

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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