



The Pioneer of Geosynthetics
S I N C E 1 9 7 2

GSE HD Smooth Geomembrane

GSE HD is a smooth high density polyethylene (HDPE) geomembrane manufactured with the highest quality resin specifically formulated for flexible geomembranes. This product is used in applications that require excellent chemical resistance and endurance properties.

Product Specifications

These product specifications meet or exceed GRI GM 13.

TESTED PROPERTY	TEST METHOD	FREQUENCY	MINIMUM AVERAGE VALUE							
			HDS 030 A00T	HDS 050 A00T	HDS 075 A00T	HDS 100 A00T	HDS 150 A00T	HDS 200 A00T	HDS 250 A00T	HDS 300 A00T
Product Code										
Thickness Minimum average, mm (mil) Lowest individual reading, mm (mil)	ASTM D 5199	every roll	0.3 (12) 0.27 (10.8)	0.5 (20) 0.45 (18)	0.75 (30) 0.68 (27)	1.0 (40) 0.9 (36)	1.5 (60) 1.35 (54)	2.0 (80) 1.8 (72)	2.5 (100) 2.25 (90)	3.0 (120) 2.7 (108)
Density, g/cm ³	ASTM D 1505	every 5th roll	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Tensile Properties (each direction) 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 Dumbell, 2 ipm G.L. 51 mm (2.0 in) G.L. 33 mm (1.3 in)	every 5th roll	8 (46) 5 (29) 600 13	14 (80) 8 (46) 700 13	21 (120) 11 (63) 700 13	28 (160) 15 (86) 700 13	43 (246) 23 (131) 700 13	57 (325) 30 (171) 700 13	71 (405) 38 (217) 700 13	85 (485) 45 (257) 700 13
Tear Resistance, N (lb)	ASTM D 1004	every 5th roll	40 (9)	65 (15)	93 (21)	125 (28)	187 (42)	249 (56)	311 (70)	373 (84)
Puncture Resistance, N (lb)	ASTM D 4833	every 5th roll	105 (24)	176 (40)	263 (59)	352 (79)	530 (119)	703 (158)	881 (198)	1,059 (238)
Carbon Black Content, %	ASTM D 1603	every 5th roll	2.0-3.0	2.0-3.0	2.0-3.0	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 ⁽¹⁾	Note ⁽¹⁾	Note ⁽¹⁾	Note ⁽¹⁾	Note ⁽¹⁾	Note ⁽¹⁾	Note ⁽¹⁾	Note ⁽¹⁾
Notched Constant Tensile Load, hrs	ASTM D 5397, Appendix	90,000 kg	400	400	400	400	400	400	400	400
Oxidative Induction Time, minutes	ASTM D 3895, 200° C; O ₂ , 1 atm	90,000 kg	>100	>100	>100	>100	>100	>100	>100	>100
TYPICAL ROLL DIMENSIONS										
Roll Length (approximate), m (ft)			200 (656)	420 (1,378)	280 (918)	210 (689)	140 (459)	105 (344)	85 (279)	70 (230)
Roll Width, m (ft)			7.1 (23.3)	7.1 (23.3)	7.0 (23)	7.0 (23)	7.0 (23)	7.0 (23)	7.0 (23)	7.0 (23)
Roll Area, m ² (ft ²)			1,420 (15,284)	2,982 (32,107)	1,960 (21,114)	1,470 (15,847)	980 (10,557)	735 (7,912)	595 (6,417)	490 (5,290)
40' Standard Container, roll			35	16	16	16	16	16	16	16

NOTES:

- ⁽¹⁾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.
- GSE HD provided in thicknesses of 0.5 mm to 3.0 mm has an approximate weight of 1,430 kg (3,152 lb). GSE HD 0.3 mm material is provided in rolls weighing approximately 413 kg (910 lb) each.
- All GSE geomembranes have dimensional stability of ±2% when tested with ASTM D 1204 and LTBT of <-77° C when tested with ASTM D 746.

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