

SMOOTH HDPE GEOMEMBRANE (ENGLISH UNITS)

Property	Test Method	Minimum Average Values				
		30 mil	40 mil	60 mil	80 mil	100 mil
Thickness, mils	ASTM D 5199					
minimum average		30	40	60	80	100
lowest individual reading		27	36	54	72	90
Sheet Density, g/cc	ASTM D 1505/D 792	0.940	0.940	0.940	0.940	0.940
Tensile Properties ¹	ASTM D 6693					
1. Yield Strength, lb/in		63	84	126	168	210
2. Break Strength, lb/in		114	152	228	304	380
3. Yield Elongation, %		12	12	12	12	12
4. Break Elongation, %		700	700	700	700	700
Tear Resistance, lb	ASTM D 1004	21	28	42	56	70
Puncture Resistance, lb	ASTM D 4833	54	72	108	144	180
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					
Standard OIT - % retained after 90 days	ASTM D 3895	55	55	55	55	55
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					
	(@ 2 in/min)					
1. Shear Strength, lb/in		57	80	120	160	200
2. Peel Strength, lb/in - Hot Wedge		45	60	91	121	151
- Extrusion Fillet		39	52	78	104	130
Roll Dimensions						
1. Width (feet):		23	23	23	23	23
2. Length (feet)		1000	750	500	375	300
3. Area (square feet):		23,000	17,250	11,500	8,625	6,900
4. Gross weight (pounds, approx.)		3,470	3,470	3,470	3,470	3,470

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 1.3 inches; Break elongation is calculated using a gauge length of 2.0 inches.

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.