PRODUCT DATA SHEET

# DK PP Biaxial geogrid

Uniaxial is an integrally formed uniaxial geogrid made from the highest quality HDPE resins that resist chemical degradation and elongation (creep) when subjected to high loads for long periods of time. Uniaxial Series Geogrids are used for high-strength soil reinforcement in steepened slope applications and some MSE walls.Uniaxial Series Geogrids are designed to install quickly in stand-alone applications, as well as in conjunction with various soil stabilization systems.

**AT THE CORE:**

A uniaxial geogrid engineered for high strength soil reinforcement and to carry high tensile loads applied in one direction

## PP Uniaxial Geogrid Technical Parameters

| NO. | Property | | Test Method | DK 35 | DK50 | DK 80 | DK100 | DK110 | DK 120 |
|---|---|---|---|---|---|---|---|---|---|
| 1 | Ultimate Tensile Strength | KN/m | ASTM D 6637 | 35 | 50 | 80 | 100 | 110 | 120 |
| 2 | Elongation at Maximum Load | % | | 10 | | | | | |
| 3 | Tensile Strength at 2% Elongation | KN/m | | 9 | 10 | 23 | 29 | 30 | 35 |
| 4 | Tensile Strength at 5% Elongation | KN/m | | 18 | 25 | 44 | 55 | 58 | 65 |
| 5 | Creep Limit Strength | KN/m | | 15 | 21 | 30 | 39 | 40 | 46 |
| 6 | Minimum Carbon Black | % | ASTM D 4218 | 2 | | | | | |

| NO. | Property | | Test Method | LY 150 | LY 170 | LY 200 | LY 220 | LY 240 | LY 300 |
|---|---|---|---|---|---|---|---|---|---|
| 1 | Ultimate Tensile Strength | KN/m | ASTM D 6637 | 150 | 170 | 200 | 220 | 240 | 300 |
| 2 | Elongation at Maximum Load | % | | 10 | | | | | |
| 3 | Tensile Strength at 2% Elongation | KN/m | | 39 | 45 | 55 | 59 | 65 | 90 |
| 4 | Tensile Strength at 5% Elongation | KN/m | | 77 | 90 | 110 | 120 | 132 | 182 |
| 5 | Creep Limit Strength | KN/m | | 49 | 57 | 64 | 71.5 | 79 | 100 |
| 6 | Minimum Carbon Black | % | ASTM D 4218 | 2 | | | | | |

NOTES:

- (1) Unless indicated otherwise, values shown are minimum average roll values determined in accordance with ASTM D4759. Brief descriptions of test procedures are given in the following notes.
- (2) True resistance to elongation when initially subjected to a load measured via ASTM D6637 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.
- (3) Load transfer capability determined in accordance with ASTM D7737.
- (4) Resistance to bending force determined in accordance with ASTM D5732, using specimen dimensions of 864 mm in length by one aperture in width.
- (5) Resistance to loss of load capacity or structural integrity when subjected to chemically aggressive environments in accordance with EPA 9090 testing.
- (6) Resistance to loss of load capacity or structural integrity when subjected to 500 hours of ultraviolet light and aggressive weathering in accordance with ASTM D4355.
- (7) Reduction factors are used to calculate the geogrid strength available for resisting force in long-term load bearing applications. Allowable strength (Tallow) is determined by reducing the ultimate tensile strength (Tult) by reduction factors for installation damage (RFID), creep (RFCR) and chemical/ biological durability (RFD=RFCD x RFBD) per GRI-GG4-05 [Tallow = Tult/(RFID x RFCR x RFD)]. Recommended minimum reduction factors are based on product-specific testing. Project specifications, standard public agency specifications and/or design code requirements may require higher reduction factors. Design of the structure in which the geogrid is used, including the selection of appropriate reduction factors and design life, is the responsibility of the outside licensed professional engineer providing the sealed drawings for the project.
- (8) Minimum value is based on Installation Damage Testing in sand, silt, and clay soils. Coarser soils require increased RFID values.
- (9) Reduction Factor for Creep determined for 120-year design life and in-soil temperature of 20oC using standard extrapolation techniques to creep rupture