

SMOOTH LLDPE GEOMEMBRANE

METRIC UNITS

Property	Test Method	<u>Minimum Average Values</u>			
		0.75 mm	1.00 mm	1.50 mm	2.00 mm
Thickness, microns	ASTM D 5199				
minimum average		750	1,000	1,500	2,000
lowest individual reading		675	900	1,350	1,800
Sheet Density, g/cc (max.)	ASTM D 1505/D 792	0.939	0.939	0.939	0.939
Tensile Properties¹	ASTM D 6693				
1. Break Strength, kN/m		20	27	40	53
2. Break Elongation, %		800	800	800	800
2% Modulus, MPa (max.)	ASTM D 5323	414	414	414	414
Tear Resistance, N	ASTM D 1004	70	100	150	200
Puncture Resistance, N	ASTM D 4833	190	250	370	500
Axi-Symmetric Break Strain, %	ASTM D 5617	30	30	30	30
Carbon Black Content ² , %	ASTM D 1603	2.0 - 3.0	2.0 - 3.0	2.0 - 3.0	2.0 - 3.0
Carbon Black Dispersion	ASTM D 5596	--Note 3--			
Oxidative Induction Time (OIT)					
Standard OIT, minutes	ASTM D 3895	100	100	100	100
Oven Aging at 85°C	ASTM D 5721				
High Pressure OIT - % retained after 90 days	ASTM D 5885	60	60	60	60
UV Resistance ⁴	GRI GM11				
High Pressure OIT ⁵ - % retained after 1600 hrs	ASTM D 5885	35	35	35	35
Seam Properties	ASTM D 6392 (@ 5 cm/min)				
1. Shear Strength, kN/m		7.9	10.5	15.8	21.0
2. Peel Strength, kN/m - Hot Wedge		6.6	8.7	13.1	17.5
- Extrusion Fillet		5.9	7.7	11.5	15.4
Roll Dimensions					
1. Width (meters):		7	7	7	7
2. Length (meters):		304.9	228.7	152.4	114.3
3. Area (square meters):		2,137	1,603	1,068	801
4. Gross weight (kilograms, approx.):		1,558	1,558	1,558	1,558

1 Machine direction (MD) and cross machine direction (XMD) average values should be on the basis of 5 test specimens each direction. Break elongation is calculated using a gauge length of 50 mm.

2 Other methods such as ASTM D 4218 or microwave methods are acceptable if an appropriate correlation can be established.

3 Carbon black dispersion for 10 different views: Nine in Categories 1 and 2 with one allowed in Category 3.

4 The condition of the test should be 20 hr. UV cycle at 75°C followed by 4 hr. condensation at 60°C.

5 UV resistance is based on percent retained value regardless of the original HP-OIT value.

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