



Synteen Technical Fabrics, Inc.



## SYNTEEN SF42 BIAXIAL GEOGRID

### BASE COURSE REINFORCEMENT AND SUBGRADE IMPROVEMENT

**SF42** is composed of high molecular weight, high tenacity multifilament polyester yarns, woven into a stable network placed under tension. The high strength polyester yarns are PVC coated and are inert to biological degradation and are resistant to naturally encountered chemicals, alkalis and acids.

| REINFORCEMENT PROPERTIES                                                                                                                                                  |          | TEST METHOD                       | MARV VALUES               |       |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|-----------------------------------|---------------------------|-------|
|                                                                                                                                                                           |          |                                   | Lbs/ft                    | kN/m  |
| Ultimate Strength                                                                                                                                                         | MD       | ASTM 6637                         | 2,388                     | 34.9  |
|                                                                                                                                                                           | XMD      |                                   | 3,870                     | 56.5  |
| Initial Modulus                                                                                                                                                           | MD       | ASTM 6637                         | 178,000                   | 2,598 |
|                                                                                                                                                                           | XMD      |                                   | 172,900                   | 2,524 |
| Tensile Strength at 2% Strain                                                                                                                                             | MD       | ASTM 6637                         | 526                       | 7.7   |
|                                                                                                                                                                           | XMD      |                                   | 578                       | 8.4   |
| Tensile Strength at 5% Strain                                                                                                                                             | MD       | ASTM 6637                         | 792                       | 11.5  |
|                                                                                                                                                                           | XMD      |                                   | 1,042                     | 15.2  |
| <b>True in place strength after site damage testing based on TRI method of "installation" damage testing with poorly graded gravel (GP) and well groomed gravel (SW).</b> |          |                                   |                           |       |
| True Tensile Strength at 2% Strain                                                                                                                                        | MD (GP)  | ASTM 6637 & ASTM 5818             | 401                       | 5.9   |
|                                                                                                                                                                           | MD (SW)  |                                   | 490                       | 6.6   |
| True Tensile Strength at 2% Strain                                                                                                                                        | XMD (GP) | ASTM 6637 & ASTM 5818             | 521                       | 7.6   |
|                                                                                                                                                                           | XMD (SW) |                                   | 570                       | 8.3   |
| True Tensile Strength at 5% Strain                                                                                                                                        | MD (GP)  | ASTM 6637 & ASTM 5818             | 604                       | 8.8   |
|                                                                                                                                                                           | MD (SW)  |                                   | 740                       | 10.8  |
| True Tensile Strength at 5% Strain                                                                                                                                        | XMD (GP) | ASTM 6637 & ASTM 5818             | 941                       | 13.7  |
|                                                                                                                                                                           | XMD (SW) |                                   | 1,028                     | 14.9  |
| Junction Strength (lb./junction)                                                                                                                                          | MD       | GRI-GG2                           | 59.4                      | 0.87  |
|                                                                                                                                                                           | XMD      |                                   | 47.6                      | 0.69  |
| FHWA Sum of Junctions – Strength<br>(81 total junctions)                                                                                                                  | MD       | GRI-GG2                           | 4,811                     | 70.2  |
|                                                                                                                                                                           | XMD      |                                   | 3,856                     | 56.2  |
| FHWA Sum of Junctions – Efficiency                                                                                                                                        | MD       | GRI-GG2                           | 201%                      |       |
|                                                                                                                                                                           | XMD      |                                   | 100%                      |       |
| Coefficient of Pullout Interaction                                                                                                                                        |          | ASTM 6706<br>Sandy Gravel<br>Sand | $C_i = 1.0$               |       |
|                                                                                                                                                                           |          |                                   | $C_i = 1.0$               |       |
| Aperture Size *                                                                                                                                                           | MD       | Measured                          | 1.0                       | 25    |
|                                                                                                                                                                           | XMD      |                                   | 1.0                       | 25    |
| Roll Dimensions<br>12' x 150'<br>15' x 150'<br>17' x 150'                                                                                                                 |          | Measured                          | 200 square yards per roll |       |
|                                                                                                                                                                           |          |                                   | 250 square yards per roll |       |
|                                                                                                                                                                           |          |                                   | 283 square yards per roll |       |
|                                                                                                                                                                           |          |                                   |                           |       |

Synteen can produce custom widths, apertures and master roll lengths.

**PLEASE NOTE: Flexural Stiffness based on ASTM D 5732 was withdrawn by ASTM in 2008, and is no longer recognized by ASTM D-35 as an acceptable geosynthetic test method.**