



GSE STANDARD PRODUCTS

GSE UltraFlex

Special Data Sheet for Blue LLDPE Smooth Geomembrane

GSE UltraFlex blue is a high quality, linear low density polyethylene (LLDPE) geomembrane produced from specialty formulated, virgin polyethylene resin with outstanding flexibility. This polyethylene resin is designed specially for flexible geomembrane applications. Its blue color with its high uniaxial elongation characteristics make it very suitable for applications where differential or localized subgrade settlements are expected such as water reservoirs, artificial lakes and canals in addition to any application where elongation or puncture resistance is critical. GSE UltraFlex contains approximately 97.5% polyethylene and 2.5% Blue masterbatch which includes a UV stabilizer, and trace amounts of antioxidants and heat stabilizers; no fillers or extenders are used. Accordingly, GSE UltraFlex LLDPE blue geomembrane has an excellent resistance to UV radiation and is suitable for exposed applications. These product specifications meet or exceed GRI-GM17.

Product Specifications

Tested Property	Unit	Test Method	Values (*)		
Thickness ^(a)	mil (mm)	ASTM D 5199	40 (1.0)	60 (1.5)	80 (2.0)
Density	g/cm ³	ASTM D 1505/792	0.92	0.92	0.92
Tensile Properties (each direction) <i>Strength at Break</i> <i>Elongation at Break</i>	<i>lb/in (N/mm)</i> %	ASTM D 638 / D 6693, Type IV Dumbell, 50 mm/min (50 mm gauge length)	152 (27) 800	228 (40) 800	304 (53) 800
Tear Resistance	lb (N)	ASTM D 1004	22 (100)	33 (150)	44 (200)
Puncture Resistance	Lb (N)	ASTM D 4833	56 (250)	84 (370)	112 (500)
Dimension Stability (each direction)	%	ASTM D 1204, (120°C/lb)	± 2	± 2	± 2
Melt Flow Index ^(b)	g/10 min	ASTM D 1238 (190 °C / 5.0 kg) (190 °C / 2.16 kg)	≤ 3.0 ≤ 1.0	≤ 3.0 ≤ 1.0	≤ 3.0 ≤ 1.0
Reference Property	Unit	Test Method	Values (*)		
Oxidative Induction Time (OIT) min	min	ASTM D 3895 (200 °C; Pure O ₂ ; 1 atm)	≥ 100	≥ 100	≥ 100
Multiaxial Elongation at Break	%	Similar to ASTM D 5617; ø=500	≥ 30	≥ 30	≥ 30
Low Temperature Brittleness	°C	ASTM D 746	- 77	- 77	- 77
Surface	-----	-----	Double-sided smooth		
Roll Width	m	-----	5.0	5.0	4.0
Roll Length	m	-----	210	140	104
Roll Area	m ²	-----	1050	700	416

(*) All values – unless otherwise noted – are nominal values.
 (a) Tolerance ± 10% - Special Thickness available upon request.
 (b) Standard test Conditions: 190 °C / 5.0 kg.
 (c) All procedures and values are subject to change without prior notification.

GSE UltraFlex Blue is produced at GSE Lining Technology – Egypt.

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