

UX SERIES

TECHNICAL DATASHEET

PARTNER
Tensor

Geogrid (GGR) type	Uniaxial (UX)
Composition	High density polyethylene
Main function	Reinforcement

Property	Method	UX1100	UX1400	UX1500	UX1600	UX1700	UX1800	UX1900
Mechanical								
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					2,7	2,48
Durability (min.)	GRI GG4	1,00						
Dimensions								
Width	-	1.33 m						
Length	-	76.2 m	76.2 m	61 m	61 m	61 m	61 m	61 m

This technical information comes from the manufacturer and was transcribed by Texel.

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 (T ult) by reduction factors for installation damage (RFid), creep (RFcr) and chemical/biological durability (RFd = RFcd * RFbd) per GRI GG4 (T allow = T ult/(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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