



HDPE Geomembrane : Black One-Sided Textured

Product Specifications / Data Sheet

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

GPF's HDPE One-Sided 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⁾	mm	ASTM D 5199	0.75	1.0	1.5	2.0	2.5
Lowest individual (-10%)	mils		30	40	60	80	100
Density	g/cm ³	ASTM D 792	≥ 0.94	≥ 0.94	≥ 0.94	≥ 0.94	≥ 0.94
Strength at Yield (Both Directions)	N/mm	ASTM D 6693	11	15	22	29	37
Strength at Break (Both Directions)	N/mm	Type IV Dumbbell, 50mm/min	8	10	16	21	26
Elongation at Yield (Both Directions)	%	Gage length 33 mm for Yield Elongation	12	12	12	12	12
Elongation at Break (Both Directions)	%	Gage length 50mm for Break Elongation	100	100	100	100	100
Tear Resistance	N	ASTM D 1004	93	125	187	249	311
Puncture Resistance	N	ASTM D 4833	200	267	400	534	667
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
Melt Flow Index ⁽³⁾	g/10 min	ASTM D 1238 (190 °C / 2.16 kg)	≤ 1	≤ 1	≤ 1	≤ 1	≤ 1
Low Temperature Brittleness	°C	ASTM D 746	-77	-77	-77	-77	-77
Stress Crack Resistance (NCTL)	hr.	ASTM D 5397	≥ 500	≥ 500	≥ 500	≥ 500	≥ 500
Oxidative Induction Time (Standard; S-OIT)	min	ASTM D 3895	100	100	100	100	100
Oxidative Induction Time (High Pressure; HP-OIT)	min	ASTM D 5885	400	400	400	400	400

Roll dimensions

Size A)

Roll Width (approx.) ⁽⁴⁾	m	-----	7	7	7	7	7
Roll Length (approx.)	m	-----	270	205	135	100	80
Roll Area (approx.)	m ²	-----	1,890	1,435	945	700	560

Size B)

Roll Width (approx.) ⁽⁴⁾	m	-----	8	8	8	8	8
Roll Length (approx.)	m	-----	240	180	120	90	70
Roll Area (approx.)	m ²	-----	1,920	1,440	960	720	560

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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