



Material and Performance Specification Sheet

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A **tensar** Company

P300-LW Turf Reinforcement Mat

The P300-LW 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 0.63 x 0.63 (1.57 x 1.57 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 degradable thread.

The P300-LW shall meet requirement established by the Erosion Control Technology Council (ECTC) Specification and the US Department of Transportation, Federal Highway Administration's (FHWA) *Standard Specifications for Construction of Roads and Bridges on Federal Highway Projects, FP-03 Section 713.18 as a Type 5.A and Type 5.B Permanent Turf Reinforcement Mat.*

The P300-LW shall be manufactured with a colored thread stitched along both outer edges (approximately 2-5 inches [5-12.5 cm] from the edge) as an overlap guide for adjacent mats.

Material Content		
Matrix	100% UV stabilized Polypropylene Fiber	0.5 lbs/yd ² (0.27 kg/m ²)
Nettings	Top – Heavyweight UV stabilized	3.0 lb/1000 ft ² (1.47 kg/100 m ²)
	Bottom – Heavyweight UV stabilized	3.0 lb/1000 ft ² (1.47 kg/100 m ²)
Thread	100% Black Polypropylene	

P300-LW is available in the following standard roll sizes:

Width 6.67 ft (2.03 m)
Length 108 ft (32.92 m)
Weight ± 10% 45.0 lbs (20.4 kg)
Area 80.0 yd² (66.9 m²)

Index Value Properties:

Property	Test Method	Typical
Thickness	ASTM D6525	0.30 in (7.67 mm)
Density	ASTM D792	0.917 g/cm ³
Mass/Unit Area	ASTM 6566	8.92 oz/yd ² (300 g/m ²)
Light Penetration	ECTC Guidelines	27.6%
Tensile Strength –MD	ASTM D6818	470 lbs/ft (7.03 kN/m)
Elongation – MD	ASTM D6818	32%
Tensile Strength – TD	ASTM D6818	150 lbs/ft (2.22 kN/m)
Elongation – TD	ASTM D6818	25%
UV Stability	ASTM D4355 - 1000hr	90%

Recommended Performance Design Values:

	Maximum Permissible Shear Stress	
	Short Duration	Long Duration
Phase 1 Unvegetated	2.0 lbs/ft ² (96 Pa)	2.0 lbs/ft ² (96 Pa)
Phase 2 Partially Veg.	6.0 lbs/ft ² (287 Pa)	4.0 lbs/ft ² (191 Pa)
Phase 3 Fully Veg.	8.0 lbs/ft ² (383Pa)	6.0 lbs/ft ² (287Pa)

Bench Scale Testing* (NTPEP):

Test Method	Parameters	Results
ECTC Method 2 Rainfall	50 mm (2 in)/hr for 30 min	SLR** = 7.87
	100mm (4 in)/hr for 30 min	SLR** = 7.84
	150 mm (6 in)/hr for 30 min	SLR** = 7.81
ECTC Method 3 Shear Resistance	Shear at 0.50 inch soil loss	2.2 lbs/ft²
ECTC Method 4 Germination	Top Soil, Fescue, 21 day incubation	471% improvement of biomass

Roughness Coefficients- Unveg.	
Flow Depth	Manning's n
≤ 0.50 ft (0.15 m)	0.030
0.50 – 2.0 ft	0.030 – 0.018
≥ 2.0 ft (0.60 m)	0.018

* Bench Scale tests should not be used for design purposes

** Soil Loss Ratio = Soil loss with Bare Soil/Soil Loss with RECP (soil loss is based on regression analysis)