



# GSE UltraFlex Textured (VFPE Textured)

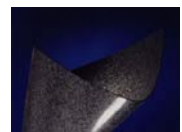
## Product Data Sheet

GSE UltraFlex Textured is a coextruded, black, high quality, linear low density polyethylene (LLDPE) geomembrane, produced from specially formulated, virgin polyethylene resin. The polyethylene resin is designed specifically for flexible geomembrane applications. GSE UltraFlex Textured contains approximately 97.5% polyethylene, 2.5% carbon black and trace amounts of antioxidants and heat stabilizers. This combination of characteristics creates a geomembrane designed for improved elongation and puncture resistance making it an excellent choice for landfill caps, leach pads and other applications where differential settlement is expected and enhanced interface friction is required. GSE UltraFlex Textured has excellent resistance to UV radiation and is suitable for exposed applications. These product specifications meet or exceed GRI-GM 17.

Tested Property	Unit	Test Method	Values		
Thickness <sup>(a)</sup> (Core Thickness)	mm	ASTM D 5994	1.0	1.5	2.0
Density	g/cm <sup>3</sup>	DIN ISO 1183-1/A	≤ 0.939	≤ 0.939	≤ 0.939
Tensile Properties (each Direction) (Minimum Average)		DIN EN ISO 527-3 (Type 5; 100 mm/min; lo = 50 mm)			
Stress at Break	MPa		12	12	12
Elongation at Break	%		250	250	250
Tear Resistance (Minimum Average)	N	DIN ISO 34-1/B(a)	110	165	220
Puncture Resistance (Minimum Average)	N	DIN EN ISO 12236	1,350	2,050	2,750
Carbon Black Content	%	ASTM D 1603	2.0 – 3.0	2.0 – 3.0	2.0 – 3.0
Carbon Black Dispersion	Category	ASTM D 5596	1 / 2 <sup>(b)</sup>	1 / 2 <sup>(b)</sup>	1 / 2 <sup>(b)</sup>
Dimensional Stability (each Direction)	%	DIN 53377 (100 °C/1h)	± 2	± 2	± 2
Melt Flow Index <sup>(c)</sup>	g/10 min	DIN EN ISO 1133 (190 °C / 5.0 kg) (190 °C / 2.16 kg)	≤ 3.0 ≤ 1.0	≤ 3.0 ≤ 1.0	≤ 3.0 ≤ 1.0
Oxidative Induction Time (OIT)	min	ASTM D 3895 (200°C; Pure O <sub>2</sub> ; 1 atm)	≥ 100	≥ 100	≥ 100

Reference Property	Unit	Test Method	Values		
Multiaxial Elongation at Break	%	similar to ASTM D 5617 ; Ø = 500 mm	≥ 30	≥ 30	≥ 30
Low Temperature Brittleness	°C	ASTM D 746	- 77	- 77	- 77
UV Resistance <sup>(d)</sup>		GRI-GM 11			
HP-OIT retained after 1,600 hours <sup>(e)</sup>	%	ASTM D 5885	≥ 35	≥ 35	≥ 35
Asperity Height (each Side) (Minimum Average)	mm	GRI-GM 12	0.25 <sup>(f)</sup>	0.25 <sup>(f)</sup>	0.25 <sup>(f)</sup>
Roll Width (approx.) <sup>(g)</sup>	m	---	6.95		
Surface	---	---	single-sided or double-sided textured		

- (a): Minimum average: - 5%, lowest individual for 8 out of 10: - 10%, lowest individual: - 15% - Special thickness available upon request.  
 (b): 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.  
 (c): Standard test conditions: 190 °C / 5.0 kg.  
 (d): Test conditions: 20 hours UV cycle at 75°C followed by 4 hours condensation at 60°C; total: 1,600 hours.  
 (e): UV Resistance is based on percent retained value regardless of the original High Pressure - OIT value.  
 (f): 8 out of 10 readings must be ≥ 0.18 mm and lowest individual reading must be ≥ 0.13 mm.  
 (g): Roll widths and lengths have a tolerance of ± 1%.



GSE UltraFlex Textured is produced at GSE Reclin plant, Germany.



*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.*

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