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Product Specification Tensar Biaxial Geogrid

- Biaxial Geogrid BX1100
- **Biaxial Geogrid BX1120**
- Biaxial Geogrid BX1200
- **Biaxial Geogrid BX1220**
- **Biaxial Geogrid BX1300**
- **Biaxial Geogrid BX1500**
- **Biaxial Geogrid BX4100**
- **Biaxial Geogrid BX4200**



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Product Specification - Biaxial Geogrid BX1100

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Product Type: Integrally Formed Biaxial Geogrid

Polymer: Polypropylene

Load Transfer Mechanism: Positive Mechanical Interlock

Primary Applications: Spectra System (Base Stabilization, Subgrade Improvement)

Product Properties

Index Properties	Units	MD Values ¹	XMD Values ¹
 Aperture Dimensions² 	mm (in)	25 (1.0)	33 (1.3)
 Rib Thickness² 	mm (in)	0.76 (0.03)	0.76 (0.03)
 Tensile Strength @ 2% Strain³ 	kN/m (lb/ft)	4.1 (280)	6.6 (450)
 Tensile Strength @ 5% Strain³ 	kN/m (lb/ft)	8.5 (580)	13.4 (920)
 Ultimate Tensile Strength³ 	kN/m (lb/ft)	12.4 (850)	19.0 (1,300)
Structural Integrity			
 Junction Efficiency⁴ 	%	93	
 Overall Flexural Rigidity⁵ 	mg-cm	250,000	
 Aperture Stability⁶ 	m-N/deg	0.32	
Durability			
 Resistance to Installation Damage⁷ 	%SC / %SW / %GP	95 / 93 / 90	
 Resistance to Long Term Degradation⁸ 	%	100	
 Resistance to UV Degradation⁹ 	%	100	

Dimensions and Delivery

The biaxial geogrid shall be delivered to the jobsite in roll form with each roll individually identified and nominally measuring 4.0 meters (13.1 feet) in width and 75.0 meters (246 feet) in length and 3.93 meters (12.9 feet) in width and 75.0 meters (246 feet) in length.

- 1. Unless indicated otherwise, values shown are 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. Determined in accordance with ASTM D6637-10 Method A.
- 4. Load transfer capability determined in accordance with ASTM D7737-11.
- 5. Resistance to bending force determined in accordance with ASTM D7748/D7748M-14.
- Resistance to in-plane rotational movement measured in accordance with ASTM D7864/D7864M-15.
- 7. Resistance to loss of load capacity or structural integrity when subjected to mechanical installation stress in clayey sand (SC), well graded sand (SW), and crushed stone classified as poorly graded gravel (GP). The geogrid shall be sampled in accordance with ASTM D5818 and load capacity shall be determined in accordance with ASTM D6637.
- 8. Resistance to loss of load capacity or structural integrity when subjected to chemically aggressive environments in accordance with EPA 9090 immersion testing.
- Resistance to loss of load capacity or structural integrity when subjected to 500 hours of ultraviolet light and aggressive weathering in accordance with ASTM D4355-05.



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Product Specification - Biaxial Geogrid BX1120

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Product Type: Integrally Formed Biaxial Geogrid

Polymer: Polypropylene

Load Transfer Mechanism: Positive Mechanical Interlock

Primary Applications: SierraScape System, ADD³ System (Exposed Wall Face Wrap)

Product Properties

Index Properties	Units	MD Values ¹	XMD Values ¹
■ Aperture Dimensions ²	mm (in)	25 (1.0)	33 (1.3)
■ Rib Thickness ²	mm (in)	0.76 (0.03)	0.76 (0.03)
 Tensile Strength @ 2% Strain³ 	kN/m (lb/ft)	4.1 (280)	6.6 (450)
 Tensile Strength @ 5% Strain³ 	kN/m (lb/ft)	8.5 (580)	13.4 (920)
 Ultimate Tensile Strength³ 	kN/m (lb/ft)	12.4 (850)	19.0 (1,300)
 Carbon Black Content 	%	2.0	
Structural Integrity			
 Junction Efficiency⁴ 	%	93	
 Overall Flexural Rigidity⁵ 	mg-cm	250,000	
 Aperture Stability⁶ 	m-N/deg	0.32	
Durability			
 Resistance to Installation Damage⁷ 	%SC / %SW / %GP	95 / 93 / 90	
 Resistance to Long Term Degradation⁸ 	%	100	
 Resistance to UV Degradation⁹ 	%	100	

Dimensions and Delivery

The biaxial geogrid shall be delivered to the jobsite in roll form with each roll individually identified and nominally measuring 4.0 meters (13.1 feet) in width and 50.0 meters (164 feet) in length and 3.93 meters (12.9 feet) in width and 50.0 meters (164 feet) in length.

- 1. Unless indicated otherwise, values shown are 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. Determined in accordance with ASTM D6637-10 Method A.
- 4. Load transfer capability determined in accordance with ASTM D7737-11.
- 5. Resistance to bending force determined in accordance with ASTM D7748M-14.
- 6. Resistance to in-plane rotational movement measured in accordance with ASTM D7864/D7864M-15.
- 7. Resistance to loss of load capacity or structural integrity when subjected to mechanical installation stress in clayey sand (SC), well graded sand (SW), and crushed stone classified as poorly graded gravel (GP). The geogrid shall be sampled in accordance with ASTM D5818 and load capacity shall be determined in accordance with ASTM D6637.
- 8. Resistance to loss of load capacity or structural integrity when subjected to chemically aggressive environments in accordance with EPA 9090 immersion testing.
- Resistance to loss of load capacity or structural integrity when subjected to 500 hours of ultraviolet light and aggressive weathering in accordance with ASTM D4355-05.



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Product Specification - Biaxial Geogrid BX1200

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Product Type: Integrally Formed Biaxial Geogrid

Polymer: Polypropylene

Load Transfer Mechanism: Positive Mechanical Interlock

Primary Applications: Spectra System (Base Stabilization, Subgrade Improvement)

Product Properties

Index Properties	Units	MD Values ¹	XMD Values ¹
 Aperture Dimensions² 	mm (in)	25 (1.0)	33 (1.3)
■ Rib Thickness ²	mm (in)	1.27 (0.05)	1.27 (0.05)
 Tensile Strength @ 2% Strain³ 	kN/m (lb/ft)	6.0 (410)	9.0 (620)
 Tensile Strength @ 5% Strain³ 	kN/m (lb/ft)	11.8 (810)	19.6 (1,340)
 Ultimate Tensile Strength³ 	kN/m (lb/ft)	19.2 (1,310)	28.8 (1,970)
Structural Integrity			
 Junction Efficiency⁴ 	%	93	
 Overall Flexural Rigidity⁵ 	mg-cm	750,000	
 Aperture Stability⁶ 	m-N/deg	0.65	
Durability			
 Resistance to Installation Damage⁷ 	%SC / %SW / %GP	95 / 93 / 90	
 Resistance to Long Term Degradation⁸ 	%	100	
 Resistance to UV Degradation⁹ 	%	100	

Dimensions and Delivery

The biaxial geogrid shall be delivered to the jobsite in roll form with each roll individually identified and nominally measuring 4.0 meters (13.1 feet) in width and 50.0 meters (164 feet) in length and 3.93 meters (12.9 feet) in width and 50.0 meters (164 feet) in length.

- 1. Unless indicated otherwise, values shown are 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. Determined in accordance with ASTM D6637-10 Method A.
- 4. Load transfer capability determined in accordance with ASTM D7737-11.
- 5. Resistance to bending force determined in accordance with ASTM D7748M-14.
- 6. Resistance to in-plane rotational movement measured in accordance with ASTM D7864/D7864M-15.
- 7. Resistance to loss of load capacity or structural integrity when subjected to mechanical installation stress in clayey sand (SC), well graded sand (SW), and crushed stone classified as poorly graded gravel (GP). The geogrid shall be sampled in accordance with ASTM D5818 and load capacity shall be determined in accordance with ASTM D6637.
- 8. Resistance to loss of load capacity or structural integrity when subjected to chemically aggressive environments in accordance with EPA 9090 immersion testing.
- Resistance to loss of load capacity or structural integrity when subjected to 500 hours of ultraviolet light and aggressive weathering in accordance with ASTM D4355-05.



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Product Specification - Biaxial Geogrid BX1220

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Product Type: Integrally Formed Biaxial Geogrid

Polymer: Polypropylene

Load Transfer Mechanism: Positive Mechanical Interlock

Primary Applications: SierraScape System, ADD³ System (Exposed Wall Face Wrap)

Product Properties

Index Properties	Units	MD Values ¹	XMD Values ¹
 Aperture Dimensions² 	mm (in)	25 (1.0)	33 (1.3)
 Rib Thickness² 	mm (in)	1.27 (0.05)	1.27 (0.05)
 Tensile Strength @ 2% Strain³ 	kN/m (lb/ft)	6.0 (410)	9.0 (620)
 Tensile Strength @ 5% Strain³ 	kN/m (lb/ft)	11.8 (810)	19.6 (1,340)
 Ultimate Tensile Strength³ 	kN/m (lb/ft)	19.2 (1,310)	28.8 (1,970)
 Carbon Black Content 	%	2.0	
Structural Integrity			
 Junction Efficiency⁴ 	%	93	_
 Overall Flexural Rigidity⁵ 	mg-cm	750,000	
 Aperture Stability⁶ 	m-N/deg	0.65	
Durability			
 Resistance to Installation Damage⁷ 	%SC / %SW / %GP	95 / 93 / 90	_
 Resistance to Long Term Degradation⁸ 	%	100	
 Resistance to UV Degradation⁹ 	%	100	

Dimensions and Delivery

The biaxial geogrid shall be delivered to the jobsite in roll form with each roll individually identified and nominally measuring 4.0 meters (13.1 feet) in width and 50.0 meters (164 feet) in length and 3.93 meters (12.9 feet) in width and 50.0 meters (164 feet) in length.

- 1. Unless indicated otherwise, values shown are 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. Determined in accordance with ASTM D6637-10 Method A.
- 4. Load transfer capability determined in accordance with ASTM D7737-11.
- 5. Resistance to bending force determined in accordance with ASTM D7748/D7748M-14.
- 6. Resistance to in-plane rotational movement measured in accordance with ASTM D7864/D7864M-15.
- 7. Resistance to loss of load capacity or structural integrity when subjected to mechanical installation stress in clayey sand (SC), well graded sand (SW), and crushed stone classified as poorly graded gravel (GP). The geogrid shall be sampled in accordance with ASTM D5818 and load capacity shall be determined in accordance with ASTM D6637.
- 8. Resistance to loss of load capacity or structural integrity when subjected to chemically aggressive environments in accordance with EPA 9090 immersion testing.
- Resistance to loss of load capacity or structural integrity when subjected to 500 hours of ultraviolet light and aggressive weathering in accordance with ASTM D4355-05.



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Product Specification - Biaxial Geogrid BX1300

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Product Type: Integrally Formed Biaxial Geogrid

Polymer: Polypropylene

Load Transfer Mechanism: Positive Mechanical Interlock

Primary Applications: Spectra System (Base Stabilization, Subgrade Improvement)

Product Properties

Index Properties	Units	MD Values ¹	XMD Values ¹
 Aperture Dimensions² 	mm (in)	46 (1.8)	64 (2.5)
 Rib Thickness² 	mm (in)	1.27 (0.05)	1.27 (0.05)
 Tensile Strength @ 2% Strain³ 	kN/m (lb/ft)	5.5 (380)	9.5 (650)
 Tensile Strength @ 5% Strain³ 	kN/m (lb/ft)	10.5 (720)	17.5 (1,200)
 Ultimate Tensile Strength³ 	kN/m (lb/ft)	16.0 (1,100)	28.0 (1,920)
Structural Integrity			
 Junction Efficiency⁴ 	%	93	_
 Overall Flexural Rigidity⁵ 	mg-cm	450,000	
 Aperture Stability⁶ 	m-N/deg	0.58	
Durability			
 Resistance to Installation Damage⁷ 	%SC / %SW / %GP	91 / 83 / 72	_
 Resistance to Long Term Degradation⁸ 	%	100	
 Resistance to UV Degradation⁹ 	%	100	

Dimensions and Delivery

The biaxial geogrid shall be delivered to the jobsite in roll form with each roll individually identified and nominally measuring 4.0 meters (13.1 feet) in width and 50.0 meters (164 feet) in length and 3.93 meters (12.9 feet) in width and 50.0 meters (164 feet) in length.

- 1. Unless indicated otherwise, values shown are minimum average roll values determined in accordance with ASTM D4759-02. Brief descriptions of test procedures are given in the following notes.
- Nominal dimensions.
- 3. Determined in accordance with ASTM D6637-10 Method A.
- 4. Load transfer capability determined in accordance with ASTM D7737-11.
- 5. Resistance to bending force determined in accordance with ASTM D7748/D7748M-14.
- Resistance to in-plane rotational movement measured in accordance with ASTM D7864/D7864M-15.
- 7. Resistance to loss of load capacity or structural integrity when subjected to mechanical installation stress in clayey sand (SC), well graded sand (SW), and crushed stone classified as poorly graded gravel (GP). The geogrid shall be sampled in accordance with ASTM D5818 and load capacity shall be determined in accordance with ASTM D6637.
- 8. Resistance to loss of load capacity or structural integrity when subjected to chemically aggressive environments in accordance with EPA 9090 immersion testing.
- Resistance to loss of load capacity or structural integrity when subjected to 500 hours of ultraviolet light and aggressive weathering in accordance with ASTM D4355-05.



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Product Specification - Biaxial Geogrid BX1500

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Product Type: Integrally Formed Biaxial Geogrid

Polymer: Polypropylene

Load Transfer Mechanism: Positive Mechanical Interlock

Primary Applications: Spectra System (Base Stabilization, Subgrade Improvement)

Product Properties

Index Properties	Units	MD Values ¹	XMD Values ¹
 Aperture Dimensions² 	mm (in)	25 (1.0)	30.5 (1.2)
 Rib Thickness² 	mm (in)	1.78 (0.07)	1.78 (0.07)
 Tensile Strength @ 2% Strain³ 	kN/m (lb/ft)	8.5 (580)	10.0 (690)
 Tensile Strength @ 5% Strain³ 	kN/m (lb/ft)	17.5 (1,200)	20.0 (1,370)
 Ultimate Tensile Strength³ 	kN/m (lb/ft)	27.0 (1,850)	30.0 (2,050)
Structural Integrity			
 Junction Efficiency⁴ 	%	93	_
 Overall Flexural Rigidity⁵ 	mg-cm	2,000,000	
 Aperture Stability⁶ 	m-N/deg	0.75	
Durability			
 Resistance to Installation Damage⁷ 	%SC / %SW / %GP	95 / 93 / 90	_
 Resistance to Long Term Degradation⁸ 	%	100	
 Resistance to UV Degradation⁹ 	%	100	

Dimensions and Delivery

The biaxial geogrid shall be delivered to the jobsite in roll form with each roll individually identified and nominally measuring 4.0 meters (13.1 feet) in width and 50.0 meters (164 feet) in length and 3.93 meters (12.9 feet) in width and 50.0 meters (164 feet) in length.

- 1. Unless indicated otherwise, values shown are 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. Determined in accordance with ASTM D6637-10 Method A.
- 4. Load transfer capability determined in accordance with ASTM D7737-11.
- 5. Resistance to bending force determined in accordance with ASTM D7748/D7748M-14.
- Resistance to in-plane rotational movement measured in accordance with ASTM D7864/D7864M-15.
- 7. Resistance to loss of load capacity or structural integrity when subjected to mechanical installation stress in clayey sand (SC), well graded sand (SW), and crushed stone classified as poorly graded gravel (GP). The geogrid shall be sampled in accordance with ASTM D5818 and load capacity shall be determined in accordance with ASTM D6637.
- 8. Resistance to loss of load capacity or structural integrity when subjected to chemically aggressive environments in accordance with EPA 9090 immersion testing.
- 9. Resistance to loss of load capacity or structural integrity when subjected to 500 hours of ultraviolet light and aggressive weathering in accordance with ASTM D4355-05.



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Product Specification - Biaxial Geogrid BX4100

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Product Type: Integrally Formed Biaxial Geogrid

Polymer: Polypropylene

Load Transfer Mechanism: Positive Mechanical Interlock

Primary Applications: Spectra System (Base Stabilization, Subgrade Improvement)

Product Properties

Index Properties	Units	MD Values ¹	XMD Values ¹
 Aperture Dimensions² 	mm (in)	33 (1.3)	33 (1.3)
 Rib Thickness² 	mm (in)	0.76 (0.03)	0.76 (0.03)
 Tensile Strength @ 2 % Strain³ 	kN/m (lb/ft)	4.0 (270)	5.5 (380)
 Tensile Strength @ 5% Strain³ 	kN/m (lb/ft)	8.0 (550)	10.5 (720)
 Ultimate Tensile Strength³ 	kN/m (lb/ft)	12.8 (880)	13.5 (920)
Structural Integrity			
 Junction Efficiency⁴ 	%	93	
 Overall Flexural Rigidity⁵ 	mg-cm	250,000	
 Aperture Stability⁶ 	m-N/deg	0.28	
Durability			
 Resistance to Installation Damage⁷ 	%SC / %SW / %GP	90 / 83 / 70	
 Resistance to Long Term Degradation⁸ 	%	100	
 Resistance to UV Degradation⁹ 	%	100	

Dimensions and Delivery

The biaxial geogrid shall be delivered to the jobsite in roll form with each roll individually identified and nominally measuring 4.0 meters (13.1 feet) in width and 75.0 meters (246 feet) in length and 3.93 meters (12.9 feet) in width and 75.0 meters (246 feet) in length.

- 1. Unless indicated otherwise, values shown are minimum average roll values determined in accordance with ASTM D4759-02. Brief descriptions of test procedures are given in the following notes.
- Nominal dimensions.
- 3. Determined in accordance with ASTM D6637-10 Method A.
- 4. Load transfer capability determined in accordance with ASTM D7737-11.
- 5. Resistance to bending force determined in accordance with ASTM D7748/D7748M-14.
- 6. Resistance to in-plane rotational movement measured in accordance with ASTM D7864/D7864M-15.
- 7. Resistance to loss of load capacity or structural integrity when subjected to mechanical installation stress in clayey sand (SC), well graded sand (SW), and crushed stone classified as poorly graded gravel (GP). The geogrid shall be sampled in accordance with ASTM D5818 and load capacity shall be determined in accordance with ASTM D6637.
- 8. Resistance to loss of load capacity or structural integrity when subjected to chemically aggressive environments in accordance with EPA 9090 immersion testing.
- Resistance to loss of load capacity or structural integrity when subjected to 500 hours of ultraviolet light and aggressive weathering in accordance with ASTM D4355-05.



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Product Specification - Biaxial Geogrid BX4200

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Product Type: Integrally Formed Biaxial Geogrid

Polymer: Polypropylene

Load Transfer Mechanism: Positive Mechanical Interlock

Primary Applications: Spectra System (Base Stabilization, Subgrade Improvement)

Product Properties

Index Properties	Units	MD Values ¹	XMD Values ¹
 Aperture Dimensions² 	mm (in)	33 (1.3)	33 (1.3)
 Rib Thickness² 	mm (in)	1.27 (0.05)	1.27 (0.05)
 Tensile Strength @ 2% Strain³ 	kN/m (lb/ft)	6 (410)	7.4 (510)
 Tensile Strength @ 5% Strain³ 	kN/m (lb/ft)	11.7 (800)	14.6 (1,000)
 Ultimate Tensile Strength³ 	kN/m (lb/ft)	20.5 (1,400)	23.5 (1,610)
Structural Integrity			
 Junction Efficiency⁴ 	%	93	_
 Overall Flexural Rigidity⁵ 	mg-cm	750,000	
 Aperture Stability⁶ 	m-N/deg	0.48	
Durability			
 Resistance to Installation Damage⁷ 	%SC / %SW / %GP	90 / 83 / 75	
 Resistance to Long Term Degradation⁸ 	%	100	
 Resistance to UV Degradation⁹ 	%	100	

Dimensions and Delivery

The biaxial geogrid shall be delivered to the jobsite in roll form with each roll individually identified and nominally measuring 4.0 meters (13.1 feet) in width and 50.0 meters (164 feet) in length and 3.93 meters (12.9 feet) in width and 50.0 meters (164 feet) in length.

- 1. Unless indicated otherwise, values shown are 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. Determined in accordance with ASTM D6637-10 Method A.
- 4. Load transfer capability determined in accordance with ASTM D7737-11.
- 5. Resistance to bending force determined in accordance with ASTM D7748/D7748M-14.
- Resistance to in-plane rotational movement measured in accordance with ASTM D7864/D7864M-15.
- 7. Resistance to loss of load capacity or structural integrity when subjected to mechanical installation stress in clayey sand (SC), well graded sand (SW), and crushed stone classified as poorly graded gravel (GP). The geogrid shall be sampled in accordance with ASTM D5818 and load capacity shall be determined in accordance with ASTM D6637.
- 8. Resistance to loss of load capacity or structural integrity when subjected to chemically aggressive environments in accordance with EPA 9090 immersion testing.
- Resistance to loss of load capacity or structural integrity when subjected to 500 hours of ultraviolet light and aggressive weathering in accordance with ASTM D4355-05.