

TECHNICAL DATA SHEET

UX Series



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| Product | Geogrid Uniaxial (UX) |
| Composition | High density polyethylene |
| Main Function | Reinforcement |

| Property | Test Method | Texel UX1100 | Texel UX1400 | Texel UX1500 | Texel UX1600 | Texel UX1700 | Texel UX1800 | Texel UX1900 |
|--|-------------|---------------|---------------|-----------------|-----------------|-----------------|-----------------|------------------|
| Physical | | | | | | | | |
| Tensile strength @ 5% strain ⁽¹⁾ | ASTM D6637 | 27 kN/m | 31 kN/m | 52 kN/m | 58 kN/m | 75 kN/m | 95 kN/m | 110 kN/m |
| Ultimate tensile strength ⁽¹⁾ | ASTM D6637 | 58 kN/m | 70 kN/m | 114 kN/m | 144 kN/m | 175 kN/m | 210 kN/m | 230 kN/m |
| Junction strength ⁽²⁾ | ASTM D7737 | 54 kN/m | 66 kN/m | 105 kN/m | 135 kN/m | 160 kN/m | 180 kN/m | 215 kN/m |
| Flexural stiffness ⁽³⁾ | ASTM D7748 | 500 000 mg-cm | 730 000 mg-cm | 5 100 000 mg-cm | 6 000 000 mg-cm | 9 075 000 mg-cm | 9 500 000 mg-cm | 14 000 000 mg-cm |
| Resistance to long term degradation ⁽⁴⁾ | EPA 9090 | 100% | | | | | | |
| Resistance to UV degradation ⁽⁵⁾ | ASTM D4355 | 95% | | | | | | |
| Max. allowable strength 120-year design life ⁽⁶⁾ | GRI GG4 | 21.2 kN/m | 25.6 kN/m | 41.8 kN/m | 52.7 kN/m | 64.1 kN/m | 74.1 kN/m | 88.3 kN/m |
| Recommended allowable strength reduction factor ⁽⁶⁾ | | | | | | | | |
| Installation damage (min.) ⁽⁷⁾ | GRI GG4 | 1.05 | | | | | | |
| Creep for 120-year design life ⁽⁸⁾ | GRI GG4 | 2.60 | | | | | 2.70 | 2.48 |
| Durability (min.) | GRI GG4 | 1.00 | | | | | | |
| Dimensions | | | | | | | | |
| Width | - | 1.33 m | | | | | | |
| Length | - | 76.2 m | 76.2 m | 61 m | | | | |

This technical information comes from the manufacturer and was transcribed by Alkegen. All values are MARV except when specified

1- True Resistance to elongation when initially subjected to a load measured via ASTM D6637 Method A 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.

2- Load transfer capability determined in accordance with ASTM D7737.

3- Resistance to bending force determined in accordance with ASTM D7748, using one meter (minimum) long specimen

4- Resistance to loss of load capacity or structural integrity when subjected to chemically aggressive environments in accordance with EPA 9090 immersion testing.

5 - Resistance to loss of load capacity or structural integrity when subjected to 500 hours of ultraviolet light and aggressive weathering in immersion testing.

6- Reduction factors are used to calculate the geogrid strength available for resisting force in long-term load bearing applications. Allowable Strength (T allow) is determined by reducing the ultimate tensile strength (Tult) by reduction factors for installation damage (RFid), creep (RFcr) and chemical/biological durability (RFd=RFcd*RFbd) per GRI GG4 (Tallow=Tult/(RFid*RFcr*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.

7- Minimum value is based on installation damage testing in sand, silt and clay soils. Coarser soils require increased RFid values.8- Reduction factor for creep determined for 120-year design life and in-soil temperature of 20°C using standard extrapolation techniques to creep rupture data obtained following the test procedure in ASTM D5262. Actual design life of the completed structure may differ.

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