



Material and Performance Specification

ECS-1D Temporary Single Net Straw Rolled Erosion Control Product

Description: The ECS-1D 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-1D has functional longevity of approximately 45 to 90 days, but will vary depending on soil and climatic conditions, and is suitable for slopes 3:1 or less. The ECS-1D meets Type 1.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
Accelerated Lightweight Photodegradable Polypropylene 0.5" x 0.5" Opening	100% Agricultural Straw 0.55 lbs/yd ² 298.4 g/m ²	Degradable 1.50" stitch spacing

Roll Sizes:

	A	Standard	Mega
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)	120.0 lbs (54.4 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	16	16

Index Value Properties*:

Property	Test Method	Typical
Mass/Unit Area	ASTM D6475	9.20 oz/yd ² (311.9 g/m ²)
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**=5.24
	100mm (4in) / hr-30 min	SLR**=6.65
	150mm (6in) / hr-30 min	SLR**=8.45
ECTC Method 3 Shear Resistance	Shear at .50 in soil loss	1.20 lb/ft ²
ECTC Method 4 Germination	Top soil; Fescue; 21 day incubation	308% 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	.024	
Slope Length (L)	≤ 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 3rd Party GAI Accredited Independent Laboratory

Channel Performance Design Values*:

Property	Test Method	Value
Unvegetated Shear Stress	ASTM D 6460	1.50 lbs/ft ² (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 3rd Party GAI Accredited Independent Laboratory

