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Material and Performance Specification

ECS-2B™ Double Net Straw Biodegradable Rolled Erosion Control Product

Description:

The ECS-2B™ is made with uniformly distributed 100% agricultural straw and two organic jute nets securely sewn together with biodegradable 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-2B™ has functional longevity of approximately 12 months, but will vary depending on soil and climatic conditions, and is suitable for slopes 3:1 to 2:1 and low to medium flow channels The ECS-2B™ 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.

Matrix:	1	2
	100% Straw	N/A

Netting:	Type	Net Color
Top:	Organic Leno Weave Jute	Natural
Middle:	None	
Bottom:	Organic Leno Weave Jute	

Net Opening:	Top	Middle	Bottom
	0.5" x 1.0"	N/A	0.5" x 1.0"

Thread:	Type	Color
	Biodegradable Thread	Natural

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*:	59 lbs 26.8 kg	59 lbs 26.8 kg	118 lbs 53.5 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	6	20

*Weight at time of manufacturing.

Index Value Properties*:

Property	Test Method	Typical	
Mass/Unit Area	ASTM D6475	9.00 oz/yd^2	305.1 g/m2
Thickness	ASTM D6525	0.30 in	7.62 mm
Tensile Strength-MD	ASTM D6818	190 lb/ft	2.77 kN/m
Elongation-MD	ASTM D6818	16 %	
Tensile Strength-TD	ASTM D6818	130 lb/ft	1.90 kN/m
Elongation-TD	ASTM D6818	16.8 %	
Light Penetration	ASTM D6567	20 %	
Density / Specific Gravity	ASTM D792	N/A g/cm^3	
Water Absorption	ASTM D1117	510 %	

*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**=10.70
	100mm (4in) / hr-30 min	SLR**=12.27
	150mm (6in) / hr-30 min	SLR**=13.98
ECTC Method 3 Shear Resistance	Shear at .50 in soil loss	1.87 lb/ft^2
ECTC Method 4 Germination	Top soil; Fescue; 21 day incubation	370 %

*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
C-Factors	ASTM D6459		0.02
Slope Length (L)	≤ 3:1	3:1-2:1	≥ 2:1
< 50 ft (15 m)	0.016	0.049	N/A
50 ft – 100 ft	0.043	0.062	N/A
>100 ft (30 m)	0.080	0.106	N/A

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

Channel Performance Design Values*:

Property	Test Method				
Unvegetated Shear Stress	ASTM D 6460	1.75	lbs/ft^2	83.79	Pa
Unvegetated Velocity	ASTM D 6460	6.0	ft/s	1.83	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)			0.029		

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

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