



# STF P11

*STF P11 geogrid is composed of polypropylene resin which is extruded into a stable geogrid structure. STF P11 geogrid is inert to biological degradation and resistant to naturally encountered chemicals, alkalis, and acids.*

STF P11 increases roadbed and foundation bearing capacity, while prolonging the service life of each by the confinement of the base course. STF P11 prevents the lateral spreading of the base or sub-base aggregate and allows for shear interaction to develop between the aggregate and the geogrid.

STF P11 geogrid will reduce the applied vertical pressure of heavy loads at depth of aggregate by spreading the load over a wider area.

| Mechanical Properties                     | Test Method                       | Unit                | Minimum Average Roll Value |             |
|---|-----------------------------------|---------------------|----------------------------|-------------|
|   |                                   |                     | MD                         | CMD         |
| Ultimate Tensile Strength <sup>1</sup>    | ASTM D 6637                       | lbs/ft (kN/m)       | 850 (12.4)                 | 1300 (19.0) |
| Tensile Strength at 2% <sup>1</sup>       | ASTM D 6637                       | lbs/ft (kN/m)       | 280 (4.1)                  | 450 (6.6)   |
| Tensile Strength at 5% <sup>1</sup>       | ASTM D 6637                       | lbs/ft (kN/m)       | 580 (8.5)                  | 920 (13.4)  |
| UV Resistance                             | ASTM D 4355                       | % strength retained | 100%                       |             |
| Junction Efficiency <sup>2</sup>          |                                   | %                   | 93                         |             |
| Flexural Stiffness <sup>3</sup>           |                                   | mg-cm               | 250,000                    |             |
| Aperture Stability <sup>4</sup>           |                                   | m-N/deg             | 0.32                       |             |
| Resistance to UV Degradation <sup>5</sup> |                                   | %                   | 100                        |             |
| Physical Properties                       | Unit                              |                     | Typical Values             |             |
| Rib Thickness                             | in (mm)                           |                     | 0.03 (0.76)                | 0.03 (0.76) |
| Aperture Size (MD)                        | in (mm)                           |                     | 1.0 (25.4)                 |             |
| Aperture Size (CMD)                       | in (mm)                           |                     | 1.3.(33.0)                 |             |
| Roll Size (width x length)                | ft (m)                            |                     | 13.1 x 246 (4.0 x 75)      |             |
| Roll Weight                               | lbs                               |                     | 205                        |             |
| Roll Area                                 | yd <sup>2</sup> (m <sup>2</sup> ) |                     | 358 (300)                  |             |

<sup>1</sup>True resistance to elongation when initially subjected to a load determined in accordance with ASTM D 6637 without deforming test materials under load before measuring such resistance or employing “secant” or “offset” tangent methods of measurement so as to overstate tensile properties.

<sup>2</sup>Load transfer capability calculated as a % of ultimate tensile strength

<sup>3</sup>Resistance to bending force determined in accordance with ASTM D 5732. The overall Flexural Stiffness is calculated as the square root of the product of MD and CMD Flexural Stiffness values.

<sup>4</sup>Resistance to in-plane rotational movement measured by applying a 20kg-cm (2 m-N) moment to the central junction of a 9 inch x 9 inch specimen in accordance with U.S. Army Corps of Engineers Methodology for measurement of Torsional Rigidity.

<sup>5</sup>Tested according to ASTM D 4355.