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Material and Performance Specification

ECSC-3™ Straw/Coconut Turf Reinforcement Mat

Description:

The ECSC-3™ is made with uniformly distributed 70% agricultural straw, 30% coconut fiber and three 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 ECSC-3™ is a permanent turf reinforcement mat and is suitable for 1:1 slopes and high-flow channels.

Matrix:	1	2
	70% Straw	30% Coconut

Netting:	Type	Net Color
Top:	Medium weight 8# PMSF UV Stabilized Polypropylene	Black
Middle:	Heavyweight 24# PMSF UV Stabilized Polypropylene	
Bottom:	Medium weight 8# PMSF UV Stabilized Polypropylene	

Net Opening:	Top	Middle	Bottom
	0.5" x 0.5"	0.4" 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:*	92 lbs 41.7 kg	92 lbs 41.7 kg	184 lbs 83.5 kg
Area:	100 yd^2 83.6 m^2	100 yd^2 83.6 m^2	200 yd^2 167.2 m^2
#/Pallet:	9	4	9

*Weight at time of manufacturing within specified tolerances.

Index Value Properties*:

Property	Test Method	Typical	
Mass/Unit Area	ASTM D6566	14.00 oz/yd^2	474.7 g/m2
Thickness	ASTM D6525	0.39 in	9.91 mm
Tensile Strength-MD	ASTM D6818	728 lb/ft	10.62 kN/m
Elongation-MD	ASTM D6818	21 %	
Tensile Strength-TD	ASTM D6818	632 lb/ft	9.22 kN/m
Elongation-TD	ASTM D6818	20.8 %	
Light Penetration	ASTM D6567	7 %	
Density / Specific Gravity	ASTM D792	0.919 g/cm^3	
Water Absorption	ASTM D1117	259 %	
Resiliency	ASTM D6524	N/A %	
UV Resistance	ASTM D4355	80 %	500 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**=18.16
	100mm (4in) / hr-30 min	SLR**=17.83
	150mm (6in) / hr-30 min	SLR**=17.50
ECTC Method 3 Shear Resistance	Shear at .50 in soil loss	3.40 lb/ft^2
ECTC Method 4 Germination	Top soil; Fescue; 21 day incubation	497 %

*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		0.01
Slope Length (L)	**≤ 3:1**	**3:1-2:1**	**≥ 2:1**
< 50 ft (15 m)	0.006	0.012	0.072
50 ft – 100 ft	0.026	0.042	0.086
>100 ft (30 m)	0.062	0.082	0.132

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

Channel Performance Design Values*:

Property	Test Method				
Unvegetated Shear Stress	ASTM D 6460	3.00	lbs/ft^2	143.64	Pa
Unvegetated Velocity	ASTM D 6460	11.0	ft/s	3.35	m/s
Vegetated Shear Stress	ASTM D 6460	10.0	lbs/ft^2	478.80	Pa
Vegetated Velocity	ASTM D 6460	20.0	ft/s	6.10	m/s
Manning's N (Value Represents a Range)			0.024		

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

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