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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.

Matrix:	1	2
	100% Straw	

Netting:	Type	Net Color
	Top: Lightweight Photodegradable Polypropylene	Green
	Middle: None	
	Bottom: None	

Net Opening:	Top	Middle	Bottom
	0.5" x 0.5"		

Thread:	Type	Color
	Degradable Thread	White

Roll Sizes:	Standard		"A" Size		Mega	
Width:	7.5 ft	2.3 m	3.75 ft	1.1 m	15 ft	4.6 m
Length:	120 ft	36.6 m	240 ft	73.2 m	120 ft	36.6 m
Weight ±10%:	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:	20		9		16	

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 %
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
50 ft – 100 ft	0.105	N/A
>100 ft (30 m)	0.185	N/A

*Large-Scale Results obtained by 3rd Party GAI Accredited Independent Laboratory

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

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 ²
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

***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

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

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