

Material and Performance Specification DS75 Erosion Control Blanket

Description
<p>The ultra short-term single net erosion control blanket shall be a machine-produced mat of 100% agricultural straw with a functional longevity of up to 45 days. (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 side with a polypropylene netting having an approximate 0.50 x 0.50 (1.27 x 1.27 cm) mesh with photodegradable accelerators to provide breakdown of the netting within approximately 45 days, depending upon geographical location and elevation. 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.</p> <p>The DS75 shall meet Type 1.C specification requirements established by the Erosion Control Technology Council (ECTC) and Federal Highway Administration's (FHWA) <i>FP-03 Section 713.17</i></p>

Index Property	Test Method	Typical
Thickness	ASTM D6525	0.39 in (9.9 mm)
Resiliency	ECTC Guidelines	78.8%
Water Absorbency	ASTM D1117	435%
Mass/Unit Area	ASTM 6475	10.54 oz/yd ² (351.6 g/m ²)
Swell	ECTC Guidelines	15%
Smolder Resistance	ECTC Guidelines	Yes
Stiffness	ASTM D1388	6.31 oz-in
Light Penetration	ECTC Guidelines	9.4%
Tensile Strength –MD	ASTM D6818	102 lbs/ft (1.51 kN/m)
Elongation – MD	ASTM D6818	20%
Tensile Strength – TD	ASTM D6818	68.4 lbs/ft (1.01 kN/m)
Elongation – TD	ASTM D6818	23.6%

Material Content		
Matrix	100% Straw Fiber	0.5 lbs/yd ² (0.27 kg/m ²)
Netting	Top side only, lightweight photodegradable with photo accelerators	1.5 lb/1000 ft ² (0.73 kg/100 m ²) approx. weight
Thread	degradable	

Maximum Permissible Shear Stress	
Unvegetated Shear Stress	1.55 lbs/ft ² (74 Pa)
Unvegetated Velocity	5.00 ft/s (1.52 m/s)

Standard Roll Sizes			
Width	6.67 ft (2.03 m)	8.0 ft (2.4 m)	16.0 ft (4.87 m)
Length	108 ft (32.92 m)	112 ft (34.14 m)	108 ft (32.92 m)
Weight ± 10%	40 lbs (18.14 kg)	50 lbs (22.68 kg)	96 lbs (43.54 kg)
Area	80 yd ² (66.9 m ²)	100 yd ² (83.61 m ²)	192 yd ² (165.5 m ²)

Slope Design Data: C Factors			
	Slope Gradients (S)		
Slope Length (L)	≤ 3:1	3:1 – 2:1	≥ 2:1
≤ 20 ft (6 m)	0.029	NA	NA
20-50 ft	0.11	NA	NA
≥ 50 ft (15.2 m)	0.19	NA	NA

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** = 9.72 SLR** = 8.80 SLR** = 8.31
ECTC 3 Shear Res.	Shear at 0.50 inch soil loss	1.95 lbs/ft ²
ECTC 4 Germination	Top Soil, Fescue, 21 day incubation	177% improvement of biomass

* Bench Scale tests should not be used for design purposes
 ** Soil Loss Ratio = Soil Loss Bare Soil/Soil Loss with RECP

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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