



Material and Performance Specification

ECS-2® Double Net Straw Rolled Erosion Control Product

Description: The ECS-2® is made with uniformly distributed 100% agricultural straw and two polypropylene nets 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-2® has functional longevity of approximately 12 months, but will vary depending on soil and climatic conditions, and is suitable for slopes 2:1 or less and low to medium flow channels. The ECS-2® 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:

Netting – Top and Bottom	Matrix	Thread
Lightweight Photodegradable Polypropylene 0.5" x 0.5" Opening <i>Also available with Ecocycle Technology</i>	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%:	56.0 lbs (25.4 kg)	56.0 lbs (25.4 kg)	112.0 lbs (50.8 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	9.00 oz/yd ² (305.1 g/m ²)
Thickness	ASTM D6525	.32 in (8.1 mm)
Tensile Strength-MD	ASTM D6818	169 lb/ft (2.5 kN/m)
Elongation-MD	ASTM D6818	27.6 %
Tensile Strength-TD	ASTM D6818	107 lb/ft (1.6 kN/m)
Elongation-TD	ASTM D6818	29.4 %
Light Penetration	ASTM D6567	19 %
Water Absorption	ASTM D1117	418 %
* 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**=7.41
	100mm (4in) / hr-30 min	SLR**=9.56
	150mm (6in) / hr-30 min	SLR**=12.34
ECTC Method 3 Shear Resistance	Shear at .50 in soil loss	1.78 lb/ft ²
ECTC Method 4 Germination	Top soil; Fescue; 21 day incubation	239% 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		0.029	
C-Factors	ASTM D6459		
Slope Length (L)	≤ 3:1	3:1-2:1	≥ 2:1
< 50 ft (15 m)	0.014	0.077	NA
50 ft – 100 ft	0.048	0.084	NA
>100 ft (30 m)	0.086	0.125	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	2.05 lbs/ft ² (98 Pa)
Unvegetated Velocity	ASTM D 6460	9.3 ft/s (2.8 m/s)
Vegetated Shear Stress	NA	NA
Vegetated Velocity	NA	NA
*Large-Scale Results obtained by 3 rd Party GAI Accredited Independent Laboratory		

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