

# MATERIAL PROPERTY DATA SHEET



## EXCEL® PP5-Pro™

Permanent • 3-D Woven • UV Stable • High Performance Turf Reinforcement Mat



### Specifications

The Excel PP5-Pro™ high-performance turf reinforcement mat (HP-TRM) is a machine-produced mat of 100% UV-stabilized, high denier polypropylene monofilament yarns woven into permanent, high-strength, three-dimensional turf reinforcement matting. Available in either a green or a tan coloring, the mat is composed of polypropylene yarns woven into a uniform resilient matrix with a repeating diamond pattern relief. The mat provides sufficient thickness, optimum open area, and three-dimensionality for effective erosion control and vegetation reinforcement against high flow induced shear forces. The mat has high tensile strength for excellent damage resistance and for increasing the bearing capacity of vegetated soils subject to heavy loads from maintenance equipment and other vehicular traffic. The material has very high interlock and reinforcement capacities with both soil and root systems and is designed for erosion control applications on steep slopes and vegetated waterways.

Material Content		
Woven Structure	100% UV stable Polypropylene Monofilament yarns	Green or Tan
Standard Roll Sizes		
Width	11.5 ft (3.5 m)	
Length	78 ft (23.4 m)	
Weight	43.8 lbs (19.8 kg)	
Area	100 sy (83.6 m <sup>2</sup> )	

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Index Property	Test Method	Typical
Thickness	ASTM D6525	0.3 in (8 mm)
Mass/Unit Area	ASTM D6566	7.0 oz/yd <sup>2</sup> (235 g/m <sup>2</sup> )
Tensile Strength <sup>+</sup> – MD	ASTM D6818	3,000 lbs/ft (44 kN/m)
Elongation -MD	ASTM D6818	25%
Tensile Strength <sup>+</sup> – TD	ASTM D6818	3,000 lbs/ft (44 kN/m)
Elongation -TD	ASTM D6818	25%
Light Penetration	ASTM D6567	65% coverage
UV Stability	ASTM D4355	>90% @ 3000 hr

### Design Thresholds\*

Vegetated Shear	12 psf (575 Pa)
Vegetated Velocity	20 fps (6.1 m/s)

### Manning's n Roughness Coefficients

τ <sub>lower</sub>	0.032
τ <sub>mid</sub>	0.030
τ <sub>upper</sub>	0.028

\* Minimum Average Roll Value

\*Design recommendations determined from large scale testing and analysis via ASTM D6460

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