

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 tidy 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.

Matrix:	1	2
	100% Straw	

Netting:	Type	Net Color
Top:	Accelerated Lightweight Photodegradable Polypropylene	Clear - 1% UVD
Middle:	None	
Bottom:	None	

Net Opening:	Top	Middle	Bottom
	0.5" x 0.5"		

Thread:	Type	Color
	Degradable Threac	White

Roll Sizes:	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 ²	83.6 m ²	100 yd ²	83.6 m ²	200 yd ²	167.2 m ²
#/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 ²	271.2 g/m ²
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 ³	
Water Absorption	ASTM D1117	458 %	

*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 3rd Party GAI Accredited Independent Laboratory

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

Test Method	Parameters	Results
	50mm (2in) / hr-30 min	SLR**=6.29
ECTC Method 2 Rainfall	100mm (4in) / hr-30 min	SLR**=5.80
	150mm (6in) / hr-30 min	SLR**=5.37
ECTC Method 3 Shear Resistance	Shear at .50 in soil loss	1.10 lb/ft ²
ECTC Method 4 Germination	Top soil; Fescue; 21 day incubation	517 %

*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 ²	71.82 Pa	
Unvegetated Velocity	ASTM D 6460	6.8 ft/s	2.07 m/s	
Vegetated Shear Stress	NA	N/A lbs/ft ²	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 3rd Party GAI Accredited Independent Laboratory