



Product Data Sheet

■ MS™ 220

Multi-Layer Bi-oriented Geogrid

The MS™ 220 is composed of two layers of high strength extruded biaxially oriented polypropylene geogrids. The layers are rolled and stitched together without superimposing the grids creating a geogrid with random sized apertures designed to accommodate a variety of fill materials. The random aperture geometry, many tensile elements, and multiple layers of the geogrid enhance soil/geogrid interaction.

The MS™ 220 geogrid greatly improves the geogrid interlocking capacity, distributes applied loads, and prevents localized shear failure.

TYPICAL APPLICATIONS:

Soft soil stabilization • Base reinforcement • Embankments over soft soils • Working platforms • Haul roads

PROPERTY	TEST METHOD	UNIT	DATA		NOTES
			MD	TD	
<input type="checkbox"/> MATERIAL			Polypropylene		
Polymer Type					
Carbon Black Content	ASTM D 4218	%	0.50		
<input type="checkbox"/> TECHNICAL					
Strengths and Load Capacity:					
Peak Tensile Strength	GRI-GG1	lb/ft (kN/m)	925 (13.5)	1,400 (20.5)	a,c,e
True Tensile Strength In Use: @ 2% Strain			300 (4.4)	445 (6.5)	
@ 5% Strain			615 (9.0)	890 (13.0)	
True Initial Modulus In Use			15,513 (226.4)	24,674 (360.1)	
Tensile Modulus: @ 2% Strain	GRI-GG1	lb/ft (kN/m)	15,000 (220)	22,260 (325)	a,c,e
@ 5% Strain			12,330 (180)	17,800 (260)	
Structural Integrity:					
Junction Tensile Strength: @ 1% Strain	GRI-GG2	lb/ft (kN/m)	170 (2.48)	200 (2.92)	b,e
@ 2% Strain			235 (3.44)	300 (4.38)	
Junction Tensile Modulus: @ 1% Strain	GRI-GG2	lb/ft (kN/m)	17,000 (248)	20,000 (292)	b,e
@ 2% Strain			11,780 (172)	15,000 (219)	
Junction: Strength Efficiency	GRI-GG2	lb/ft (kN/m) %	835 (12.2)	1,315 (19.2)	a,e
			90		
Flexural Rigidity	ASTM D 1388	mg-cm	250,000		b,e
Durability:					
Resistance to Installation Damage	ASTM D 5818	%SC/%SW/%GP	> 90 / > 90 / 90		f
<input type="checkbox"/> PHYSICAL / DIMENSIONAL					
Thickness: Junction	ASTM D 1777	in (mm)	0.11 (2.8)		b,d
Rib – MD / TD		in (mm) / in (mm)	0.034 (0.86) / 0.034 (0.86)		b,d,e
Aperture Size	Measured	in (mm) x in (mm)	1.65 (42) x 1.96 (50)		a
Open Area	CW-02215	%	75		b
Unit Weight	Measured	oz/yd ²	6.5 (220)		
Roll Dimensions		ft x ft (m x m)	12.5 x 328 (3.8 x 100)		
Roll Area		yd ² (m ²)	455 (380)		
Gross Roll Weight		lb (kg)	217 (98.5)		

NOTES:

(a) 95% lower confidence values, ISO 2602

(d) Single layer dimension

(f) Geogrid Report GRID-TE-4:

(b) Typical Value

(e) MD: Machine direction (longitudinal to the roll)

"Construction Damage Tests of Geogrids"

(c) Tests performed using extensometers

TD: Transverse direction (across the width)

The geosynthetic industry has not identified any values for the index property "Torsional Stiffness" (Secant Aperture Stability Modulus), nor has the test method been developed as an industry standard (ASTM or GRI). Therefore, accredited geosynthetic labs can not evaluate a product per this method.

The properties reported above are effective 02/01/03 and are subject to change without notice.