

PET UNIAXIAL GEOGRID

Geogrids are open structures composed of pre-stressed, high strength bars, with excellent long term creep strengths. There are several different types of geogrids. Polyester (PET) type geogrids are made from a woven matrix of high tenacity polyester fibres that are coated with a protective polymer coating. The polyester fibres are oriented in one principle strength direction. Geogrid strengths can be very high, with design values of up to possible 200 kN/m (13,500 lbs per ft). The strength of a geogrid allows positive reinforcement of embankments, steep slopes, retaining walls and other vertical soil structures. Geogrids interlock with the soil providing long term reinforcement and are the most cost-effective method of creating additional horizontal space. Polyester geogrids have excellent long term creep performance.

April 2023

Non-Woven Environmental Grade – US Values

	ASTM	2XT ²	3XT	5XT	7XT	8XT	10XT	20XT	22XT	24XT	
Material Properties	Wide Width (kN/m) MD	D6637 Ultimate	29	51	68	86	108	139	200	300	400
	Creep Reduced Strength(kN/m)	D5262	18	32	43	55	68	88	127	190	253
	LTDS (kN/m) ¹	GRI GG4 (b)									
	Sand, Silt, Clay ¹		16	28	38	47	59	76	110	164	219
	Roll Width (m)		3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
	Roll Length (m)		46	46	46	61	61	61	61	61	61
	Roll Weight(kg)		46	54	56	75	85	107	157	226	261

Note1 Refer to manufacturers Long Term Design Strength (LTDS) Reduction factors listed on Layfield website.

Note2 Values shown for 2XT are both machine and cross-machine direction. Values for other products are machine direction only.

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April 2023		Non-Woven Environmental Grade – Metric Values									
	ASTM	2XT ²	3XT	5XT	7XT	8XT	10XT	20XT	22XT	24XT	
Material Properties	Wide Width (lbs/ft) MD	D6637 Ultimate	2000	3500	4700	5900	7400	9500	13705	20559	27415
	Creep Reduced Strength (lbs/ft)	D5262	1266	2215	2975	3734	4684	6013	8674	13012	17351
	LTDS (lbs/ft) ¹	GRI GG4 (b)									
	Sand, Silt, Clay ¹		1096	1918	2575	3233	4055	5206	7510	11266	15023
	Roll Width (ft)		12	12	12	12	12	12	12	12	12
	Roll Length (ft)		150	150	150	200	200	200	200	200	200
Roll Weight Typical (lbs)		101	119	130	188	214	266	387	499	628	

Note¹ Refer to manufacturers Long Term Design Strength (LTDS) Reduction factors listed on Layfield website.

Note² Values shown for 2XT are both machine and cross-machine direction. Values for other products are machine direction only.

April 2023		LTDS Reduction Factors							
Material Properties	Note: Reduction Factors vary by product and manufacturer check with your representative		2XT	3XT	5XT	7XT	8XT	10XT 20XT 22XT 24XT	
	Creep Reduction Factor 114 year design life	RF _{CR}	1.58	1.58	1.58	1.58	1.58	1.58	
	Installation Damage; Sand, Silt & Clay	RF _{ID}	1.05	1.05	1.05	1.05	1.05	1.05	
	Installation Damage; Sandy Gravel	RF _{ID}	1.10	1.10	1.10	1.10	1.10	1.10	
	Installation Damage; Gravel	RF _{ID}	1.50	1.25	1.25	1.25	1.25	1.25	
	Durability Reduction Factor	RF _D	1.10	1.10	1.10	1.10	1.10	1.10	

Note - the above is based on NCMA methodology

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