



**Material and Performance Specification**

**ECS-1 Single Net Straw Rolled Erosion Control Product**

**Description:** The ECS-1 is made with uniformly distributed 100% agricultural straw and one polypropylene net securely sewn together with degradable 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-1 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-1 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:**

	<b>Netting – One Side Only</b>	<b>Matrix</b>	<b>Thread</b>
	Lightweight Photodegradable Polypropylene 0.5" x 0.5" Opening <i>Also available with Ecocycle Technology</i>	100% Agricultural Straw 0.55 lbs yd <sup>2</sup> 298.4 g/m <sup>2</sup>	Degradable 1.5" stitch spacing

**Roll Sizes:**

	<b>A</b>	<b>Standard</b>	<b>Mega</b>
Width:	3.75 ft (1.15 m)	7.5 ft (2.3 m)	15.0 ft (4.6 m)
Length:	240.0 ft (73.1 m)	120.0 ft (36.6 m)	120.0 ft (36.6 m)
Weight ±10%:	57.5 lbs (26.0 kg)	57.5 lbs (26.0 kg)	115.0 lbs (52.2 kg)
Area:	100 yd <sup>2</sup> (83.6 m <sup>2</sup> )	100 yd <sup>2</sup> (83.6 m <sup>2</sup> )	200 yd <sup>2</sup> (167.2 m <sup>2</sup> )
#/Pallet:	9	16	16

**Index Value Properties\*:**

Property	Test Method	Typical
Mass/Unit Area	ASTM D6475	9.20 oz/yd <sup>2</sup> (311.9 g/m <sup>2</sup> )
Thickness	ASTM D6525	.32 in (8.1 mm)
Tensile Strength-MD	ASTM D6818	121 lb/ft (1.8 kN/m)
Elongation-MD	ASTM D6818	30.1 %
Tensile Strength-TD	ASTM D6818	79 lb/ft (1.2 kN/m)
Elongation-TD	ASTM D6818	35.0 %
Light Penetration	ASTM D6567	8 %
Water Absorption	ASTM D1117	360 %

\* 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**=5.94
	100mm (4in) / hr-30 min	SLR**=6.17
	150mm (6in) / hr-30 min	SLR**=6.41
ECTC Method 3 Shear Resistance	Shear at .50 in soil loss	1.05 lb/ft <sup>2</sup>
ECTC Method 4 Germination	Top soil; Fescue; 21 day incubation	222% 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		0.025	
<b>C-Factors</b>	ASTM D6459		
<b>Slope Length (L)</b>	≤ 3:1	3:1-2:1	≥ 2:1
< 50 ft (15 m)	0.024	NA	NA
50 ft – 100 ft	0.105	NA	NA
>100 ft (30 m)	0.185	NA	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	1.50 lbs/ft <sup>2</sup> (72 Pa)
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<sup>rd</sup> Party GAI Accredited Independent Laboratory

