

**DRILINE® LLDPE SMOOTH GEOMEMBRANE LINING**  
**(Available from 1.0mm – 2.5mm)**

Smooth DRILINE® is a smooth linear low density polyethylene (LLDPE) geomembrane manufactured with the highest quality resin specifically formulated for flexible geomembranes.

The 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 landfill closure cappings, leach pads, or any application where elongation or puncture resistance is critical. DRILINE® Smooth (LLDPE) contains approximately 97.5% polyethylene, 2.5% carbon black and trace amounts of antioxidants and heat stabilizers. DRILINE® Smooth (LLDPE) 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>	mm	ASTM D 5199	1.0	1.50	2.0	2.5
Density	g/cm <sup>3</sup>	ASTM D 792	≥ 0.939	≥ 0.939	≥ 0.939	≥ 0.939
Tensile Properties <sup>(b)</sup> (min. ave.)		ASTM D 6693; Type IV				
Strength at Break	N/mm	50 mm/min	27	40	53	66
Elongation at Break	%	l <sub>0</sub> = 50 mm	800	800	800	800
2% Modulus (max)	N/mm	ASTM D 5323	420	630	840	1050
Tear Resistance (min. ave.)	N	ASTM D 1004	100	150	200	250
Puncture Resistance (min. ave.)	N	ASTM D 4833	250	370	500	620
Axi-Symmetric Break Resistance Strain (min.)	%	ASTM D 5617	30	30	30	30
Carbon Black Content	%	ASTM D 4218	2.0 – 3.0	2.0 – 3.0	2.0 – 3.0	2.0 – 3.0
Carbon Black Dispersion <sup>(c)</sup>	Category	ASTM D 5596	1/2	1/2	1/2	1/2
Dimensional Stability (each Direction)	%	ASTM D 1204 (120°C/1 h)	± 2	± 2	± 2	± 2
Oxidative Induction Time (OIT) Standard OIT (min. ave.)	min	ASTM D 3895	100	100	100	100
Oven Aging at 85°C <sup>(d)</sup> Standard OIT (min. ave.) - % retained after 90 days	%	ASTM D 5721 ASTM D 3895	35	35	35	35
UV Resistance <sup>(e)</sup> High Pressure OIT (min. ave.) - % retained after 1 600 hrs <sup>(f)</sup>	%	ASTM D 7238 ASTM D 5885	35	35	35	35
Roll Width (approx.) <sup>(g)</sup>	m	---	7.0			
Surface	---	---	Double-sided smooth			

**NOTES:**

- (\*) : All values - unless otherwise noted - are nominal values.
- (a) : Minimum Average Thickness: Nominal - 5%; lowest individual ± 10% related to the actual average thickness.
- (b) : Machine direction (MD) and cross machine direction (XMD) average values should be on the basis of 5 test specimens each direction.
- (c) : 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.
- (d) : It is recommended to evaluate samples at 30 and 60 days to compare with the 90 day response.
- (e) : The condition of the test should be 20 hr. UV cycle at 75°C followed by 4 hr. condensation at 60°C.
- (f) : UV Resistance is based on percent retained value regardless of the original High Pressure - OIT value.
- (g) : Roll widths and lengths have a tolerance of ± 1%.

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