



# GSE UltraFlex – Product Data Sheet

GSE UltraFlex is a high quality, very flexible polyethylene (LLDPE/VPPE) geomembrane produced from specially formulated, virgin polyethylene resin designed specifically for flexible geomembrane applications. The high uniaxial and multiaxial elongation characteristics of GSE UltraFlex make it very suitable for applications where differential or localised subgrade settlements are expected such as leach pads and landfill closure caps, or any application where ability to accommodate settlement and multiaxial strain is critical.

Tested Property	Unit	Test Method	Minimum Values <sup>(1)</sup>				
			0.5	0.75	1.0	1.5	2.0
Thickness <sup>(2)</sup>	mm	ASTM D 5199	0.5	0.75	1.0	1.5	2.0
Density (max)	g/cm <sup>3</sup>	ASTM D 792 / 1505A	≤ 0.939	≤ 0.939	≤ 0.939	≤ 0.939	≤ 0.939
Tensile Properties (each Direction)		ASTM D 6693, Type IV, Speed: 50 mm/min					
Strength at Break	N/mm		13	20	27	40	53
Elongation at Break	%	G.L. = 50 mm	800	800	800	800	800
Tear Resistance	N	ASTM D 1004	50	70	100	150	200
Puncture Resistance	N	ASTM D 4833	120	190	250	370	500
Carbon Black Content	%	ASTM D 1603	2.0	2.0	2.0	2.0	2.0
Carbon Black Dispersion	Category	ASTM D 5596	1/2 <sup>(3)</sup>	1/2 <sup>(3)</sup>	1/2 <sup>(3)</sup>	1/2 <sup>(3)</sup>	1/2 <sup>(3)</sup>
Reference Property	Unit	Test Method	Nominal Values				
Melt Flow Index	g/10 min	ASTM D 1238. Cond. 190/2.16	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Dimensional Stability (each Direction)	%	ASTM D 1204, 100°C, 1 hour	± 2	± 2	± 2	± 2	± 2
Multi-axial Strain	%	ASTM D 5617	30	30	30	30	30
2% Secant Modulus (max)	N/mm <sup>2</sup>	ASTM D 5323	≤ 420	≤ 420	≤ 420	≤ 420	≤ 420
Oxidative Induction Time (Standard-OIT)	min	ASTM D 3895, 200 °C, pure O <sub>2</sub> , 1 atm	≥ 100	≥ 100	≥ 100	≥ 100	≥ 100
Oven Ageing	%	ASTM D 5721					
Standard-OIT retained after 90 days, 85°C		ASTM D 3895	≥ 35	≥ 35	≥ 35	≥ 35	≥ 35
UV Resistance <sup>(4)</sup>	%	GRI-GM 11					
HP-OIT retained after 1,600 hours		ASTM D 5885	≥ 35	≥ 35	≥ 35	≥ 35	≥ 35

(1): Value at 95% confidence interval.

(2): Average value of 10 specimens taken across roll width. No value to be less than 90% of average value.

(3): 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.

(4): Value based on % retained regardless of the original HP-OIT value.



Additional information on the properties of GSE geomembranes, including roll sizes, is available on request.

GSE UltraFlex is produced at GSE Soham plant, United Kingdom.

*This information is provided for reference purposes only and is not intended as a warranty or guarantee. GSE assumes no liability in connection with the use of this information. Please check with GSE for current, standard minimum quality assurance procedures. This information is subject to change without prior notice. Please contact GSE for updated information.*



1213-CPD-3880

**GSE Lining Technology Ltd.**  
7310 Cambridge Research Park  
Waterbeach  
Cambridge, CB5 9TN  
United Kingdom  
Tel.: +44.12.23.44.00.82  
Fax: +44.12.23.86.25.96  
e-mail : msmith@gseworld.com

**European Headquarters**  
**GSE Lining Technology GmbH**  
Großmooring 4  
21079 Hamburg  
Germany  
Tel: +49.40.76.74.20  
Fax: +49.40.76.74.234  
e-mail: europe@gseworld.de

**Corporate Headquarters**  
**GSE Lining Technology, Inc.**  
19103 Gundle Road  
Houston, Texas 77073  
USA  
Tel: +1.281.443.8564  
Fax : +1.281.875.6010

**Int. Offices**  
Russia  
Turkey  
Thailand  
Egypt  
Chile  
Australia

Visit us at: [www.gseworld.com](http://www.gseworld.com)  
A Gundle/SLT Environmental, Inc. Company

07-11-02-UF-05/20-ASTM-GB-E