

## Material and Performance Specification P300 Turf Reinforcement Mat

Description
<p>The permanent turf reinforcement mat shall be a machine-produced mat of 100% UV stable polypropylene fiber. The matting shall be of consistent thickness with the synthetic fibers evenly distributed over the entire area of the mat. The Matting shall be covered on the top side with black heavyweight UV stabilized polypropylene netting having ultraviolet additives to delay breakdown and an approximate 0.50 x 0.50 inch (1.27 x 1.27 cm) mesh. The bottom net shall also be UV stabilized polypropylene with a 0.63 x 0.63 (1.57 x 1.57 cm) mesh size. The blanket shall be sewn together on 1.50 inch (3.81 cm) centers with nondegradable thread. All mats shall be manufactured with a colored thread stitched along both outer edges as an overlap guide for adjacent mats.</p> <p>The P300 shall meet Type 5A, 5B, specification requirements established by the Erosion Control Technology Council (ECTC) and Federal Highway Administration's (FHWA) <i>FP-03 Section 713.18</i></p>

Index Property	Test Method	Typical
Thickness	ASTM D6525	0.54 in (13.72 mm)
Resiliency	ASTM 6524	91.5%
Density	ASTM D792	0.513 oz/in <sup>3</sup>
Mass/Unit Area	ASTM 6566	11.46 oz/yd <sup>2</sup> (389 g/m <sup>2</sup> )
UV Stability	ASTM D4355 /1000 hr	90%
Porosity	ECTC Guidelines	95.89%
Stiffness	ASTM D1388	97.24 oz-in
Light Penetration	ECTC Guidelines	15%
Tensile Strength –MD	ASTM D6818	481 lbs/ft (7.02 kN/m)
Elongation – MD	ASTM D6818	20%
Tensile Strength – TD	ASTM D6818	426 lbs/ft (6.22 kN/m)
Elongation – TD	ASTM D6818	23%

Material Content		
Matrix	100% UV stabilized Polypropylene fiber	0.7 lbs/yd <sup>2</sup> (0.38 kg/m <sup>2</sup> )
Netting	Top, UV stabilized Polypropylene	5 lb/1000 ft <sup>2</sup> (2.44 kg/100 m <sup>2</sup> )
	Bottom, UV stabilized Polypropylene	3 lb/1000 ft <sup>2</sup> (1.47 kg/100m <sup>2</sup> )
Thread	Polypropylene, UV stable	

Maximum Permissible Shear Stress		
	Short Duration	Long Duration
Phase 1 Unvegetated	3.0 lbs/ft <sup>2</sup> (144 Pa)	2.0 lbs/ft <sup>2</sup> (96 Pa)
Phase 2 Partially Veg.	8.0 lbs/ft <sup>2</sup> (383 Pa)	8.0 lbs/ft <sup>2</sup> (383 Pa)
Phase 3 Fully Veg.	8.0 lbs/ft <sup>2</sup> (383 Pa)	8.0 lbs/ft <sup>2</sup> (383 Pa)
Unvegetated Velocity	9.0 ft/s (2.7 m/s)	
Vegetated Velocity	16 ft/s (4.9 m/s)	

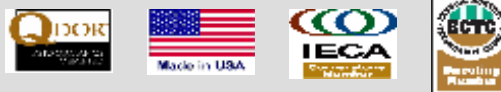
Standard Roll Sizes		
Width	6.5 ft (2.0 m)	8 ft (2.44 m)
Length	108 ft (32.92 m)	112 ft (34.14 m)
Weight ± 10%	61.0 lbs (27.66 kg)	76.25 lbs (34.59 kg)
Area	80 yd <sup>2</sup> (66.9 m <sup>2</sup> )	100 yd <sup>2</sup> (83.61 m <sup>2</sup> )

Slope Design Data: C Factors			
	Slope Gradients (S)		
Slope Length (L)	≤ 3:1	3:1 – 2:1	≥ 2:1
≤ 20 ft (6 m)	0.001	0.029	0.082
20-50 ft	0.036	0.060	0.086
≥ 50 ft (15.2 m)	0.070	0.090	0.110

Bench Scale Testing (NTPEP)		
Test Method	Parameters	Results
ECTC 2 Rainfall	50 mm (2 in)/hr-30 min 100mm (4 in)/hr-30 min 150 mm (6 in)/hr-30 min	SLR** = 11.92 SLR** = 10.79 SLR** = 10.17
ECTC 3 Shear Res.	Shear at 0.50 inch soil loss	3.30 lbs/ft <sup>2</sup>
ECTC 4 Germination	Top Soil, Fescue, 21 day incubation	263% improvement of biomass
* Bench Scale tests should not be used for design purposes ** Soil Loss Ratio = Soil Loss Bare Soil/Soil Loss with RECP		

Roughness Coefficients- Unveg.	
Flow Depth	Manning's n
≤ 0.50 ft (0.15 m)	0.034
0.50 – 2.0 ft	0.034-0.020
≥ 2.0 ft (0.60 m)	0.020

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Tensar International Corporation warrants that at the time of delivery the product furnished hereunder shall conform to the specification stated herein. Any other warranty including merchantability and fitness for a particular purpose, are hereby executed. If the product does not meet specifications on this page and Tensar is notified prior to installation, Tensar will replace the product at no cost to the customer. **This product specification supersedes all prior specifications for the product described above and is not applicable to any products shipped prior to January 1, 2011.**