



Material and Performance Specification

ECS-1B Single Net Straw Biodegradable Rolled Erosion Control Product

Description: The ECS-1B is made with uniformly distributed 100% agricultural straw and one organic jute net securely sewn together with biodegradable thread. The tightly compressed blankets are wrapped and include a product label, code and installation guide. The blankets are palletized for easy transportation. The ECS-1B has functional longevity of approximately 12 months, but will vary depending on soil and climatic conditions, and is suitable for slopes 3:1 or less and low flow channels. The ECS-1B meets Type 2.C specification requirements established by the Erosion Control Technology Council (ECTC) and Federal Highway Administration’s (FHWA) FP-03 Section 713.17.

Materials:

Netting – One Side Only	Matrix	Thread
Organic Leno Weave Jute	100% Agricultural Straw	Biodegradable
100% Biodegradable	0.55 lbs/yd ²	1.50” stitch spacing
0.5” x 1.0” Opening	298.4 g/m ²	

Roll Sizes:

	Standard	Mega
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%:	66.2 lbs (30.0 kg)	132.4lbs (60.0kg)
Area:	100 yd ² (83.6 m ²)	200 yd ² (167.2 m ²)
#/Pallet:	16	16

Index Value Properties*:

Property	Test Method	Typical
Mass/Unit Area	ASTM D6475	11.9 oz/yd ² (403.5g/m ²)
Thickness	ASTM D6525	.48 in (12.2mm)
Tensile Strength-MD	ASTM D6818	106 lb/ft (1.8 kN/m)
Elongation-MD	ASTM D6818	16.7 %
Tensile Strength-TD	ASTM D6818	118 lb/ft (1.7 kN/m)
Elongation-TD	ASTM D6818	26.8 %
Light Penetration	ASTM D6567	6 %
Water Absorption	ASTM D1117	322 %
* 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**=10.62
	100mm (4in) / hr-30 min	SLR**=10.99
	150mm (6in) / hr-30 min	SLR**=11.37
ECTC Method 3 Shear Resistance	Shear at .50 in soil loss	1.40 lb/ft ²
ECTC Method 4 Germination	Top soil; Fescue; 21 day incubation	480% 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		0.025	
C-Factors	ASTM D6459		
Slope Length (L)	≤ 3:1	3:1-2:1	≥ 2:1
< 50 ft (15 m)	0.075	NA	NA
50 ft – 100 ft	0.156	NA	NA
>100 ft (30 m)	0.236	NA	NA
*Large-Scale Results obtained by 3 rd Party GAI Accredited Independent Laboratory			

Channel Performance Design Values*:

Property	Test Method	Value
Unvegetated Shear Stress	ASTM D 6460	1.55 lbs/ft ² (72Pa)
Unvegetated Velocity	ASTM D 6460	6.8 ft/s (2.0 m/s)
Vegetated Shear Stress	NA	NA
Vegetated Velocity	NA	NA
*Large-Scale Results obtained by 3 rd Party GAI Accredited Independent Laboratory		

