

Product Specification

Tensor Geogrid

- **Biaxial Geogrid BX3316**
- **Biaxial Geogrid BX3326**
- **UX3326 Structural Geogrid**

Product Specification – Biaxial Geogrid BX3316

Tensar International Corporation reserves the right to change its product specifications at any time. It is the responsibility of the specifier and purchaser to ensure that product specifications used for design and procurement purposes are current and consistent with the products used in each instance.

Product Type:	Integrally Formed Biaxial Geogrid
Polymer:	Flame-retardant Polypropylene
Load Transfer Mechanism:	Positive Mechanical Interlock
Primary Applications:	Underground Mine and Tunnel Applications (Roof and Rib Control, Soft Bottom Reinforcement)

Product Properties

Index Properties	Units	MD Values ¹	XMD Values ¹
▪ Polypropylene Polymer	Group 1/ Class 1/ Grade 2 per ASTM D4101		
▪ Aperture Dimensions ²	mm (in)	46 (1.8)	51 (2.0)
▪ Minimum Rib Thickness ²	mm (in)	1.0 (0.04)	1.0 (0.04)
▪ Ultimate Tensile Strength ³	kN/m (lb/ft)	21.9 (1,500)	21.9 (1,500)
▪ Tensile Modulus ³	kN/m (lb/ft)	321.0 (22,000)	321.0 (22,000)
▪ Colorant and UV Inhibitor Content	%	2.0 (Black Color)	

Structural Integrity

▪ Junction Efficiency ⁴	%	90	
▪ Flexural Stiffness ⁵	mg-cm	600,000	800,000

Flammability Resistance⁶

▪ Maximum Flame Propagation ⁶	m (ft)	1.2 (4.0)	1.2 (4.0)
▪ Average Duration of Burning for Test Set ⁶	minute	1.0 (max)	1.0 (max)
▪ Maximum Duration of Burning for Single Test ⁶	minute	2.0	2.0

Dimensions and Delivery

The biaxial geogrid shall be delivered to the jobsite in roll form with each roll individually identified and nominally measuring from 1.5 meters (4.9 feet) to 4.0 meters (13.1 feet) in width and up to 56.0 meters (184 feet) in length. Depending on the roll size the typical truckload or container quantity varies between 135 and 315 rolls.

Notes

- Unless indicated otherwise, values shown are minimum values or minimum average roll values determined in accordance with ASTM D4759-02. Brief descriptions of test procedures are given in the following notes.
- Nominal dimensions.
- True resistance to elongation when initially subjected to a load determined in accordance with ASTM D6637-01 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.
- Load transfer capability determined in accordance with GRI-GG2-05 and expressed as a percentage of ultimate tensile strength.
- Resistance to bending force determined in accordance with ASTM D5732-01, using specimens of width two ribs wide, with transverse ribs cut flush with exterior edges of longitudinal ribs (as a "ladder"), and of length sufficiently long to enable measurement of the overhang dimension. The overall Flexural Stiffness is calculated as the square root of the product of MD and XMD Flexural Stiffness values.
- Flammability resistance determined from vertical and horizontal flame tests in accordance with 30 CFR, Part 7, Subpart A & B and ASTP5011 – Standardized Small Scale Flame Test Procedure for the Acceptance of Roof-Rib Grid.

Product Specification – Biaxial Geogrid BX3326

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Product Type: Integrally Formed Biaxial Geogrid
Polymer: Flame-retardant Polypropylene
Load Transfer Mechanism: Positive Mechanical Interlock
Primary Applications: Underground Mine and Tunnel Applications (Roof and Rib Control, Soft Bottom Reinforcement)

Product Properties

Index Properties	Units	MD Values ¹	XMD Values ¹
▪ Polypropylene Polymer	Group 1/ Class 1/ Grade 2 per ASTM D4101		
▪ Aperture Dimensions ²	mm (in)	46 (1.8)	51 (2.0)
▪ Minimum Rib Thickness ²	mm (in)	1.0 (0.04)	1.0 (0.04)
▪ Ultimate Tensile Strength ³	kN/m (lb/ft)	21.9 (1,500)	21.9 (1,500)
▪ Tensile Modulus ³	kN/m (lb/ft)	321.0 (22,000)	321.0 (22,000)
▪ Colorant and UV Inhibitor Content	%	2.0	(White Color)

Structural Integrity

▪ Junction Efficiency ⁴	%	90	
▪ Flexural Stiffness ⁵	mg-cm	600,000	800,000

Flammability Resistance⁶

▪ Maximum Flame Propagation ⁶	m (ft)	1.2 (4.0)	1.2 (4.0)
▪ Average Duration of Burning for Test Set ⁶	minute	1.0 (max)	1.0 (max)
▪ Maximum Duration of Burning for Single Test ⁶	minute	2.0	2.0

Dimensions and Delivery

The biaxial geogrid shall be delivered to the jobsite in roll form with each roll individually identified and nominally measuring from 1.5 meters (4.9 feet) to 4.0 meters (13.1 feet) in width and up to 56.0 meters (184 feet) in length. Depending on the roll size the typical truckload or container quantity varies between 135 and 315 rolls.

Notes

1. Unless indicated otherwise, values shown are minimum values or minimum average roll values determined in accordance with ASTM D4759-02. Brief descriptions of test procedures are given in the following notes.
2. Nominal dimensions.
3. True resistance to elongation when initially subjected to a load determined in accordance with ASTM D6637-01 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.
4. Load transfer capability determined in accordance with GRI-GG2-05 and expressed as a percentage of ultimate tensile strength.
5. Resistance to bending force determined in accordance with ASTM D5732-01, using specimens of width two ribs wide, with transverse ribs cut flush with exterior edges of longitudinal ribs (as a "ladder"), and of length sufficiently long to enable measurement of the overhang dimension. The overall Flexural Stiffness is calculated as the square root of the product of MD and XMD Flexural Stiffness values.
6. Flammability resistance determined from vertical and horizontal flame tests in accordance with 30 CFR, Part 7, Subpart A & B and ASTP5011 – Standardized Small Scale Flame Test Procedure for the Acceptance of Roof-Rib Grid.

Product Specification – Structural Geogrid UX3326

Tensar International Corporation reserves the right to change its product specifications at any time. It is the responsibility of the specifier and purchaser to ensure that product specifications used for design and procurement purposes are current and consistent with the products used in each instance.

Product Type: Integrally Formed Structural Geogrid
Polymer: Flame-retardant Polypropylene
Load Transfer Mechanism: Positive Mechanical Interlock
Primary Applications: Underground Mine and Tunnel Applications (Roof and Rib Control)

Product Properties

Index Properties

Index Properties	Units	MD Values ¹
▪ Polypropylene Polymer	Group 1/ Class 1/ Grade 2 per ASTM D4101	
▪ Aperture Dimensions ²	mm (in)	152 (6.0)
▪ Minimum Rib Thickness ²	mm (in)	2.0 (0.08)
▪ Ultimate Tensile Strength ³	kN/m (lb/ft)	80.0 (5,480)
▪ Tensile Modulus ³	kN/m (lb/ft)	1,400.0 (95,950)
▪ Colorant and UV Inhibitor Content	%	2.0

Structural Integrity

▪ Junction Efficiency ⁴	%	90
▪ Flexural Stiffness ⁵	mg-cm	4,500,000

Flammability Resistance⁶

▪ Maximum Flame Propagation ⁶	m (ft)	1.2 (4.0)
▪ Average Duration of Burning for Test Set ⁶	minute	1.0 (max)
▪ Maximum Duration of Burning for Single Test ⁶	minute	2.0

Dimensions and Delivery

The structural geogrid shall be delivered to the jobsite in roll form with each roll individually identified and nominally measuring 1.4 meters (4.5 feet) in width and 91.5 meters (300 feet) in length. The typical container load quantity is 150 rolls.

Notes

1. Unless indicated otherwise, values shown are minimum values or minimum average roll values determined in accordance with ASTM D4759-02. Brief descriptions of test procedures are given in the following notes.
2. Nominal dimensions.
3. True resistance to elongation when initially subjected to a load determined in accordance with ASTM D6637-01 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.
4. Load transfer capability determined in accordance with GRI-GG2-05 and expressed as a percentage of ultimate tensile strength.
5. Resistance to bending force determined in accordance with ASTM D5732-01, using specimen dimensions of 864 millimeters in length by one aperture in width.
6. Flammability resistance determined from vertical and horizontal flame tests in accordance with 30 CFR, Part 7, Subpart A & B and ASTP5011 – Standardized Small Scale Flame Test Procedure for the Acceptance of Roof-Rib Grid.