



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		
***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	
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 3 rd 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 3 rd Party GAI Accredited Independent Laboratory		

