

MATERIAL PROPERTY DATA SHEET



EXCEL PP5-12™

Equivalent and Replaces: P300 • ETPP-12

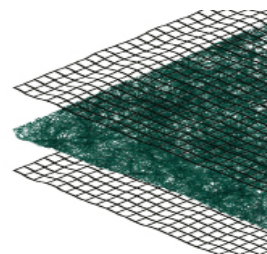
Permanent • Double Net • Poly-Fiber Matrix •
Turf Reinforcement Mat

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 MKB Company's Quality Assurance Program to ensure a continuous distribution of fibers and consistent thickness.

PP5-12 is compliant and/or exempt with the Build America, Buy America Act, §§ 70901–70927 of the Investment and Jobs Act (Pub L. 117-58), 2 CFR Part 184 – Buy America Preferences for Infrastructure Projects and OMB Memorandum M-22-11.



Material Content	
Matrix	Synthetic Fibers

Netting	Top Net: Mediumweight, UV stable
	Bottom Net: Mediumweight, UV stable

Thread	Synthetic, UV Stable
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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 ²)	200 SY	(167.0 m ²)
Part Number	PP5 12-8X112.5		PP5 12-16X112.5	

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 ³	(0.92 g/cm ³)
Porosity	ECTC	96%	

Design Parameters		
Property	Unvegetated	Vegetated ³
RUSLE C Factor ²	0.03	N/A
Slope Maximum Gradient ¹	0.5H:1V	0.5H:1V
Permissible Shear Stress ²	2.8 psf (135 Pa)	12.0 psf (575 Pa)
Permissible Velocity ²	9.0 fps (2.7 m/s)	18.0 fps (5.5 m/s)
τ_{veg} / τ_{TRM} (HEC-15)	N/A	0.55
Manning's n Roughness (HEC-15)		
τ_{lower}	τ_{mid}	τ_{upper}
0.041	0.033	0.028

1 Maximum Gradient a recommendation for typical insllations.

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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