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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 gether 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 5# PMSF UV Stabilized Polypropylen	Black
Middle:	Heavyweight 24# PMSF UV Stabilized Polypropylene	
Bottom:	Medium weight 5# PMSF UV Stabilized Polypropylen	

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 tolerance

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

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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	Value			
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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