

ENVIROSLOPE GEOGRID WRAP

EnviroSlope™ Geogrid Wrap is an economical system to create attractive vegetated reinforced soil slopes and is recommended for slopes up to 45 degrees. Subject to site specific design, the recommended facing material for this option is UV resistant biaxial geogrid EGRID 2020 backed by a turf reinforcement mat (Layfield TRM P-12). The zone next to the inside front face of the slope is filled with seeded topsoil during construction for vegetation growth. Uniaxial geogrid is installed during backfill as per design to support the slope at the specified angle. Reinforced slope structures are usually constructed in areas to save space. Typically, the structure delivers advantages in right of way and reduced space that could not be achieved with the slope of an unreinforced embankment.

April 2023		Turf Reinforcement Mats			
Style	ASTM	LP-P10	LP-P12	LP-C3	LP-P20
Fibres		Polypropylene	Polypropylene	Coconut	Polypropylene
Netting		Two PP UV Stable	Two PP UV Stable	Three PP UV Stable	Three PP UV Stable
Mass per Unit Area ¹	D 6566	10.4 oz/yd ² 352.6 g/m ²	12 oz/yd ² 406.8 g/m ²	14.8 oz/yd ² 501.8 g/m ²	19.9 oz/yd ² 674.6 g/m ²
Thickness	D 6525	0.4 in 10.2 mm	0.4 in 10.2 mm	0.34 in 8.6 mm	0.41 in 10.4 mm
Tensile Strength MD	D 6818	400 lb/ft 5.8 kN/m	400 lb/ft 5.8 kN/m	802 lb/ft 11.7 kN/m	1232 lb/ft 18.0 kN/m
Tensile Strength CD	D 6818	400 lb/ft 5.8 kN/m	400 lb/ft 5.8 kN/m	790 lb/ft 11.5 kN/m	1270 lb/ft 18.5 kN/m
Elongation (MD/CD)	D 6818	23.5/20.0 %	30.5/19 %	24.7/15.7 %	29.3/19 %
Unvegetated Shear Stress	D 6460	2.15 lbs/ft ² 100 Pa	2.25 lbs/ft ² 108 Pa	3.70 lbs/ft ² 177 Pa	3.3 lbs/ft ² 158 Pa
Unvegetated Water Flow Velocity	D 6460	8.0 fps 2.4 m/sec	9.1 fps 2.8 m/sec	13.8 fps 4.2 m/sec	12.1 fps 3.7 m/sec
Vegetated Shear Stress	D 6460	8.0 lbs/ft ² 384 Pa	12.0 lbs/ft ² 574 Pa	12.0 lbs/ft ² 574 Pa	14.0 lbs/ft ² 670 Pa
Vegetated Water Flow Velocity	D 6460	16.0 fps 4.9 m/sec	20 fps 6.1 m/sec	25 fps 7.6 m/sec	25 fps 7.6 m/sec
Mannings N		0.024	0.028	0.024	0.028
Roll Width		8.0 ft 2.44 m	8.0 ft 2.44 m	8.0 ft 2.44 m	8.0 ft 2.44 m
Roll Length		112.5 ft 34.29 m	112.5 ft 34.29 m	112.5 ft 34.29 m	112.5 ft 34.29 m
Roll Weight (+/- 10%)		63 lbs 36.7 kg	81 lbs 36.7 kg	92.5 lbs 42.0 kg	137.5 lbs 62.8 kg

Mass per unit area test method for LP-C3 is ASTM D6475

The above products are for Canadian distribution. For projects in the USA contact your Layfield representative or see our website

For up-to-date technical information, be sure to visit us online at www.LayfieldGroup.com

ENVIROSLOPE GEOGRID WRAP

April 2023

E'Grid Biaxial PP Geogrids - Metric Values

Material Properties

		E'GRID ¹ 2020	E'GRID ¹ 3030	E'GRID ¹ 4040
Aperture Size (mm) Typical		40 x 40	40 x 40	37 x 37
Wide Width Tensile (kN/m) MD/CD	ISO 10319	20	30	40
		---	---	---
Strength @ 2% Strain (kN/m) MD/CD	ISO 10319	20	30	40
		---	---	---
Strength @ 5% Strain (kN/m) MD/CD	ISO 10319	7.6	11	14.5
		---	---	---
Strength @ 5% Strain (kN/m) MD/CD	ISO 10319	7.6	11	15
		---	---	---
Junction Efficiency (%)	GRI GG2	> 95	> 95	> 95
Flexural Rigidity (mg-cm)	ASTM D 1388	800,000	3,000,000	4,300,000
Torsional Stiffness (kg-cm/degree)	US Army COE	3.5	5.8	7.3
Roll Size (m)		3.9 x 100	3.9 x 75	3.9 x 50
Roll Weight (kg) Typical		78	88	84

 For up-to-date technical information, be sure to visit us online at www.LayfieldGroup.com

ENVIROSLOPE GEOGRID WRAP

April 2023		E'Grid Uni-axial Geogrids (HDPE)- Metric Values						
Material Properties		E'GRID 50R	E'GRID 65R	E'GRID 90R	E'GRID 110R	E'GRID 130R	E'GRID 170R	
	Wide Width Tensile (kN/m) MD	ISO 10319 (2008)	54	68.7	90	114	141.9	170
	Creep Strength (kN/m) MD	ISO 13431+ ISO TR 20432	21.7	27.6	36.2	45.8	57.0	68.3
	LTDS (kN/m)	ISO 13431 + ISO TR 20432						
	Sand, Silt and Clay		20.7	26.3	34.5	43.6	54.3	65.0
	Roll Size (m)		1.0 x 50	1.0 x 50	1.0 x 50	1.0 x 50	1.0 x 50	1.0 x 50
	Roll Weight Typical (kg)		15	20	28	39	46	55

NOTE: The Long-Term Design Strengths (LTDS) are calculated using product specific reduction factors based on independent testing. Carbon black minimum content is 2% for high UV light resistance.

April 2023		Mirafi Uniaxial Geogrids - Metric Values									
Material Properties		ASTM	2XT ²	3XT	5XT	7XT	8XT	10XT	20XT	22XT	24XT
	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.

Disclaimer: Layfield disclaims any and all express, implied, or statutory standards, warranties or guarantees, including without limitation any implied warranty as to merchantability or fitness for a particular purpose or arising from a course of dealing or usage of trade as to any equipment, materials, or information furnished herewith. This document should not be construed as engineering advice.

For up-to-date technical information, be sure to visit us online at www.LayfieldGroup.com