

## Material and Performance Specification

# ECP-2™ Polypropylene Turf Reinforcement Mat

### Description:

The ECP-2™ is made with uniformly distributed 100% green polypropylene fiber and two medium weight 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-2™ is a permanent turf reinforcement mat and is suitable for 1:1 slopes and high-flow channels. The ECP-2™ 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.

Matrix:	1	2
	Green or Tan Polypropylene Fiber	

Netting:	Type	Net Color
Top:	Medium weight 5# PMSF UV Stabilized Polypropylene	Black
Middle:	None	
Bottom:	Medium weight 5# PMSF UV Stabilized Polypropylene	

Net Opening:	Top	Middle	Bottom
	0.5" x 0.5"		0.5" x 0.5"

Thread:	Type	Color
	UV Stabilized Thread	Black

Roll Sizes:	Standard		"A" Size		Mega	
Width:	8 ft	2.4 m	4 ft	1.2 m	16 ft	4.9 m
Length:	112.5 ft	34.3 m	225 ft	68.6 m	112.5 ft	34.3 m
Weight:*	75 lbs	34.0 kg	75 lbs	34.0 kg	150 lbs	68.0 kg
Area:	100 yd <sup>2</sup>	83.6 m <sup>2</sup>	100 yd <sup>2</sup>	83.6 m <sup>2</sup>	200 yd <sup>2</sup>	167.2 m <sup>2</sup>
#/Pallet:	9		6		9	

\*Weight at time of manufacturing within specified tolerance:

### Index Value Properties\*:

Property	Test Method	Typical	
Mass/Unit Area	ASTM D6566	12.00 oz/yd <sup>2</sup>	406.9 g/m <sup>2</sup>
Thickness	ASTM D6525	0.40 in	10.16 mm
Tensile Strength-MD	ASTM D6818	400 lb/ft	5.84 kN/m
Elongation-MD	ASTM D6818	31 %	
Tensile Strength-TD	ASTM D6818	400 lb/ft	5.84 kN/m
Elongation-TD	ASTM D6818	19.0 %	
Light Penetration	ASTM D6567	18 %	
Density / Specific Gravity	ASTM D792	0.915 g/cm <sup>3</sup>	
Water Absorption	ASTM D1117	0 %	
Resiliency	ASTM D6524	80 %	
UV Resistance	ASTM D4355	82 %	1000 hours

\*May differ depending upon raw material variations

### Slope Performance Design Values\*:

Property	Test Method	Value	
C-Factors	ASTM D6459	0.01	
Slope Length (L)	≤ 3:1	3:1-2:1	≥ 2:1
< 50 ft (15 m)	0.012	0.025	0.092
50 ft – 100 ft	0.036	0.065	0.115
>100 ft (30 m)	0.080	0.108	0.145

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

### Bench-Scale Testing\* (NTPED\*\*\*):

Test Method	Parameters	Results
	50mm (2in) / hr-30 min	SLR**=5.53
ECTC Method 2 Rainfall	100mm (4in) / hr-30 min	SLR**=5.38
	150mm (6in) / hr-30 min	SLR**=5.22

ECTC Method 3 Shear Resistance Shear at .50 in soil loss 2.72 lb/ft<sup>2</sup>

ECTC Method 4 Germination Top soil; Fescue; 21 day incubation 469 %

\*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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### Channel Performance Design Values\*:

Property	Test Method	Value		
Unvegetated Shear Stress	ASTM D 6460	2.60 lbs/ft <sup>2</sup>	124.49 Pa	
Unvegetated Velocity	ASTM D 6460	10.0 ft/s	3.05 m/s	
Vegetated Shear Stress	ASTM D 6460	12.0 lbs/ft <sup>2</sup>	574.56 Pa	
Vegetated Velocity	ASTM D 6460	20.0 ft/s	6.10 m/s	
Manning's N (Value Represents a Range)		0.028		

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