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Material and Performance Specification
SC250 Turf Reinforcement Mat

Description

The composite turf reinforcement mat (C-TRM) shall be a machine-produced mat of 70% straw and 30% coconut fiber matrix incorporated into permanent three-dimensional turf reinforcement matting. The matrix shall be evenly distributed across the entire width of the matting and stitch bonded between a heavy duty UV stabilized nettings with 0.50 x 0.50 inch (1.27 x 1.27 cm) openings, an ultra heavy UV stabilized, dramatically corrugated (crimped) intermediate netting with 0.5 x 0.5 inch (1.27 x 1.27 cm) openings, and covered by an heavy duty UV stabilized nettings with 0.50 x 0.50 inch (1.27 x 1.27 cm) openings. The middle corrugated netting shall form prominent closely spaced ridges across the entire width of the mat. The three nettings shall be stitched together on 1.50 inch (3.81cm) centers with UV stabilized polypropylene thread to form permanent three-dimensional turf reinforcement matting. All mats shall be manufactured with a colored thread stitched along both outer edges as an overlap guide for adjacent mats.

The SC250 shall meet Type 5A, B, and C specification requirements established by the Erosion Control Technology Council (ECTC) and Federal Highway Administration's (FHWA) *FP-03 Section 713.18*

Index Property	Test Method	Typical
Thickness	ASTM D6525	0.72 in (18.3 mm)
Resiliency	ASTM 6524	95.2%
Density	ASTM D792	0.53 oz/in^3
Mass/Unit Area	ASTM 6566	17.88oz/yd^2 (606 g/m^2)
UV Stability	ASTM D4355 /1000 hr	100%
Porosity	ECTC Guidelines	99%
Stiffness	ASTM D1388	222.65 oz-in
Light Penetration	ECTC Guidelines	8.9%
Tensile Strength –MD	ASTM D6818	620 lbs/ft (9.05 kN/m)
Elongation – MD	ASTM D6818	35%
Tensile Strength – TD	ASTM D6818	737 lbs/ft (10.75 kN/m)
Elongation – TD	ASTM D6818	16%

Material Content		
Matrix	70% Straw Fiber 30% Coconut Fiber	0.35 lbs/yd^2 (0.27 kg/m^2) 0.15 lbs/yd^2 (0.08 kg/m^2)
Netting	Top and Bottom, UV stabilized Polypropylene Middle, Corrugated UV stabilized Polypropylene	5 lb/1000 ft^2 (2.44 kg/100 m^2) 24 lb/1000 ft^2 (11.7 kg/100m^2)
Thread	Polypropylene, UV stable	

Maximum Permissible Shear Stress		
	Short Duration	Long Duration
Phase 1 Unvegetated	3.0 lbs/ft^2 (144 Pa)	2.5 lbs/ft^2 (120Pa)
Phase 2 Partially Veg.	8.0 lbs/ ft^2 (383 Pa)	8.0 lbs/ft^2 (383 Pa)
Phase 3 Fully Veg.	10.0 lbs/ft^2 (480 Pa)	8.0 lbs/ ft^2 (383 Pa)
Unvegetated Velocity	9.5 ft/s (2.9 m/s)	
Vegetated Velocity	15 ft/s (4.6 m/s)	

Standard Roll Sizes	
Width	6.5 ft (2.0 m)
Length	55.5 ft (16.9 m)
Weight ± 10%	34 lbs (15.42 kg)
Area	40 yd^2 (33.4 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)	0.0010	0.0209	0.0507
20-50 ft	0.0081	0.0266	0.0574
≥ 50 ft (15.2 m)	0.0455	0.0555	0.081

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** = 18.25 SLR** = 20.97 SLR** = 22.74
ECTC 3 Shear Res.	Shear at 0.50 inch soil loss	7.7 lbs/ft^2
ECTC 4 Germination	Top Soil, Fescue, 21 day incubation	523% 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)	0.040
0.50 – 2.0 ft	0.040-0.012
≥ 2.0 ft (0.60 m)	0.011

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Tensar International Corporation warrants that at the time of delivery the product furnished hereunder shall conform to the specification stated herein. Any other warranty including merchantability and fitness for a particular purpose, are hereby executed. If the product does not meet specifications on this page and Tensar is notified prior to installation, Tensar will replace the product at no cost to the customer. **This product specification supersedes all prior specifications for the product described above is and is not applicable to any products shipped prior to January 1, 2011.**