

Material and Performance Specification S150BN Erosion Control Blanket

Description
The short-term double net erosion control blanket shall be a machine-produced mat of 100% agricultural straw with a functional longevity of up to 12 months. (NOTE: functional longevity may vary depending upon climatic conditions, soil, geographical location, and elevation). The blanket shall be of consistent thickness with the straw evenly distributed over the entire area of the mat. The blanket shall be covered on the top and bottom sides with a 100% biodegradable woven natural fiber netting. The netting shall consist of machine directional strands formed from two intertwined yarns with cross directional strands interwoven through the twisted machine strands (commonly referred to as a Leno weave) to form an approximate 0.50 x 1.0 (1.27 x 2.54 cm) mesh. The blanket shall be sewn together on 1.50 inch (3.81 cm) centers with degradable thread. The blanket shall be manufactured with a colored thread stitched along both outer edges (approximately 2-5 inches [5-12.5 cm] from the edge) as an overlap guide for adjacent mats.
The S150BN shall meet Type 2.D specification requirements established by the Erosion Control Technology Council (ECTC) and Federal Highway Administration's (FHWA) <i>FP-03 Section 713.17</i>

Material Content		
Matrix	100% Straw Fiber	0.5 lbs/yd ² (0.27 kg/m ²)
Netting	Top - Leno woven 100% biodegradable organic jute	9.3 lb/1000 ft ² (4.5 kg/100 m ²)
	Bottom - 100% biodegradable organic jute	7.7 lb/1000 ft ² (3.76 kg/100 m ²)
Thread	degradable	

Standard Roll Sizes			
Width	6.67 ft (2.03 m)	8.0 ft (2.4 m)	15.5 ft (4.72 m)
Length	108 ft (32.92 m)	112 ft (34.14 m)	90 ft (27.43 m)
Weight ± 10%	52.22 lbs (23.69 kg)	65.28 lbs (29.61 kg)	101.2 lbs (45.9 kg)
Area	80 yd ² (66.9 m ²)	100 yd ² (64.8 m ²)	155 yd ² (129.6 m ²)
	Leno Weave Top Only	Leno Top and Bottom	Leno Top and Bottom

Bench Scale Testing (NTPEP)		
Test Method	Parameters	Results
ECTC 2 Rainfall	50 mm (2 in)/hr-30 min 100mm (4 in)/hr-30 min 150 mm (6 in)/hr-30 min	SLR** = 16.19 SLR** = 15.74 SLR** = 15.31
ECTC 3 Shear Res.	Shear at 0.50 inch soil loss	2.1lbs/ft ²
ECTC 4 Germination	Top Soil, Fescue, 21 day incubation	239% improvement of biomass
* Bench Scale tests should not be used for design purposes		
** Soil Loss Ratio = Soil Loss Bare Soil/Soil Loss with RECP		

Index Property	Test Method	Typical
Thickness	ASTM D6525	0.31 in (7.87 mm)
Resiliency	ECTC Guidelines	80.5%
Water Absorbency	ASTM D1117	381%
Mass/Unit Area	ASTM 6475	9.29 oz/yd ² (315 g/m ²)
Swell	ECTC Guidelines	15%
Smolder Resistance	ECTC Guidelines	Yes
Stiffness	ASTM D1388	6.23 oz-in
Light Penetration	ECTC Guidelines	10.1%
Tensile Strength -MD	ASTM D6818	189.6 lbs/ft (2.81 kN/m)
Elongation - MD	ASTM D6818	10.4%
Tensile Strength - TD	ASTM D6818	214.8 lbs/ft (3.19 kN/m)
Elongation - TD	ASTM D6818	6.8%

Maximum Permissible Shear Stress	
Unvegetated Shear Stress	1.85 lbs/ft ² (88 Pa)
Unvegetated Velocity	6.00 ft/s (1.83 m/s)

Slope Design Data: C Factors			
	Slope Gradients (S)		
Slope Length (L)	≤ 3:1	3:1 - 2:1	≥ 2:1
≤ 20 ft (6 m)	0.00014	0.039	NA
20-50 ft	0.01	0.070	NA
≥ 50 ft (15.2 m)	0.02	0.100	NA

Roughness Coefficients- Unveg.	
Flow Depth	Manning's n
≤ 0.50 ft (0.15 m)	0.055
0.50 - 2.0 ft	0.055 - 0.021
≥ 2.0 ft (0.60 m)	0.021

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