

Material and Performance Specification P500 Turf / Earth Reinforcement Mat

Description
<p>The P500 turf/earth reinforcement mat (TERM) shall be a machine-produced mat of 100% UV stabilized polypropylene fiber matrix incorporated into a permanent three-dimensional structure. The matrix shall be evenly distributed across the entire width of the matting. The three-dimensional structure shall consist of two ultra heavy duty UV stabilized nettings and top high strength geogrid. The biaxial geogrid shall be of sufficient tensile strength to provide the required increase in matting resistance to damage under high stress, load-bearing conditions, and supplemental structural reinforcement of top soil and sod. The P500 TERM shall be UV stabilized and inert to biological degradation. The matting shall be stitched together with UV stabilized polypropylene thread.</p> <p>The P500TERM shall meet Type 5A, B, and C specification requirements established by the Erosion Control Technology Council (ECTC) and Federal Highway Administration's (FHWA) <i>FP-03 Section 713.18</i></p>

Material Content		
Matrix	100% UV stable Polypropylene Fiber	0.5 lbs/yd ² (0.27 kg/m ²)
Netting	Bottom, middle: UV stabilized Polypropylene Top: Biaxial reinforcement geogrid	24 lb/1000 ft ² (11.7 kg/100 m ²) 79 lb/1000 ft ² (39.6 kg/100m ²)
Thread	Polypropylene, UV stable	

Standard Roll Sizes		
Width	6.5 ft (2.0 m)	13.0 ft (4.0 m)
Length	Cut to order (50 ft standard, minimum order quantities and limitations apply)	
Weight ± 10%	Based on desired roll length	
Area	Based on desired roll length	

Index Property	Test Method	Typical
Thickness	ASTM D6525	0.50 in (12.7 mm)
Mass/Unit Area	ASTM 6566	26.94 oz/yd ² (914 g/m ²)
UV Stability	ASTM D4355 /3000 hr	> 90% *
Light Penetration	ECTC Guidelines	16% **
Resiliency	ASTM D6524	> 80%
Flexural Rigidity	ASTM D6575	> 0.55 in-lbs
Tensile Strength –MD	ASTM D6818	3168 lbs/ft (46.98 kN/m)
Elongation – MD	ASTM D6818	19%
Tensile Strength – TD	ASTM D6818	4752 lbs/ft (70.46 kN/m)
Elongation – TD	ASTM D6818	23%
* UV stability projected from standard ASTM D4355 testing		
** Based on P550 polypropylene fiber content		

Maximum Permissible Shear Stress		
	Short Duration	Long Duration
Phase 3 Fully Veg.	8.0 lbs/ft ² (383 Pa)	8.0 lbs/ ft ² (383 Pa)
Unvegetated Velocity	9 ft/s (2.7 m/s)	
Vegetated Velocity	16 ft/s (4.9 m/s)	
*Permissible velocities may vary depending on site specific conditions including but not limited to channel gradient, configuration, and roughness coefficient		

Roughness Coefficients- Unveg.	
Flow Depth	Manning's n
≤ 0.50 ft (0.15 m)	0.041
0.50 – 2.0 ft	0.040-0.013
≥ 2.0 ft (0.60 m)	0.013

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