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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 sewogether 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.

Matrix:	1	2
	Green or Tan Polypropylene Fiber	

Netting:	Type	Net Color
Top:	Heavyweight 24# PMSF UV Stabilized Polypropylen	Black
Middle:	Heavyweight 24# PMSF UV Stabilized Polypropylen	
Bottom:	Heavyweight 24# PMSF UV Stabilized Polypropylen	

Net Opening:	Top	Middle	Bottom
	0.4" x 0.5"	0.4" x 0.5"	0.4" 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:*	125 lbs 56.7 kg	125 lbs 56.7 kg	250 lbs 113.4 kg
Area:	100 yd^2 83.6 m^2	100 yd^2 83.6 m^2	200 yd^2 167.2 m^2
#/Pallet:	6	4	6

*Weight at time of manufacturing within specified tolerance

Index Value Properties*:

Property	Test Method	Typical	
Mass/Unit Area	ASTM D6566	19.00 oz/yd^2	644.2 g/m2
Thickness	ASTM D6525	0.41 in	10.41 mm
Tensile Strength-MD	ASTM D6818	1232 lb/ft	17.98 kN/m
Elongation-MD	ASTM D6818	29 %	
Tensile Strength-TD	ASTM D6818	1192 lb/ft	17.40 kN/m
Elongation-TD	ASTM D6818	19.0 %	
Light Penetration	ASTM D6567	15 %	
Density / Specific Gravity	ASTM D792	0.913 g/cm^3	
Water Absorption	ASTM D1117	0 %	
Resiliency	ASTM D6524	93 %	
UV Resistance	ASTM D4355	100 %	1000 hours

*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^2
ECTC Method 4 Germination	Top soil; Fescue; 21 day incubation	426 %

*Bench scale tests should not be used for design purposes.

**Soil Loss Ratio=Soil Loss Bare Soil/Soil Loss with RECP=1/C-Factor

***The preceding test data excerpts were reproduced with the permission of AASHTO, however, this does not constitute endorsement or approval of the product, material or device by AASHTO

Slope Performance Design Values*:

Property	Test Method		Value
C-Factors	ASTM D6459		0.00
Slope Length (L)	≤ 3:1	3:1-2:1	≥ 2:1
< 50 ft (15 m)	0.000	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 3d Party GAI Accredited Independent Laboratory

Channel Performance Design Values*:

Property	Test Method	Value			
Unvegetated Shear Stress	ASTM D 6460	3.80	lbs/ft^2	181.94	Pa
Unvegetated Velocity	ASTM D 6460	12.1	ft/s	3.69	m/s
Vegetated Shear Stress	ASTM D 6460	14.0	lbs/ft^2	670.32	Pa
Vegetated Velocity	ASTM D 6460	25.0	ft/s	7.62	m/s
Manning's N (Value Represents a Range)			0.028		

*Large-Scale Results obtained by 3rd Party GAI Accredited Independent Laboratory

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