



**Material and Performance Specification**

**ECP-3 Polypropylene Turf Reinforcement Mat**

**Description:** The ECP-3 is made with uniformly distributed 100% green polypropylene fiber and three heavyweight polypropylene nets securely sewn together with UV stabilized thread. The tightly compressed blankets are wrapped and include a product label, code and installation guide. The blankets are palletized for easy transportation. The ECP-3 is a permanent turf reinforcement mat and is suitable for 1:1 slopes and high-flow channels. The ECP-3 meets Type 5.A, 5.B, and 5.C specification requirements established by the Erosion Control Technology Council (ECTC) and Federal Highway Administration's (FHWA) FP-03 Section 713.18.

**Materials:**

	<b>Netting – Top, Middle and Bottom</b>	<b>Matrix</b>	<b>Thread</b>
	Heavyweight 24# PMSF UV Stabilized Polypropylene 0.40" x 0.50" Opening	100% Polypropylene Fiber 0.75 lbs yd <sup>2</sup> 406.9 g/m <sup>2</sup>	UV Stabilized 1.50" stitch spacing

**Roll Size:**

	<b>Standard</b>	<b>Mega</b>
Width:	7.5 ft (2.3 m)	15.0 ft (4.6 m)
Length:	120.0 ft (36.6 m)	120.0 ft (36.6 m)
Weight ±10%:	135.0 lbs (61.2 kg)	270.0 lbs (122.4 kg)
Area:	100 yd <sup>2</sup> (83.6 m <sup>2</sup> )	200 yd <sup>2</sup> (167.2 m <sup>2</sup> )
#/Pallet:	4/6	6

**Index Value Properties\*:**

Property	Test Method	Typical
Mass/Unit Area	ASTM D6566	19.9 oz/yd <sup>2</sup> ( 674.6 g/m <sup>2</sup> )
Thickness	ASTM D6525	.41 in ( 10.4 mm)
Tensile Strength-MD	ASTM D6818	1,232 lb/ft ( 18.0 kN/m)
Elongation-MD	ASTM D6818	29.3 %
Tensile Strength-TD	ASTM D6818	1,270 lb/ft ( 18.5 kN/m)
Elongation-TD	ASTM D6818	19.0 %
Light Penetration	ASTM D6567	13 %
Density/Specific Gravity	ASTM D792	0.913 g/cm <sup>3</sup>
Resiliency	ASTM D6524	93 %
UV Resistance	ASTM D4355	100 % (1,000 Hr)

\* May differ depending upon raw material variations

**Bench-Scale Testing\* (NTPEP\*\*\*):**

Test Method	Parameters	Results
ECTC Method 2 Rainfall	50mm (2in) / hr-30 min	SLR**=7.68
	100mm (4in) / hr-30 min	SLR**=10.42
	150mm (6in) / hr-30 min	SLR**=14.15
ECTC Method 3 Shear Resistance	Shear at .50 in soil loss	3.51 lb/ft <sup>2</sup>
ECTC Method 4 Germination	Top soil; Fescue; 21 day incubation	426% improvement

\*Bench scale tests should not be used for design purposes.  
 \*\*Soil Loss Ratio=Soil Loss Bare Soil/Soil Loss with RECP=1/C-Factor  
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**Slope Performance Design Values\*:**

Property	Test Method	Value	
Manning's N		0.028	
<b>C Factors</b>	ASTM D6459		
<b>Slope Length (L)</b>	≤ 3:1	3:1-2:1	≥ 2:1
< 50 ft (15 m)	0.0003	0.001	0.022
50 ft – 100 ft	0.005	0.009	0.029
>100 ft (30 m)	0.016	0.025	0.036

\*Large-Scale Results obtained by 3<sup>rd</sup> Party GAI Accredited Independent Laboratory

**Channel Performance Design Values\*:**

Property	Test Method	Value
Unvegetated Shear Stress	ASTM D 6460	3.3 lbs/ft <sup>2</sup> (158 Pa)
Unvegetated Velocity	ASTM D 6460	12.1 ft/s ( 3.7 m/s)
Vegetated Shear Stress	ASTM D 6460	14.0 lbs/ft <sup>2</sup> (670 Pa)
Vegetated Velocity	ASTM D 6460	25.0 ft/s ( 7.6 m/s)

\*Large-Scale Results obtained by 3<sup>rd</sup> Party GAI Accredited Independent Laboratory

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