



## Specification Sheet – VMax® C350® Turf Reinforcement Mat

### DESCRIPTION

The composite turf reinforcement mat (C-TRM) shall be a machine-produced mat of 100% 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 super heavy duty UV-stabilized nettings with 0.50 x 0.50 in. (1.27 x 1.27 cm) openings, an ultra heavy duty UV-stabilized, dramatically corrugated (crimped) intermediate netting with 0.5 x 0.5 in. (1.27 x 1.27 cm) openings, and covered by a super heavy duty UV-stabilized nettings with 0.50 x 0.50 in. (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 in. (3.81 cm) centers with UV-stabilized polypropylene thread to form permanent three-dimensional turf reinforcement matting. All mats shall be manufactured with colored thread stitched along both outer edges as an overlap guide for adjacent mats.

The C350 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*.

### Material Content

<b>Matrix</b>	100% Coconut Fiber	0.5 lb/sy (0.27 kg/sm)
<b>Netting</b>	Top and Bottom, UV-Stabilized Polypropylene	8 lb/1000 sf (3.91 kg/100 sm)
	Middle, Corrugated UV-Stabilized Polypropylene	24 lb/1000 sf (11.7 kg/100 sm)
<b>Thread</b>	Polypropylene, UV Stable	

### Standard Roll Sizes

<b>Width</b>	6.5 ft (2.0 m)	8 ft (2.44 m)
<b>Length</b>	55.5 ft (16.9 m)	90 ft (27.4 m)
<b>Weight ± 10%</b>	37 lbs (16.8 kg)	74 lbs (33.6 kg)
<b>Thread</b>	40 sy (33.4 sm)	80 sy (66.8 sm)

Index Property	Test Method	Typical
<b>Thickness</b>	ASTM D6525	0.73 in. (18.54 mm)
<b>Resiliency</b>	ASTM D6524	90%
<b>Density</b>	ASTM D792	0.917 g/cm <sup>3</sup>
<b>Mass/Unit Area</b>	ASTM D6566	18.36 oz/sy (624 g/sm)
<b>UV Stability</b>	ASTM D4355/ 1000 HR	86%
<b>Porosity</b>	ECTC Guidelines	99%
<b>Stiffness</b>	ASTM D1388	0.24 in.-lb (275990 mg-cm)
<b>Light Penetration</b>	ASTM D6567	7.2%
<b>Tensile Strength - MD</b>	ASTM D6818	585.8 lbs/ft (8.70 kN/m)
<b>Elongation - MD</b>	ASTM D6818	45.3%
<b>Tensile Strength - TD</b>	ASTM D6818	687.6 lbs/ft (10.20 kN/m)
<b>Elongation - TD</b>	ASTM D6818	19.5%
<b>Biomass Improvement</b>	ASTM D7322	380%

### Design Permissible Shear Stress

	Short Duration	Long Duration
<b>Phase 1 Unvegetated</b>	3.2 psf (153 Pa)	3.0 psf (144 Pa)
<b>Phase 2 Partially Veg.</b>	10.0 psf (480 Pa)	10.0 psf (480 Pa)
<b>Phase 3 Fully Veg.</b>	12.0 psf (576 Pa)	10.0 psf (480 Pa)
<b>Unvegetated Velocity</b>	10.5 fps (3.2 m/s)	
<b>Vegetated Velocity</b>	20 fps (6.0 m/s)	

### Slope Design Data: C Factors

	Slope Gradients (S)		
<b>Slope Length (L)</b>	≤ 3:1	3:1 – 2:1	≥ 2:1
≤ 20 ft (6 m)	0.0005	0.015	0.043
20-50 ft	0.018	0.031	0.050
≥ 50 ft (15.2 m)	0.035	0.047	0.057

### Roughness Coefficients – Unveg.

Flow Depth	Manning's n
≤ 0.50 ft (0.15 m)	0.041
0.50 – 2.0 ft	0.040-0.013
≥ 2.0 ft (0.60 m)	0.012



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