



GSE STANDARD PRODUCTS

# Product Data Sheet

## GSE UltraFlex Geomembranes

GSE UltraFlex is a high quality, linear low density polyethylene (LLDPE) geomembrane produced from specially formulated, virgin polyethylene with outstanding flexibility. This polyethylene resin is designed specifically for flexible geomembrane applications. Its high uniaxial and multiaxial elongation characteristics make it very suitable for applications where differential or localized subgrade settlements are expected such as leach pads, landfill closure caps, or any application where elongation or puncture resistance is critical. GSE UltraFlex contains approximately 97.5% polyethylene, 2.5% carbon black and trace amounts of antioxidants and heat stabilizers; no fillers or extenders are used. GSE UltraFlex is the only material of its type on the market with many years of proven performance in applications throughout the world. *These product specifications meet or exceed GRI GM17.*

### Product Specifications

TESTED PROPERTY	TEST METHOD	FREQUENCY	MINIMUM VALUE			
Product Code			LLD 030A000	LLD 040A000	LLD 060A000	LLD 080A000
Thickness, (minimum average) mil (mm) Lowest individual reading (-10%)	ASTM D 5199	every roll	30 (0.75) 27 (0.69)	40 (1.00) 36 (0.91)	60 (1.50) 54 (1.40)	80 (2.00) 72 (1.80)
Density, g/cm <sup>3</sup>	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 Dumbell, 2 ipm G.L. = 2.0 in (51 mm)	20,000 lb	114 (20) 800	152 (27) 800	228 (40) 800	304 (53) 800
Tear Resistance, lb (N)	ASTM D 1004	45,000 lb	16 (71)	22 (98)	33 (147)	44 (200)
Puncture Resistance, lb (N)	ASTM D 4833	45,000 lb	42 (190)	56 (250)	84 (370)	112 (500)
Carbon Black Content, %	ASTM D 1603*/4218	20,000 lb	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
REFERENCE PROPERTY	TEST METHOD	FREQUENCY	NOMINAL VALUE			
Oxidative Induction Time, min	ASTM D 3895, 200° C, 1 atm	200,000 lb	>100	>100	>100	>100
Roll Length (approximate), ft (m)			1,120 (341)	870 (265)	560 (171)	430 (131)
Roll Width <sup>(1)</sup> , ft (m)			22.5 (6.9)	22.5 (6.9)	22.5 (6.9)	22.5 (6.9)
Roll Area <sup>(1)</sup> , ft <sup>2</sup> (m <sup>2</sup> )			25,200 (2,341)	19,575 (1,819)	12,600 (1,171)	9,675 (899)

#### 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 UltraFlex is available in rolls weighing about 3,800 lb (1,724 kg) respectively.
- All GSE geomembranes have dimensional stability of ±2% when tested with ASTM D 1204 and ITB of <-77° C when tested with ASTM D 746.
- <sup>(1)</sup>Roll lengths and widths have a tolerance of ± 1%.
- \*Modified.

DS003 UltraFlex R01/07/08

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<b>North America</b>	GSE Lining Technology, Inc.	Houston, Texas	800.435.2008	281.443.8564	Fax: 281.230.6739
<b>South America</b>	GSE Lining Technology Chile S.A.	Santiago, Chile		56.2.595.4200	Fax: 56.2.595.4290
<b>Asia Pacific</b>	GSE Lining Technology Company Limited	Bangkok, Thailand		66.2.937.0091	Fax: 66.2.937.0097
<b>Europe &amp; Africa</b>	GSE Lining Technology GmbH	Hamburg, Germany		49.40.767420	Fax: 49.40.7674234
<b>Middle East</b>	GSE Lining Technology-Egypt	The 6th of October City, Egypt		20.2.828.8888	Fax: 20.2.828.8889