



HDPE Geomembrane : Black Smooth

Product Specifications / Data Sheet

GPF's HDPE Smooth Geomembrane is a high quality, black coloured product that is manufactured in our state of the art Saudi Arabian facility. GPF uses 97.5% pure high density polyethylene virgin polymer and 2.5% carbon black with trace amounts of antioxidants and heat stabilizers.

GPF's HDPE Smooth Textured Geomembrane is UV stabilized, highly resistant to chemicals, dimensionally stable with exceptional durability including high puncture and stress crack resistance.

GPF's HDPE Smooth Textured Geomembrane exceeds the industry standard GRI GM13, as regularly tested in our full laboratory integrated into our factory and also as certified by multiple international independent expert plastics and polymer laboratories including TRI Environmental and Excelplas.

Test Property	Unit	Test Method	Minimum Average Value (per GRI GM13)					
Thickness ⁽¹⁾	mils	ASTM D 5199	30	40	60	80	100	120
Lowest individual (-10%)	mm		0.75	1.0	1.5	2.0	2.5	3.0
Density	g/cm ³	ASTM D 792	≥ 0.94	≥ 0.94	≥ 0.94	≥ 0.94	≥ 0.94	≥ 0.94
Strength at Yield (Both Directions)	lb/in	ASTM D 6693	63	84	126	168	210	252
Strength at Break (Both Directions)	lb/in	Type IV Dumbbell, 50mm/min	114	152	228	304	380	456
Elongation at Yield (Both Directions)	%	Gage length 33 mm for Yield Elongation	12	12	12	12	12	12
Elongation at Break (Both Directions)	%	Gage length 50mm for Break Elongation	700	700	700	700	700	700
Tear Resistance	lb	ASTM D 1004	21	28	42	56	70	84
Puncture Resistance	lb	ASTM D 4833	54	72	108	144	180	216
Carbon Black Content	%	ASTM D 1603	2.0% - 3.0%					
Carbon Black Dispersion	Category	ASTM D 5596	Note (2)					
Dimensional Stability	%	ASTM D 1204 (120 °C / 1 h)	± 2	± 2	± 2	± 2	± 2	± 2
Melt Flow Index ⁽³⁾	g/10 min	ASTM D 1238 (190 °C / 2.16 kg)	≤ 1	≤ 1	≤ 1	≤ 1	≤ 1	≤ 1
Low Temperature Brittleness	°C	ASTM D 746	-77	-77	-77	-77	-77	-77
Stress Crack Resistance (NCTL)	hr.	ASTM D 5397	≥ 500	≥ 500	≥ 500	≥ 500	≥ 500	≥ 400
Oxidative Induction Time (Standard; S-OIT)	min	ASTM D 3895	100	100	100	100	100	100
Oxidative Induction Time (High Pressure; HP-OIT)	min	ASTM D 5885	400	400	400	400	400	400
Roll dimensions								
Size A)								
Roll Width (approx.) ⁽⁴⁾	ft	-----	23	23	23	23	23	23
Roll Length (approx.)	ft	-----	1000	750	500	375	300	250
Roll Area (approx.)	ft ²	-----	23,000	17,250	11,500	8,625	6,900	5,750
Size B)								
Roll Width (approx.) ⁽⁴⁾	ft	-----	26	26	26	26	26	26
Roll Length (approx.)	ft	-----	880	660	440	330	265	220
Roll Area (approx.)	ft ²	-----	22,880	17,160	11,440	8,580	6,890	5,720

Notes:

(1) One (1) measurement taken every 1 meter along roll width - 10% lowest individual of 10 values.

(2) Carbon black dispersion (only near spherical agglomerates) for 10 different views: 9 in Categories 1 or 2 and 1 in Category 3.

(3) Standard test conditions: 190 °C / 2.16 kg.

(4) Roll Width and Length have a tolerance of ± 1%.

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