



**ROLLMAX™**  
ROLLED EROSION CONTROL

## Specification Sheet – VMax® P550® Turf Reinforcement Mat

### DESCRIPTION

The composite turf reinforcement mat (C-TRM) shall be a machine-produced mat of 100% UV stable polypropylene 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 an ultra 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 ultra 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 P550 shall meet Type 5A, 5B, and 5C specification requirements established by the Erosion Control Technology Council (ECTC) and Federal Highway Administration's (FHWA) FP-03 Section 713.18

### Material Content

| Material | Description                                    | Weight                         |
|----------|--|--------------------------------|
| Matrix   | 100% UV stable polypropylene fiber             | 0.5 lb/sy (0.27 kg/sm)         |
| Netting  | Top and Bottom, UV-Stabilized Polypropylene    | 24 lb/1000 sf (11.7 kg/100 sm) |
|          | Middle, Corrugated UV-Stabilized Polypropylene | 24 lb/1000 sf (11.7 kg/100 sm) |
| Thread   | Polypropylene, UV Stable                       |                                |

### Standard Roll Sizes

|              |                   |
|--------------|-------------------|
| Width        | 6.5 ft (2.0 m)    |
| Length       | 55.5 ft (16.9 m)  |
| Weight ± 10% | 52 lbs (23.59 kg) |
| Area         | 40 sy (33.4 sm)   |

| Index Property        | Test Method        | Typical                    |
|-----------------------|--------------------|----------------------------|
| Thickness             | ASTM D6525         | 0.72 in. (18.29 mm)        |
| Resiliency            | ASTM 6524          | 95%                        |
| Density               | ASTM D792          | 0.892 g/cm <sup>3</sup>    |
| Mass/Unit Area        | ASTM 6566          | 21.25 oz/sy (723 g/sm)     |
| UV Stability          | ASTM D4355/1000 HR | 100%                       |
| Porosity              | ECTC Guidelines    | 96%                        |
| Stiffness             | ASTM D1388         | 366.3 oz-in.               |
| Light Penetration     | ASTM D6567         | 16.5%                      |
| Tensile Strength - MD | ASTM D6818         | 1421 lbs/ft (21.07 kN/m)   |
| Elongation - MD       | ASTM D6818         | 40.5%                      |
| Tensile Strength - TD | ASTM D6818         | 1191.6 lbs/ft (17.67 kN/m) |
| Elongation - TD       | ASTM D6818         | 28.8%                      |
| Biomass Improvement   | ASTM D7322         | 378%                       |

### Design Permissible Shear Stress

|                         | Short Duration     | Long Duration     |
|-------------------------|--------------------|-------------------|
| Phase 1: Unvegetated    | 4.0 psf (191 Pa)   | 3.25 psf (156 Pa) |
| Phase 2: Partially Veg. | 12.0 psf (576 Pa)  | 12.0 psf (576 Pa) |
| Phase 3: Fully Veg.     | 14.0 psf (672 Pa)  | 12.0 psf (576 Pa) |
| Unvegetated Velocity    | 12.5 fps (3.8 m/s) |                   |
| Vegetated Velocity      | 25 fps (7.6 m/s)   |                   |

### NTPEP ASTM D6460 Large Scale Channel

|                        |                      |
|------------------------|----------------------|
| Vegetated Shear Stress | >13.2 psf (632 Pa)   |
| Vegetated Velocity     | >24.5 fps (7.47 m/s) |

### Slope Design Data: C Factors

| Slope Length (L) | Slope Gradients (S) |           |       |
|------------------|---------------------|-----------|-------|
|                  | ≤ 3:1               | 3:1 – 2:1 | ≥ 2:1 |
| ≤ 20 ft (6 m)    | 0.0005              | 0.015     | 0.043 |
| 20-50 ft         | 0.0173              | 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)  | 0.013       |

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