

SMOOTH HDPE GEOMEMBRANE

METRIC UNITS

Minimum Average Values

Property	Test Method	0.75 mm	1.00 mm	1.50 mm	2.00 mm	2.50 mm
Thickness, microns	ASTM D 5199					
minimum average		750	1,000	1,500	2,000	2,500
lowest individual reading		675	900	1,350	1,800	2,250
Sheet Density, g/cc	ASTM D 1505/D 792	0.940	0.940	0.940	0.940	0.940
Tensile Properties¹	ASTM D 6693					
1. Yield Strength, kN/m		11	15	22	29	37
2. Break Strength, kN/m		20	27	40	53	67
3. Yield Elongation, %		12	12	12	12	12
4. Break Elongation, %		700	700	700	700	700
Tear Resistance, N	ASTM D 1004	93	125	187	249	311
Puncture Resistance, N	ASTM D 4833	240	320	480	640	800
Stress Crack Resistance ² , hrs	ASTM D 5397 (App.)	300	300	300	300	300
Carbon Black Content ³ , %	ASTM D 1603	2.0 - 3.0	2.0 - 3.0	2.0 - 3.0	2.0 - 3.0	2.0 - 3.0
Carbon Black Dispersion	ASTM D 5596	--Note 4--				
Oxidative Induction Time (OIT)						
Standard OIT, minutes	ASTM D 3895	100	100	100	100	100
Oven Aging at 85°C	ASTM D 5721					
High Pressure OIT - % retained after 90 days	ASTM D 5885	80	80	80	80	80
UV Resistance ⁵	GRI GM11					
High Pressure OIT ⁶ - % retained after 1600 hrs	ASTM D 5885	50	50	50	50	50
Seam Properties	ASTM D 6392 (@ 5 cm/min)					
1. Shear Strength, kN/m		10	14	21	28	35
2. Peel Strength, kN/m - Hot Wedge		7.9	10.5	15.9	21.2	26.4
- Extrusion Fillet		6.8	9.1	13.6	18.2	22.8
Roll Dimensions						
1. Width (meters):		7	7	7	7	7
2. Length (meters)		304.9	228.7	152.4	114.3	91.5
3. Area (square meters):		2,137	1,603	1,068	801	641
4. Gross weight (kilograms, approx.)		1,574	1,574	1,574	1,574	1,574

1 Machine direction (MD) and cross machine direction (XMD) average values should be on the basis of 5 test specimens each direction.

Yield elongation is calculated using a gauge length of 33 mm; Break elongation is calculated using a gauge length of 50 mm.

2 The yield stress used to calculate the applied load for the SP-NCTL test should be the mean value via MQC testing.

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

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

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

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

This data is provided for informational purposes only and is not intended as a warranty or guarantee. Poly-Flex, Inc. assumes no responsibility in connection with the use of this data. These values are subject to change without notice. REV. 11/06