

# GSE HD Textured Geomembrane (Double-Sided)

GSE HD Textured is a co-extruded textured high density polyethylene (HDPE) geomembrane on one or both sides. It is manufactured from the highest quality resin specifically formulated for flexible geomembranes. This product is used in applications that require increased frictional resistance, excellent chemical resistance and endurance properties.



**AT THE CORE:**  
An HDPE geomembrane suitable for applications that require increased frictional resistance excellent chemical resistance and endurance properties.

## Product Specifications

These product specifications meet or exceed GRI GM13.

Tested Property	Test Method	Frequency	Minimum Average Value				
Thickness, mm (mil) <sup>(1)</sup> Lowest individual reading, mm (mil)	ASTM D 5994	every roll	0.75 (30) 0.64 (25.5)	1.0 (40) 0.85 (34)	1.5 (60) 1.28 (51)	2.0 (80) 1.7 (68)	2.5 (100) 2.13 (85)
Density, g/cm <sup>3</sup>	ASTM D 1505	every 5th roll	0.94	0.94	0.94	0.94	0.94
Tensile Properties (each direction) <sup>(2)</sup> Strength at Break, N/mm-width (lb/in) Strength at Yield, N/mm-width (lb/in) Elongation at Break, % Elongation at Yield, %	ASTM D 6693, Type IV Dumbbell, 2 ipm  G.L. = 51 mm (2.0 in) G.L. = 33 mm (1.3 in)	every 5th roll	8 (46) 11 (63) 150 13	11 (63) 15 (86) 150 13	16 (91) 23 (131) 150 13	21 (120) 30 (171) 150 13	27 (154) 38 (217) 150 13
Tear Resistance, N (lb)	ASTM D 1004	every 5th roll	93 (21)	125 (28)	187 (42)	249 (56)	311 (70)
Puncture Resistance, N (lb)	ASTM D 4833	every 5th roll	240 (54)	320 (72)	480 (108)	641 (144)	801 (180)
Carbon Black Content, %	ASTM D 1603 / D 4218	every 5th roll	2.0 - 3.0	2.0 - 3.0	2.0 - 3.0	2.0 - 3.0	2.0 - 3.0
Carbon Black Dispersion	ASTM D 5596	every 5th roll	Note <sup>(3)</sup>	Note <sup>(3)</sup>	Note <sup>(3)</sup>	Note <sup>(3)</sup>	Note <sup>(3)</sup>
Asperity Height	ASTM D 7466	every 2nd roll	Note <sup>(4)</sup>	Note <sup>(4)</sup>	Note <sup>(4)</sup>	Note <sup>(4)</sup>	Note <sup>(4)</sup>
Notched Constant Tensile Load <sup>(5)</sup> , hrs	ASTM D 5397, Appendix	90,000 kg	500	500	500	500	500
Oxidative Induction Time, minutes	ASTM D 3895, 200° C; O <sub>2</sub> , 1 atm	90,000 kg	>100	>100	>100	>100	>100
<b>TYPICAL ROLL DIMENSIONS</b>							
Roll Length <sup>(6)</sup> , m (ft)			250 (820)	200 (656)	100 (328)	80 (262)	60 (197)
Roll Width <sup>(6)</sup> , m (ft)			7.0 (23)	7.0 (23)	7.0 (23)	7.0 (23)	7.0 (23)
Roll Area, m <sup>2</sup> (ft <sup>2</sup> )			1,750 (18,860)	1,400 (15,088)	700 (7,544)	560 (6,026)	420 (4,531)
40' Standard Container, roll			9	9	14	14	14

**NOTES:**

- <sup>(1)</sup>Minimum average core thickness is -5% of the nominal thickness; lowest thickness for 8 out of 10 values is -10% of the nominal value; lowest thickness for any of the 10 values is -15% of the nominal value.
- <sup>(2)</sup>The combination of stress concentrations due to co-extrusion texture geometry and the small specimen size results in large variation of test results. Therefore, these tensile properties are minimum average values.
- <sup>(3)</sup>Dispersion only applies to near spherical agglomerates. 9 of 10 views shall be Category 1 or 2. No more than 1 view from Category 3.
- <sup>(4)</sup>0.40 mm average. 8 of 10 readings > 0.35 mm. Lowest individual > 0.30 mm.
- <sup>(5)</sup>NCTL for HD Textured is conducted on representative smooth membrane samples.
- <sup>(6)</sup>Roll lengths and widths have a tolerance of ±1%.
- GSE HD Standard Textured is provided in rolls weighing approximately 1,100 ~ 1,620 kg.
- All GSE geomembranes have dimensional stability of ±2% when tested with ASTM D 1204 and LTB of <-77° C when tested with ASTM D 746.

GSE is a leading manufacturer and marketer of geosynthetic lining products and services. We've built a reputation of reliability through our dedication to providing consistency of product, price and protection to our global customers.

Our commitment to innovation, our focus on quality and our industry expertise allow us the flexibility to collaborate with our clients to develop a custom, purpose-fit solution.



**[ DURABILITY RUNS DEEP ]** For more information on this product and others, please visit us at [GSEworld.com](http://GSEworld.com), call 66.2.937.0091 or contact your local sales office.