## SuperGeo™ HD Textured



Meets GRI GM13 Specifications

Properties	Test Method	Minimum Average Values			
		0.75	1.00	1.50	2.00
Thickness (mm) Lowest individual reading Lowest individual for any of the 10 values	ASTM D5199	0.75 mm -10% -15%	1.00 mm -10% -15%	1.50 mm -10% -15%	2.00 mm -10% -15%
Asperity Height mils (min. ave.) (1)	ASTM D 7466	16	16	16	16
Minimum Density, g/cm <sup>3</sup>	ASTM D1505	.940	.940	.940	.940
Tensile Properties (2) (Each Direction) Strength at Break (N) Strength at Yield (N) Elongation at Break (%) Elongation at Yield (%)	ASTM D6693, Type IV	8 11 100 12	10 15 100 12	16 22 100 12	213 29 100 12
Tear Resistance (N)	ASTM D1004	93	125	187	249
Puncture Resistance (N)	ASTM D4833	200	267	400	534
Stress Crack Resistance	D 5397	500 hr.	500 hr.	500 hr.	500 hr.
Carbon Black Content (%) (Range)	ASTM D1603 or D 4218	2.0 – 3.0	2.0 - 3.0	2.0 – 3.0	2.0 - 3.0
Carbon Black Dispersion	ASTM D5596	Note (3)	Note (3)	Note (3)	Note (3)
Oxidative Induction Time (OIT) (min. ave.) (4) (a) Standard OIT OR	D 3895	100 min	100 min	100 min	100 min
(b) High Pressure OIT	D 5885	400 min	400 min	400 min	400 min
Oven Aging at 85°C <i>(4)</i> (a) Standard OIT (min. ave.) – % retained after 90 days	D 5721 D 3895	55%	55%	55%	55%
(b) High Pressure OIT (min. ave.) - % retained after 90 days	D5885	80%	80%	80%	80%
UV Resistance (5) (a) Standard OIT (min. ave.)	D 7238 D 3895	N.R. (6)	N.R. <i>(6)</i>	N.R. <i>(6)</i>	N.R. (6)
(b) High Pressure OIT (min. ave.) – retained after 1600 hrs (7)	D 5885	50%	50%	50%	50%
Standard Roll Dimensions					
Roll Length (8), meters.		332.23	248.41	164.59	121.92
Roll Width (8), meters.		6.553	6.553	6.553	6.553
Roll Area, meters. <sup>2</sup>		2177.10	1863.73	1078.55	798.94

Of 10 readings; 8 of 10 must be  $\geq$  0.35 mm, and lowest individual reading must be  $\geq$  0.30 mm; also see Note 3 (2) Machine direction (MD) and cross machine direction (XMD) average values should be on the basis of 5 test specimens each direction.

on the basis of 5 test specimens each direction. Yield elongation is calculated using a gage length of 1.3 inches. Break elongation is calculated using a gage length of 2.0 in. Carbon black dispersion (only near spherical agglomerates) for 10 different views: 9 in Categories 1 or 2 and 1 in Category 3.

(4) Either of the OIT methods listed can be used by the manufacturer to

evaluate the antioxidant content in the geomembrane. The condition of the test should be 20 hr. UV cycle at 75 °C followed (5)

by 4 hr. condensation at 60°C. Not recommended since the high temperature of the Std-OIT test produces an unrealistic result for some of the antioxidants in the UV (6)

exposed samples. UV resistance is based on percent retained value regardless of the original HP-OIT value. (7)

Roll Lengths and widths will be +- 1% of the stated dimensions. (8)



(3)

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INDUSTRIAL F

MILES CITY, MT 184 Hwy 59 N Miles City, MT . 59301 800.488.3592 406.234.1680

MIDLAND, TX 11701 Co. Rd. 125 W Midland, TX . 79711 800.583.6005 432.563.4005

PLEASANTON, TX 4300 S Hwy 281 Pleasanton, TX . 78064 830.569.4005

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> HOUSTON, TX 8615 Golden Spike Ln Houston, TX . 77086 800.364.7688 281.272.1660

## www.brawler.com