



## Material and Performance Specification Sheet

North American Green  
 14649 Highway 41 North  
 Evansville, IN 47725  
 800-772-2040  
 FAX: 812-867-0247  
[www.nagreen.com](http://www.nagreen.com)

A **tensar** Company

### P300 Turf Reinforcement Mat

The P300 permanent turf reinforcement mat shall be a machine-produced mat of 100% UV stable polypropylene fiber. The matting shall be of consistent thickness with the synthetic fibers evenly distributed over the entire area of the mat. The matting shall be covered on the top side with black heavyweight UV stabilized polypropylene netting having ultraviolet additives to delay breakdown and an approximate 0.50 x 0.50 (1.27 x 1.27 cm) mesh. The bottom net shall also be UV stabilized polypropylene with a 0.63 x 0.63 (1.57 x 1.57 cm) mesh size. The blanket shall be sewn together on 1.50 inch (3.81 cm) centers with degradable thread.

The P300 shall meet requirements established by the Erosion Control Technology Council (ECTC) Specification and the US Department of Transportation, Federal Highway Administration's (FHWA) *Standard Specifications for Construction of Roads and Bridges on Federal Highway Projects, FP-03 Section 713.18* as a type 5.A, 5.B Permanent Turf Reinforcement Mat.

The P300 is also available with the DOT System™, which consists of installation staple patterns clearly marked on the erosion control blanket with environmentally safe paint. 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.

| Material Content |                                        |                                                            |
|------------------|----------------------------------------|------------------------------------------------------------|
| <b>Matrix</b>    | 100% UV stabilized Polypropylene Fiber | 0.7 lbs/yd <sup>2</sup> (0.38 kg/m <sup>2</sup> )          |
| <b>Nettings</b>  | Top – Heavyweight UV stabilized        | 5.0 lb/1000 ft <sup>2</sup> ( 2.44 kg/100 m <sup>2</sup> ) |
|                  | Bottom – Heavyweight UV stabilized     | 3.0 lb/1000 ft <sup>2</sup> ( 1.47 kg/100 m <sup>2</sup> ) |
| <b>Thread</b>    | 100% Black Polypropylene               |                                                            |

P300 is available in the following standard roll sizes:

**Width** 6.67 ft (2.03 m)  
**Length** 108 ft (32.92 m)  
**Weight ± 10%** 61.0 lbs (27.66 kg)  
**Area** 80.0 yd<sup>2</sup> (66.9 m<sup>2</sup>)

#### Index Value Properties:

| Property              | Test Method        | Typical                                                                        |
|-----------------------|--------------------|--------------------------------------------------------------------------------|
| Thickness             | ASTM D6525         | 0.54 in (13.72 mm)                                                             |
| Resiliency            | ASTM D1777         | 91.5%                                                                          |
| Density               | ASTM D792          | 0.513 oz/in <sup>3</sup> (0.89 g/cm <sup>3</sup> )                             |
| Mass/Unit Area        | ASTM 6566          | 11.46 oz/yd <sup>2</sup> (389 g/m <sup>2</sup> )                               |
| Porosity              | ECTC Guidelines    | 95.89%                                                                         |
| Open volume/Unit Area | ECTC Guidelines    | 872 in <sup>3</sup> /yd <sup>2</sup> (11,952 cm <sup>3</sup> /m <sup>2</sup> ) |
| Stiffness             | ASTM D1388         | 97.24 oz-in                                                                    |
| Light Penetration     | ECTC Guidelines    | 15%                                                                            |
| Tensile Strength –MD  | ASTM D6818         | 481 lbs/ft (7.02 kN/m)                                                         |
| Elongation – MD       | ASTM D6818         | 20%                                                                            |
| Tensile Strength – TD | ASTM D6818         | 426 lbs/ft (6.22 kN/m)                                                         |
| Elongation – TD       | ASTM D6818         | 23%                                                                            |
| UV Stability          | ASTM 4355 – 1000hr | 90%                                                                            |

#### Bench Scale Testing\* (NTPEP):

| Test Method                       | Parameters                          | Results                        |
|-----------------------------------|-------------------------------------|--------------------------------|
| ECTC Method 2<br>Rainfall         | 50 mm (2 in)/hr for 30 min          | SLR** = 11.92                  |
|                                   | 100mm (4 in)/hr for 30 min          | SLR** = 10.79                  |
|                                   | 150 mm (6 in)/hr for 30 min         | SLR** = 10.17                  |
| ECTC Method 3<br>Shear Resistance | <b>Shear at 0.50 inch soil loss</b> | <b>3.30 lbs/ft<sup>2</sup></b> |
| ECTC Method 4<br>Germination      | Top Soil, Fescue, 21 day incubation | 263% improvement of biomass    |

\* Bench Scale tests should not be used for design purposes

\*\* Soil Loss Ratio = Soil loss with Bare Soil/Soil Loss with RECP (soil loss is based on regression analysis)

#### Performance Design Values:

| Maximum Permissible Shear Stress |                                     |                                  |
|----------------------------------|-------------------------------------|----------------------------------|
|                                  | Short Duration                      | Long Duration                    |
| Phase 1<br>Unvegetated           | 3.0 lbs/ft <sup>2</sup><br>(144 Pa) | 2.0 lbs/ft <sup>2</sup> (196 Pa) |
| Phase 2<br>Partially Veg.        | 8.0 lbs/ft <sup>2</sup><br>(383 Pa) | 8.0 lbs/ft <sup>2</sup> (383 Pa) |
| Phase 3<br>Fully Veg.            | 8.0 lbs/ft <sup>2</sup><br>(383 Pa) | 8.0 lbs/ft <sup>2</sup> (383 Pa) |
| Velocity Unveg                   | 9.0 ft/s (2.7 m/s)                  |                                  |
| Velocity Veg.                    | 16 ft/s (4.9 m/s)                   |                                  |

| Slope Design Data: C Factors |                     |           |       |
|------------------------------|---------------------|-----------|-------|
|                              | Slope Gradients (S) |           |       |
| Slope Length (L)             | ≤ 3:1               | 3:1 – 2:1 | ≥ 2:1 |
| ≤ 20 ft (6 m)                | 0.001               | 0.029     | 0.082 |
| 20-50 ft                     | 0.036               | 0.060     | 0.086 |
| ≥ 50 ft (15.2 m)             | 0.070               | 0.090     | 0.110 |

| Roughness Coefficients- Unveg. |               |
|--------------------------------|---------------|
| Flow Depth                     | Manning's n   |
| ≤ 0.50 ft (0.15 m)             | 0.034         |
| 0.50 – 2.0 ft                  | 0.034 – 0.020 |
| ≥ 2.0 ft (0.60 m)              | 0.020         |

Product Participant of:

