

Material and Performance Specification

ECS-2D™ Temporary Double Net Straw Rolled Erosion Control Product

Description:

The ECS-2D™ 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-2D™ has functional longevity of approximately 45 to 90 days, but will vary depending on soil and climatic conditions, and is suitable for slopes 2:1 to 3:1 and low to medium flow channels. The ECS-2D™ meets Type 1.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		
Netting:	Type		
	Top: Accelerated Lightweight Photodegradable Polypropyler		
	Middle: None		
	Bottom: Accelerated Lightweight Photodegradable Polypropyler		
Net Opening:	Top	Middle	
	0.5" x 0.5"	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*:	53 lbs 24.0 kg	53 lbs 24.0 kg	106 lbs 48.1 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	8.50 oz/yd ²	288.2 g/m ²
Thickness	ASTM D6525	0.32 in	8.13 mm
Tensile Strength-MD	ASTM D6818	169 lb/ft	2.47 kN/m
Elongation-MD	ASTM D6818	28 %	
Tensile Strength-TD	ASTM D6818	107 lb/ft	1.56 kN/m
Elongation-TD	ASTM D6818	29.4 %	
Light Penetration	ASTM D6567	19 %	
Density / Specific Gravity	ASTM D792	N/A g/cm ³	
Water Absorption	ASTM D1117	368 %	

*May differ depending upon raw material variations

Slope Performance Design Values*:

Property	Test Method	Value	
C-Factors	ASTM D6459	0.01	
Slope Length (L)	≤ 3:1	3:1-2:1	≥ 2:1
< 50 ft (15 m)	0.014	0.077	N/A
50 ft – 100 ft	0.048	0.084	N/A
>100 ft (30 m)	0.086	0.125	N/A

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

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

Test Method	Parameters	Results
	50mm (2in) / hr-30 min	SLR**=7.89
ECTC Method 2 Rainfall	100mm (4in) / hr-30 min	SLR**=8.83
	150mm (6in) / hr-30 min	SLR**=9.90
ECTC Method 3 Shear Resistance	Shear at .50 in soil loss	1.50 lb/ft ²
ECTC Method 4 Germination	Top soil; Fescue; 21 day incubation	542 %

*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	2.05 lbs/ft ²	98.15 Pa	
Unvegetated Velocity	ASTM D 6460	7.5 ft/s	2.29 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 3^d Party GAI Accredited Independent Laboratory