

HI-DRILINE® DOUBLE TEXTURED GEOMEMBRANE LINING CO-EXTRUDED – 0.4mm ASPERITY HEIGHT

HI-DRILINE® Double Textured (HDPE) is a co-extruded, black, high quality, high density polyethylene (HDPE) geomembrane, produced from specially formulated virgin polyethylene resin. The polyethylene resin is designed specifically for flexible and durable geomembrane applications.

HI-DRILINE® Double Textured (HDPE) contains approximately 97.5% polyethylene, 2.0-3.0% carbon black and trace amounts of antioxidants and heat stabilizers. This product allows the design of projects with steeper slopes since frictional characteristics are enhanced. These product specifications meet or exceed GRI-GM 13.



Tested Property	Unit	Test Method	Values (*)		
Thickness ^(a)	mm	ASTM D 5994	0.75	1.0	1.5
Asperity Height (min. ave.) ^(b)	mm	ASTM D 7466	0.4	0.4	0.4
Density	g/cm ³	ASTM D 792	≥ 0.94	≥ 0.94	≥ 0.94
Tensile Properties ^(c) (min. ave.)		ASTM D 6693; Type IV			
Strength at Yield	N/mm	50 mm/min	11	15	22
Elongation at Yield	%	lo = 33 mm	12	12	12
Strength at Break	N/mm	200 mm/min	8	10	16
Elongation at Break	%	lo = 50 mm	100	100	100
Tear Resistance (min. ave.)	N	ASTM D 1004	93	125	187
Puncture Resistance (min. ave.)	N	ASTM D 4833	200	267	400
Carbon Black Content	%	ASTM D 1603	2.0 – 3.0	2.0 – 3.0	2.0 – 3.0
Carbon Black Dispersion ^(d)	Category	ASTM D 5596	1/2	1/2	1/2
Dimensional Stability (each Direction)	%	ASTM D 1204 (120°C/1 h)	± 2	± 2	± 2
Melt Flow Index ^(e)	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
Stress Crack Resistance (NCTL) ^(f)	h	ASTM D 5397; Appendix	≥ 500	≥ 500	≥ 500
Oxidative Induction Time (OIT)	min	ASTM D 3895 (200°C; Pure O ₂ ; 1 atm)	≥ 100	≥ 100	≥ 100
Reference Property					
Low Temperature Brittleness	°C	ASTM D 746	<- 77	<- 77	<- 77
Oven Aging at 85°C Standard OIT (min. ave.) - % retained after 90 days	%	ASTM D 5721 ASTM D 3895	≥ 55	≥ 55	≥ 55
UV Resistance ^(g) HP-OIT retained after 1,600 hours ^(h)	%	ASTM D 7238 ASTM D 5885	≥ 50	≥ 50	≥ 50
Roll Width (approx.) ⁽ⁱ⁾	m	---	6.95 / 7.0 / 7.5 / 8.0		

NOTES:

- (a): Minimum average: nom. - 5 %, lowest individual for 8 out of 10: -10%, lowest individual: - 15 % - Special thickness available upon request.
- (b) Alternate the measurement side.
- (c): Machine direction (MD) and cross machine direction (XMD) average values should be on the basis of 5 test specimens each direction.
- (d): 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.
- (e): Standard test conditions: 190 °C / 5.0 kg.
- (f): The SP-NCTL test is not appropriate for testing geomembranes with textured or irregular rough surfaces. Test should be conducted on smooth edges of textured rolls or on smooth sheets made from the same formulation as being used for the textured sheet materials.
- (g): Test conditions: 20 hours UV cycle at 75°C followed by 4 hours condensation at 60°C; total: 1,600 hours.
- (h): UV Resistance is based on percent retained value regardless of the original High Pressure-OIT value.
- (i): Roll widths and lengths have a tolerance of ± 1%.

The above information is provided for reference purposes only and shall not be construed as a warranty or guarantee. The Manufacturer and Supplier assumes no liability in connection with the use of the information. Specifications are subject to change without notice. All trademarks are registered trademarks of the supplier in the Republic of South Africa.



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Density	g/cm ³	ASTM D 792	≥ 0.94	≥ 0.94	≥ 0.94
Tensile Properties ^(c) (min. ave.)		ASTM D 6693; Type IV			
Strength at Yield	N/mm	50 mm/min	29	37	44
Elongation at Yield	%	lo = 33 mm	12	12	12
Strength at Break	N/mm	200 mm/min	21	26	32
Elongation at Break	%	lo = 50 mm	100	100	100
Tear Resistance (min. ave.)	N	ASTM D 1004	249	311	374
Puncture Resistance (min. ave.)	N	ASTM D 4833	534	667	800
Carbon Black Content	%	ASTM D 1603	2.0 – 3.0	2.0 – 3.0	2.0 – 3.0
Carbon Black Dispersion ^(d)	Category	ASTM D 5596	1/2	1/2	1/2
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