



The Pioneer Of Geosynthetics

S I N C E 1 9 7 2

HIGH PERFORMANCE GSE ULTRAFLEX SMOOTH GEOMEMBRANE

High Performance GSE UltraFlex Smooth is a co-extruded linear low density polyethylene (LLDPE) geomembrane specifically designed to be used in the most stringent applications. It is designed for applications that require increased elasticity and multi-axial break resistance where differential or localized settlements may occur. This product contains only the finest raw materials to enable exceptional elasticity and excellent multi-axial break resistance. Included in this product is a custom additive package that has been engineered to enable extended geomembrane lifetime and improved resilience in elevated temperatures, hazardous waste containment, or a harsh chemical environment. In addition to a superior UV stabilization package, a well-dispersed premium grade of carbon black is utilized to deliver superb UV resistance in exposed applications.

Product Specifications

These product specifications exceed GRI GM 17.

TESTED PROPERTY	TEST METHOD	FREQUENCY	MINIMUM AVERAGE VALUE			
			40 mil	60 mil	80 mil	100 mil
Thickness, (minimum average) mil (mm) Lowest individual reading (-10%)	ASTM D 5199	every roll	40 (1.00) 36 (0.91)	60 (1.50) 54 (1.40)	80 (2.00) 72 (1.80)	100 (2.50) 90 (2.30)
Density, g/cm ³	ASTM D 1505	200,000 lb	0.92	0.92	0.92	0.92
Tensile Properties (each direction) Strength at Break, lb/in-width (N/mm) Elongation at Break, %	ASTM D 6693, Type IV Dumbbell, 2 ipm G.L. 2.0 in (51 mm)	20,000 lb	170 (29) 900	240 (42) 900	320 (56) 900	380 (66) 900
Tear Resistance, lb (N)	ASTM D 1004	45,000 lb	22 (100)	33 (150)	44 (200)	55 (250)
Puncture Resistance, lb (N)	ASTM D 4833	45,000 lb	70 (311)	100 (444)	130 (578)	155 (689)
Multi-axial Break Resistance, %	ASTM D 5617	per formulation	90	90	90	90
Carbon Black Content, % (Range)	ASTM D 1603*/4218	20,000 lb	2.0 - 3.0	2.0 - 3.0	2.0 - 3.0	2.0 - 3.0
Carbon Black Dispersion	ASTM D 5596	45,000 lb	Note ⁽¹⁾	Note ⁽¹⁾	Note ⁽¹⁾	Note ⁽¹⁾
Oxidative Induction Time, mins	ASTM D 3895, 200°C; O ₂ , 1 atm	200,000 lb	>140	>140	>140	>140
High Pressure Oxidative Induction Time, mins	ASTM D 5885, 150°C; O ₂ , 3.4 MPa	per formulation	>550	>550	>550	>550
Oven aging at 85°C High Pressure OIT (min. avg.) - % retained after 90 days	ASTM D 5721 ASTM D 5885	per formulation	80	80	80	80
UV Resistance High Pressure OIT (min. avg.) - % retained after 1,600 hours	GM 11 ASTM D 5885	per formulation	60	60	60	60
TYPICAL ROLL DIMENSIONS						
Roll Length ⁽²⁾ , ft (m)			870 (265)	560 (171)	430 (131)	340 (103)
Roll Width ⁽²⁾ , ft (m)			22.5 (6.86)	22.5 (6.86)	22.5 (6.86)	22.5 (6.86)
Roll Area, ft ² (m ²)			19,575 (1,819)	12,600 (1,171)	9,675 (899)	7,650 (710)

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.
- ⁽²⁾Roll lengths and widths have a tolerance of ± 1%.
- High Performance GSE UltraFlex Smooth is available in rolls weighing approximately 3,900 lb (1,769 kg).
- All GSE geomembranes have dimensional stability of ±2% when tested according to ASTM D 1204 and LTB of <-77° C when tested according to ASTM D 746.
- *Modified.