



STF P11



STF P11 geogrid is composed of polypropylene resin which is extruded into a stable geogrid structure. STF P11 geogrid is inert to biological degradation and resistant to naturally encountered chemicals, alkalis, and acids.

STF P11 increases roadbed and foundation bearing capacity, while prolonging the service life of each by the confinement of the base course. STF P11 prevents the lateral spreading of the base or sub-base aggregate and allows for shear interaction to develop between the aggregate and the geogrid.

STF P11 geogrid will reduce the applied vertical pressure of heavy loads at depth of aggregate by spreading the load over a wider area.

Mechanical Properties	Test Method	Unit	Minimum Average Roll Value	
			MD	CMD
Ultimate Tensile Strength ¹	ASTM D 6637	lbs/ft (kN/m)	850 (12.4)	1300 (19.0)
Tensile Strength at 2% ¹	ASTM D 6637	lbs/ft (kN/m)	280 (4.1)	450 (6.6)
Tensile Strength at 5% ¹	ASTM D 6637	lbs/ft (kN/m)	580 (8.5)	920 (13.4)
UV Resistance	ASTM D 4355	% strength retained	100%	
Junction Efficiency ²		%	93	93
Junction Strength		lbs	131	131
Flexural Stiffness ³		mg-cm	250,000	
Aperture Stability ⁴		m-N/deg	0.32	
Resistance to UV Degradation ⁵		%	100	
Physical Properties	Unit		Typical Values	
Rib Thickness	in (mm)		0.03 (0.76)	0.03 (0.76)
Aperture Size (MD)	inches		1.28	
Aperture Size (CMD)	inches		1.68	
Roll Size (width x length)	ft (m)		13.1 x 246 (4.0 x 75)	
Roll Weight	lbs		205	
Roll Area	yd ² (m ²)		358 (300)	

¹True resistance to elongation when initially subjected to a load determined in accordance with ASTM D 6637 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.

²Load transfer capability calculated as a % of ultimate tensile strength

³Resistance to bending force determined in accordance with ASTM D 5732. The overall Flexural Stiffness is calculated as the square root of the product of MD and CMD Flexural Stiffness values.

⁴Resistance to in-plane rotational movement measured by applying a 20kg-cm (2 m-N) moment to the central junction of a 9 inch x 9 inch specimen in accordance with U.S. Army Corps of Engineers Methodology for measurement of Torsional Rigidity.

⁵Tested according to ASTM D

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STF P12

STF P12 geogrid is composed of polypropylene resin which is extruded into a stable geogrid structure. STF P12 geogrid is inert to biological degradation and resistant to naturally encountered chemical, alkalis, and acids.

STF P12 increases roadbed and foundation bearing capacity, while prolonging the service life of each by the confinement of the base course. STF P12 prevents the lateral spreading of the base or sub-base aggregate and allows for shear interaction to develop between the aggregate and the geogrid.

STF P12 geogrid will reduce the applied vertical pressure of heavy loads at depth of aggregate by spreading the load over a wider area.

Mechanical Properties	Test Method	Unit	Minimum Average Roll Value	
			MD	CMD
Ultimate Tensile Strength ¹	ASTM D 6637	lbs/ft (kN/m)	1,310(19.2)	1,970 (28.8)
Tensile Strength at 2% ¹	ASTM D 6637	lbs/ft (kN/m)	410 (6.0)	620 (9.0)
Tensile Strength at 5% ¹	ASTM D 6637	lbs/ft (kN/m)	810 (11.8)	13,40 (19.6)
UV Resistance	ASTM D 4355	% strength retained	100%	
Junction Efficiency ²	%		93	
Flexural Stiffness ³	mg-cm		750,000	
Aperture Stability ⁴	m-N/deg		0.65	
Resistance to UV Degradation ⁵	%		100	
Physical Properties	Unit		Typical Values	
Rib Thickness	in (mm)		0.05 (1.27)	0.05 (1.27)
Aperture Size (MD)	in (mm)		1.0 (25.4)	
Aperture Size (CMD)	in (mm)		1.3.(33.0)	
Roll Size (width x length)	ft (m)		13.1 x 164 (4.0 x 50)	
Roll Weight	lbs		180	
Roll Area	yd ² (m ²)		239 (200)	

¹True resistance to elongation when initially subjected to a load determined in accordance with ASTM D 6637 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.

²Load transfer capability calculated as a % of ultimate tensile strength

³Resistance to bending force determined in accordance with ASTM D 7748. Please note ASTM D 5732 and ASTM D 1388 have been withdrawn and are no longer in use. The overall Flexural Stiffness is calculated as the square root of the product of MD and CMD Flexural Stiffness values.

⁴Resistance to in-plane rotational movement measured by applying a 20kg-cm (2 m-N) moment to the central junction of a 9 inch x 9 inch specimen in accordance with U.S. Army Corps of Engineers Methodology for measurement of Torsional Rigidity.

⁵Tested according to ASTM D 4355.

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