

TENAX MS 220

TENAX MS™ 220 is composed of two layers of high strength extruded biaxial 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. TENAX 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

MATERIAL CHARACTERISTICS	TEST METHOD	DATA
polymer type		polypropylene
carbon black content	ASTM D 4218	0.50%

DIMENSIONAL CHARACTERISTICS	TEST METHOD	UNIT		NOTES
thickness: junction	ASTM D 1777	in (mm)	0.16 (4.0)	b,d
rib - MD/TD		in (mm) / in (mm)	0.034 (0.86) / 0.034 (0.86)	b,d,e
aperture size		in (mm) / in (mm)	1.65 (42) x 1.96 (50)	b,d,e
open area	CW 02215	%	75	a
unit weight	ASTM D 5261	oz/yd ² (g/m ²)	6.5 (220)	b
roll dimensions		ft x ft (m x m)	12.5 x 328 (3.8 x 100)	b
roll area		yd ² (m ²)	455 (380)	b
gross roll weight		lb (kg)	208 (94.4)	b

TECHNICAL CHARACTERISTICS	TEST METHOD	UNIT			NOTES
Strengths & Load Capacity:			MD	TD	
peak tensile strength	ASTM D6637	lb/ft (kN/m)	925 (13.5)	1,400 (20.5)	a,c,e
true tensile strength in use: @2% strain	ASTM D6637	lb/ft (kN/m)	301 (4.4)	450 (6.6)	a,c,e
@5% strain	ASTM D6637	lb/ft (kN/m)	616 (9.0)	920 (13.4)	a,c,e
true initial modulus in use	ASTM D6637	lb/ft (kN/m)	17,140 (250)	27,420 (400)	a,c,e
true tensile modulus: @ 2% strain	ASTM D6637	lb/ft (kN/m)	15,050 (220)	22,500 (328)	a,c,e
@ 5% strain	ASTM D6637	lb/ft (kN/m)	12,320 (180)	18,400 (269)	a,c,e
Structural Integrity:					
junction tensile strength: @1% strain	GRI-GG2	lb/ft (kN/m)	170 (2.48)	200 (2.92)	a,e
@2% strain	GRI-GG2		235 (3.44)	300 (4.38)	a,e
junction tensile modulus: @1% strain	GRI-GG2	lb/ft (kN/m)	17,000 (248)	20,000 (292)	a,e
@2% strain	GRI-GG2		11,780 (172)	15,000 (219)	a,e
junction: strength	GRI-GG2	lb/ft (kN/m)	860 (12.55)	1,315 (19.2)	a,e
efficiency	GRI-GG2	%	93		a,e
flexural rigidity	ASTM D 1388	mg-cm	250,000	250,000	b
Durability:					
resistance to installation damage	ASTM D 5318	%SC/%SW/%GP	>90/>90/90		f

NOTES: a: 95% lower confidence limit values, ISO 2602; b: Typical values; c: Tests performed using extensometers; d: Single layer value; e: MD: machine direction (longitudinal to the roll), TD: transverse direction (across roll width); f: Tenax report GRID-TE-4: "Construction Damage Tests of Geogrids"