

TENAX MS 500

TENAX MS™ 500 is composed of five 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™ 500 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: rib - MD/TD	ASTM D 1777	in (mm) / in (mm)	0.05 (1.27) / 0.05 (1.27)	b,d,e
aperture size		in (mm) / in (mm)	2.36 (60) x 2.76 (70)	b,d,e
open area	CW 02215	%	70	b
unit weight	ASTM D 5261	oz/yd ² (g/m ²)	9.26 (315)	b
roll dimensions		ft x ft (m x m)	14.76 x 164 (4.5x 50)	b
roll area		yd ² (m ²)	269 (225)	b
gross roll weight		lb (kg)	171 (77.7)	b

TECHNICAL CHARACTERISTICS	TEST METHOD	UNIT			NOTES
Strengths & Load Capacity:			MD	TD	
peak tensile strength	ASTM D6637	lb/ft (kN/m)	2397 (35)	2397 (35)	a,c,e
true tensile strength in use: @2% strain	ASTM D6637	lb/ft (kN/m)	548 (8)	685 (10.0)	a,c,e
@5% strain	ASTM D6637	lb/ft (kN/m)	1096 (16)	1342 (19.6)	a,c,e
true initial modulus in use	ASTM D6637	lb/ft (kN/m)	40113 (585)	42853 (625)	a,c,e
true tensile modulus: @ 2% strain	ASTM D6637	lb/ft (kN/m)	27400 (400)	34250 (500)	a,c,e
@ 5% strain	ASTM D6637	lb/ft (kN/m)	21920 (320)	26852 (392)	a,c,e
Structural Integrity:					
junction tensile strength: @1% strain	GRI-GG2	lb/ft (kN/m)	274 (4)	274 (4)	a,e
@2% strain	GRI-GG2		479.5 (7)	479.5 (7)	a,e
junction tensile modulus: @1% strain	GRI-GG2	lb/ft (kN/m)	27400 (400)	27400 (400)	a,e
@2% strain	GRI-GG2		95900(1400)	95900(1400)	a,e
junction: strength	GRI-GG2	lb/ft (kN/m)	2229 (32.6)	2229 (32.6)	a,e
efficiency		%	93		a,e
flexural rigidity	ASTM D 1388	mg-cm	750,000	750,000	b

NOTES: a: Minimum average roll values determined in accordance with ASTM D4759; 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"