



**Material and Performance Specification**

**ECS-2B Double Net Straw Biodegradable Rolled Erosion Control Product**

**Description:** The ECS-2B is made with uniformly distributed 100% agricultural straw and two organic jute nets 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-2B has functional longevity of approximately 12 months, but will vary depending on soil and climatic conditions, and is suitable for slopes 3:1 to 2:1 and low to medium flow channels. The ECS-2B meets Type 2.D specification requirements established by the Erosion Control Technology Council (ECTC) and Federal Highway Administration's (FHWA) FP-03 Section 713.17.

**Materials:**

<b>Netting – Top and Bottom</b>	<b>Matrix</b>	<b>Thread</b>
Organic Leno Weave Jute	100% Agricultural Straw	Biodegradable
100% Biodegradable	0.55 lbs/yd <sup>2</sup>	1.50" stitch spacing
0.5" x 1.0" Opening	298.4 g/m <sup>2</sup>	

**Roll Sizes:**

	<b>Standard</b>	<b>Mega</b>
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%:	70.0 lbs (31.8 kg)	140.0 lbs (63.5 kg)
Area:	100 yd <sup>2</sup> (83.6 m <sup>2</sup> )	200 yd <sup>2</sup> (167.2 m <sup>2</sup> )
#/Pallet:	16	16

**Index Value Properties\*:**

Property	Test Method	Typical
Mass/Unit Area	ASTM D6475	11.2 oz/yd <sup>2</sup> (379.8 g/m <sup>2</sup> )
Thickness	ASTM D6525	.32 in (8.1 mm)
Tensile Strength-MD	ASTM D6818	190 lb/ft (2.8 kN/m)
Elongation-MD	ASTM D6818	16.4 %
Tensile Strength-TD	ASTM D6818	130 lb/ft (1.9 kN/m)
Elongation-TD	ASTM D6818	16.8 %
Light Penetration	ASTM D6567	10 %
Water Absorption	ASTM D1117	403 %

\* 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**=8.24
	100mm (4in) / hr-30 min	SLR**=13.90
	150mm (6in) / hr-30 min	SLR**=23.44
ECTC Method 3 Shear Resistance	Shear at .50 in soil loss	1.76 lb/ft <sup>2</sup>
ECTC Method 4 Germination	Top soil; Fescue; 21 day incubation	384% 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  
\*\*\*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	
Manning's N		0.029	
<b>C-Factors</b>	ASTM D6459		
<b>Slope Length (L)</b>	<b>≤ 3:1</b>	<b>3:1-2:1</b>	<b>≥ 2:1</b>
< 50 ft (15 m)	0.016	0.049	NA
50 ft – 100 ft	0.043	0.062	NA
>100 ft (30 m)	0.080	0.106	NA

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

**Channel Performance Design Values\*:**

Property	Test Method	Value
Unvegetated Shear Stress	ASTM D 6460	1.73 lbs/ft <sup>2</sup> (83 Pa)
Unvegetated Velocity	ASTM D 6460	6.0 ft/s (1.8m/s)
Vegetated Shear Stress	NA	NA
Vegetated Velocity	NA	NA

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

