



High Density Polyethylene (HDPE)



Contain Enviro Services Ltd. is the leader in the supply and installation of geomembranes for a wide variety of challenging containment applications. Contain Enviro Services Ltd. feels that there is no single geomembrane which is suitable for every containment application, therefore we have insured that we have access to the complete spectrum of geomembrane materials and can suggest the most appropriate and cost effective material for your containment project.

The popularity of High Density Polyethylene (HDPE) is primarily due to its low initial material cost and excellent chemical resistance. This allows thicker sections to be used compared to other geomembrane materials. A thick, durable, HDPE liner can be placed in exposed applications where the cost of other materials would be prohibitive. HDPE has excellent chemical resistance which is often the driving force behind the selection of HDPE. HDPE is a field assembled lining material that cannot be practically fabricated in the shop. All HDPE projects, regardless of size, must be installed by trained Contain Enviro Services Ltd. installers.

HDPE is a versatile material which is used widely across all applications. One of the main uses of HDPE is for landfill base liners where its chemical resistance is used to good effect. HDPE can also be used in a multitude of secondary containments, pond linings, and water containment projects. HDPE is best used as an exposed lining material, and has the UV resistance required for many years of outstanding service.

The geomembrane selection process can often be challenging. Besides the geomembrane material performance, several other factors should be considered; wind, moisture, temperature fluctuations, installation location and construction schedule are only a few that need to be factored into your geomembrane selection. Contain Enviro Services has over 15 years of geomembrane installation experience and can help guide you through the process. With access to the complete range of Geomembrane materials, Contain Enviro Services Ltd. will suggest the most cost-effective liner material while still meeting the timing, environmental and safety requirements of your project.



High Density Polyethylene (HDPE)

Standard	HDPE Minimum Material Properties					
	ASTM	HDPE 40 Smooth	HDPE 60 Smooth	HDPE 80 Smooth	HDPE 60 Textured	HDPE 80 Textured
Nominal Thickness	D5199	40 mil 1.0 mm	60 mil 1.5 mm	80 mil 2.0 mm	57 mil 1.45 mm	76 mil 1.90 mm
Density (Untextured)	D792	0.94	0.94	0.94	0.94	0.94
Tensile Strength Modified Type IV Die	D638 Stress at Yield	84 ppi 15 kN/m	126 ppi 22 kN/m	168 ppi 29 kN/m	126 ppi 22 kN/m	168 ppi 29 kN/m
	Stress @ Break	152 ppi 27 kN/m	228 ppi 40 kN/m	304 ppi 53 kN/m	90 ppi 16 kN/m	120 ppi 21 kN/m
	Strain @ Yield 33 mm Guage	12%	12%	12%	12%	12%
	Strain @ Break 50 mm Guage	700%	700%	700%	100%	100%
Tear Resistance	D1004	28 lbs 125 N	42 lbs 187 N	56 lbs 249 N	42 lbs 187 N	56 lbs 249 N
Dimensional Stability	D1204 (Max)	± 2%	± 2%	± 2%	± 2%	± 2%
Stress Cracking	D5397	300 Hours	300 Hours	300 Hours	300 Hours	300 Hours
Puncture Resistance	D4833	72 lbs 320 N	108 lbs 480 N	144 lbs 640 N	90 lbs 400 N	120 lbs 534 N
Black Content	D1603	2.0 - 3.0%	2.0 - 3.0%	2.0 - 3.0%	2.0 - 3.0%	2.0 - 3.0%
Black Dispersion	D5596	CAT 1 or 2	CAT 1 or 2	CAT 1 or 2	CAT 1 or 2	CAT 1 or 2

Field Seam Strengths

Standard	HDPE Minimum Field Seam Strengths					
	ASTM	HDPE 40 Smooth	HDPE 60 Smooth	HDPE 80 Smooth	HDPE 60 Textured	HDPE 80 Textured
Bonded Seam Strength Test Temp 23°C, 73°F	D6392	80 ppi 14 N/mm	120 ppi 21 N/mm	160 ppi 28 N/mm	120 ppi 21 N/mm	160 ppi 28 N/mm
Peel Adhesion Test Test Temp 23°C, 73°F	D6392	FTB 52 ppi 9 N/mm	FTB 78 ppi 14 N/mm	FTB 104 ppi 18 N/mm	FTB 78 ppi 14 N/mm	FTB 104 ppi 18 N/mm

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