

## 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.

<b>Matrix:</b>	1	2				
	100% Straw					
<b>Netting:</b>	Type					
	Top: Lightweight Photodegradable Polypropyler	Net Color: Green				
	Middle: None					
	Bottom: None					
<b>Net Opening:</b>	Top	Middle	Bottom			
	0.5" x 0.5"					
<b>Thread:</b>	Type		Color			
	Degradable Threac		White			
<b>Roll Sizes:</b>	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*:	50 lbs	22.7 kg	50 lbs	22.7 kg	100 lbs	45.4 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:	25		9		25	

\*Weight at time of manufacturing

### Index Value Properties\*:

Property	Test Method	Typical	
Mass/Unit Area	ASTM D6475	8.00 oz/yd <sup>2</sup>	271.2 g/m <sup>2</sup>
Thickness	ASTM D6525	0.30 in	7.62 mm
Tensile Strength-MD	ASTM D6818	121 lb/ft	1.77 kN/m
Elongation-MD	ASTM D6818	30 %	
Tensile Strength-TD	ASTM D6818	79 lb/ft	1.15 kN/m
Elongation-TD	ASTM D6818	35.0 %	
Light Penetration	ASTM D6567	22 %	
Density / Specific Gravity	ASTM D792	N/A g/cm <sup>3</sup>	
Water Absorption	ASTM D1117	385 %	

\*May differ depending upon raw material variations

### Slope Performance Design Values\*:

Property	Test Method	Value	
C-Factors	ASTM D6459	0.02	
Slope Length (L)	≤ 3:1	3:1-2:1	≥ 2:1
< 50 ft (15 m)	0.024	N/A	N/A
50 ft – 100 ft	0.105	N/A	N/A
>100 ft (30 m)	0.185	N/A	N/A

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

### Bench-Scale Testing\* (NTPPEP\*\*\*):

Test Method	Parameters	Results
	50mm (2in) / hr-30 min	SLR**=5.63
ECTC Method 2 Rainfall	100mm (4in) / hr-30 min	SLR**=5.59
	150mm (6in) / hr-30 min	SLR**=5.58
ECTC Method 3 Shear Resistance	Shear at .50 in soil loss	1.39 lb/ft <sup>2</sup>
ECTC Method 4 Germination	Top soil; Fescue; 21 day incubation	484 %

\*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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### Channel Performance Design Values\*:

Property	Test Method	Value		
Unvegetated Shear Stress	ASTM D 6460	1.50	lbs/ft <sup>2</sup>	71.82 Pa
Unvegetated Velocity	ASTM D 6460	6.8	ft/s	2.07 m/s
Vegetated Shear Stress	NA	N/A	lbs/ft <sup>2</sup>	N/A Pa
Vegetated Velocity	NA	N/A	ft/s	N/A m/s
Manning's N (Value Represents a Range)		0.025		

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