



GSE STANDARD PRODUCTS

Product Data Sheet

GSE White Geomembranes

GSE White is a patented, coextruded, light reflective HDPE geomembrane, with a UV-stabilized, white upper surface that is approximately 3-5 mils (0.075-0.125 mm) thick. This layer is part of the total thickness, the remainder of which is a carbon black stabilized primary layer. GSE White improves detection of post-installation damage and reduces heat buildup on the liner by reflecting solar energy. Reducing liner temperature leads to fewer wrinkles and less subgrade desiccation. Variations of this product include the opposite side being electrically conductive and one or both sides being textured. *These product specifications meet or exceed GRI GM13.*

Product Specifications

GSE Advantage Products

GSE GundSeal • GSE Conductive • GSE White • GSE PermaNet • GSE BioDrain System

TESTED PROPERTY	TEST METHOD	FREQUENCY	MINIMUM VALUE				
Product Code			HDE 030A010	HDE 040A010	HDE 060A010	HDE 080A010	HDE 100A010
Thickness, (minimum average) mil (mm)	ASTM D 5199	every roll	30 (0.75)	40 (1.00)	60 (1.50)	80 (2.00)	100 (2.50)
Lowest individual reading (-10%)			27 (0.69)	36 (0.91)	54 (1.40)	72 (1.80)	90 (2.30)
Density ⁽²⁾ , g/cm ³	ASTM D 1505	200,000 lb	0.94	0.94	0.94	0.94	0.94
Tensile Properties (each direction)	ASTM D 6693, Type IV	20,000 lb					
Strength at Break, lb/in-width (N/mm)	Dumbell, 2 ipm		114 (20)	152 (27)	228 (40)	304 (53)	380 (67)
Strength at Yield, lb/in-width (N/mm)			63 (11)	84 (15)	126 (22)	168 (29)	210 (37)
Elongation at Break, %	G.L. = 2.0 in (51 mm)		700	700	700	700	700
Elongation at Yield, %	G.L. = 1.3 in (33 mm)		12	12	12	12	12
Tear Resistance, lb (N)	ASTM D 1004	45,000 lb	21 (93)	28 (125)	42 (187)	56 (249)	70 (311)
Puncture Resistance, lb (N)	ASTM D 4833	45,000 lb	54 (240)	72 (320)	108 (480)	144 (640)	180 (800)
Carbon Black Content ⁽¹⁾⁽²⁾ , %	ASTM D 1603*/4218	20,000 lb	2.0	2.0	2.0	2.0	2.0
Carbon Black Dispersion	ASTM D 5596	45,000 lb	+Note 1	+Note 1	+Note 1	+Note 1	+Note 1
Notched Constant Tensile Load, hr	ASTM D 5397, Appendix	200,000 lb	300	300	300	300	300
REFERENCE PROPERTY	TEST METHOD	FREQUENCY	NOMINAL VALUE				
Oxidative Induction Time ⁽²⁾ , min	ASTM D 3895, 200° C; O ₂ , 1 atm	200,000 lb	>100	>100	>100	>100	>100
Roll Length ⁽³⁾ (approximate), ft (m)			1,120 (341)	870 (265)	560 (171)	430 (131)	340 (104)
Roll Width ⁽³⁾ , ft (m)			22.5 (6.9)	22.5 (6.9)	22.5 (6.9)	22.5 (6.9)	22.5 (6.9)
Roll Area, ft ² (m ²)			25,200 (2,341)	19,575 (1,819)	12,600 (1,171)	9,675 (899)	7,650 (711)

NOTES:

- +Note 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 White is available in rolls weighing about 3,900 lb (1,769 kg).
- ⁽¹⁾GSE White may have an overall ash content greater than 3.0% due to the white layer.
- 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.
- ⁽²⁾The values apply to the black layer only.
- ⁽³⁾Roll lengths and widths have a tolerance of ± 1%.
- *Modified.

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