



SYNTEC Product Specification: Biaxial Geogrid SBX 11 (Type 1)

Product Type: Integrally Formed Biaxial Geogrid
Polymer: Polypropylene
Load Transfer Mechanism: Positive Mechanical Interlock
Primary Applications: Base Reinforcement, Subgrade Improvement



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SYNTEC 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 Properties

Index Properties

	Units	MD Values ¹	XMD Values ¹
▪ Aperture Dimensions ²	mm (in)	25 (1.0)	33 (1.3)
▪ Minimum Rib Thickness ²	mm (in)	0.76 (0.03)	0.76 (0.03)
▪ Tensile Strength @ 2% Strain ³	kN/m (lb/ft)	4.1 (280)	6.6 (450)
▪ Tensile Strength @ 5% Strain ³	kN/m (lb/ft)	8.5 (580)	13.4 (920)
▪ Ultimate Tensile Strength ³	kN/m (lb/ft)	12.4 (850)	19.0 (1,300)

Structural Integrity

▪ Junction Efficiency ⁴	%	93	
▪ Flexural Stiffness ⁵	mg-cm	250,000	
▪ Aperture Stability ⁶	m-N/deg	0.32	

Durability

▪ Resistance to Installation Damage ⁷	%SC / %SW / %GP	95 / 93 / 90	
▪ Resistance to Long Term Degradation ⁸	%	100	
▪ Resistance to UV Degradation ⁹	%	100	

Dimensions and Delivery

The biaxial geogrid shall be delivered to the jobsite in roll form with each roll individually identified and nominally measuring 3.0 meters (9.8 feet) or 4.0 meters (13.1 feet) in width and 75.0 meters (246 feet) in length. A typical truckload quantity is 185 to 250 rolls.

Notes:

- 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.
- 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.
- Resistance to in-plane rotational movement measured by applying a 20 kg-cm (2 m-N) moment to the central junction of a 9 inch x 9 inch specimen restrained at its perimeter in accordance with U.S. Army Corps of Engineers Methodology for measurement of Torsional Rigidity.
- 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 D5818-06 and load capacity shall be determined in accordance with ASTM D6637-01.
- Resistance to loss of load capacity or structural integrity when subjected to chemically aggressive environments.
- 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.

SYNTEC warrants that at the time of delivery the geogrid furnished hereunder shall conform to the specification stated herein. Any other warranty including merchantability and fitness for a particular purpose, are hereby excluded. If the geogrid does not meet the specifications on this page and Syntec is notified prior to installation, SYNTEC will replace the geogrid at no cost to the customer.

This product specification supersedes all prior specifications for the product described above and is not applicable to any products shipped prior to October, 2011.