5	5	5	4	4	4.5
	4	5.5	5.5*	6*	4	4.5	4.5	5	4	4	4	4.5
	3	5.5*	5.5*	6*	3	4.5	4.5	5*	3	4	4	4.5
	2	5.5*	5.5*	6*	2	4.5	4.5	5*	2	4	4	4.5
	1	5.5*	5.5*	6*	1	4.5	4.5	5*	1	4	4	4.5

Additional remarks:

Secugrid® layout is based on foundation soil parameters $\phi = 30^\circ$ and $\gamma = 19 \text{ kN/m}^3$ for external and global stability analysis


The estimating chart is valid for the use of Secugrid® 40/20 R6 geogrids

Secugrid® layers marked with (*) require the use of Secugrid® 80/20 R6 geogrids

The documented Secugrid® layout considers a vertical spacing of the geogrid reinforcement every 3rd course of blocks

The first Secugrid® layer is placed on top of the first course of blocks

The embedment depth D of the wall below surface level shall be minimum one block unit or H/20

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