

# MATERIAL PROPERTY DATA SHEET

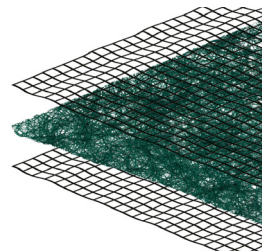


## EXCEL PP5-12™

Permanent • Double Net • Poly-Fiber Matrix •  
Turf Reinforcement Mat

### DESCRIPTION

Excel PP5-12 Turf Reinforcement Mat (TRM) is composed of 100% synthetic green fibers mechanically (stitch) bound between two UV stabilized, synthetic nets. Stitching is secured on two-inch centers using UV stabilized, synthetic thread. Excel PP5-12 is a permanent, three-dimensional TRM that provides immediate erosion protection and long-term turf reinforcement and is intended for applications requiring erosion protection for greater than thirty-six months. Each roll of Excel PP5-12 is made in the USA and manufactured under Western Green's Quality Assurance Program to ensure a continuous distribution of fibers and consistent thickness.



#### Material Content

Matrix	Synthetic Fibers
Netting	Top Net: Mediumweight, UV stable Bottom Net: Mediumweight, UV stable
Thread	Synthetic, UV Stable

#### Standard Roll Sizes

Width	8 ft	(2.4 m)	16 ft	(4.9 m)
Length	112 ft	(34.0 m)	112 ft	(34.0 m)
Weight ± 10%	75 lb	(34.0 kg)	150 lb	(68.0 kg)
Area	100 sy	(83.6 m <sup>2</sup> )	200 SY	(167.0 m <sup>2</sup> )

Material available in custom roll sizes

#### Approvals & Classification

Classification	FHWA: Type 5.C / ECTC: 5.D
TTI Approvals	Class 2 Type H
NTPEP Number	ECP-2020-01-009

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#### Index Property

#### Test Method

#### Typical

Thickness	ASTM D6525	0.40 in.	(10 mm)
Mass/Unit Area	ASTM D6566	12.0 oz/sy	(400 g/sm)
Tensile Strength – MD	ASTM D6818	325 lbs/ft	(4.7 kN/m)
Tensile Strength – TD	ASTM D6818	225lbs/ft	(3.3 kN/m)
Elongation - MD	ASTM D6818		25%
Elongation – TD	ASTM D6818		30%
UV Stability	ASTM D4355		80% @1000 hr
Light Penetration	ASTM D6567		20%
Biomass Improvement	ASTM D7322		400%
Specific Gravity	ASTM D792	57.4 lb/ft <sup>3</sup>	(0.92 g/cm <sup>3</sup> )
Porosity	ECTC		96%

#### Design Parameters

Property	Unvegetated	Vegetated <sup>3</sup>
RUSLE C Factor <sup>2</sup>	0.03	N/A
Slope Maximum Gradient <sup>1</sup>	0.5H:1V	0.5H:1V
Permissible Shear Stress <sup>2</sup>	2.8 psf (135 Pa)	12.0 psf (575 Pa)
Permissible Velocity <sup>2</sup>	9.0 fps (2.7 m/s)	18.0 fps (5.5 m/s)
$\tau_{veg} / \tau_{TRM}$ (HEC-15)	N/A	0.55

#### Manning's n Roughness (HEC-15)

$\tau_{lower}$	$\tau_{mid}$	$\tau_{upper}$
0.041	0.033	0.028

1 Maximum Gradient a recommendation for typical installations.

2 Hydraulic thresholds compliant with ASTM D6459/D6460 but generalized for typical applications.

3 Vegetated values dependent on established stand of vegetation

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Scan for additional and updated product information,  
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