

HDPE/LLDPE SMOOTH/TEXTURED

Smooth/Textured HDPE

Our high density polyethylene (HDPE) geomembranes provide an impermeable barrier against a wide range of solids and liquids. They exhibit excellent chemical and UV resistance, impermeability, and high yield and welded seam strength. The blown-film texturing provides increased friction angles for higher stability on steep slope applications. Additionally, the smooth edges result in easier, more cost-effective, more consistent, and better welding. HDPE liners are the ideal choice for the most demanding applications. Our specially extruded liners combine high tensile strength and chemical resistance with excellent stress-crack resistance and low temperature properties for highly reliable containment. Chemically inert and resistant to most hydrocarbons, these liners are the industry standard for a wide range of applications.

Smooth/Textured LLDPE

Our linear low density polyethylene (LLDPE) geomembranes provide an excellent solution to challenging containment applications which require significant material flexibility, in addition to strength and durability. The blown-film texturing provides increased friction angles for higher stability on steep slope applications. Our LLDPE liners have the ability to elongate under stress, allowing them to maintain their integrity under localized differential settlement conditions without puncturing, tearing, or cracking. Combined with outstanding resistance to low temperatures and ultraviolet exposure, these liners are ideal for many applications



ARCO Mine, Phillipsburg MT

Common Applications

- Landfill Liners & Caps
- Waste Water Ponds
- Mine Tailings Ponds & Caps
- Fish & Fire Ponds
- Remediation Liners
- Leachate Pads/Ponds
- Fuel Storage & Secondary Containment
- Brine Ponds
- Hazardous Waste Containment

Material Advantages

- High UV resistance for outstanding weatherability in exposed applications
- Backed by a 20 year warranty
- Approved for aquatic applications
- Excellent chemical resistance to most industrial effluents
- Low cost in large volume applications
- High resistance to mechanical stresses
- Available in smooth and textured finishes
- Reduced excavation volumes
- Long history of performance
- Professional installation required



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Textured/Smooth HDPE Specifications

Property	Test Method	Textured		Smooth	
		40 Mil	60 Mil	40 Mil	60 Mil
Thickness, mils	ASTM D 5994				
minimum average		38	57	40	60
lowest individual of 8 of 10 readings		36	54	36	54
lowest individual of 10 readings		34	51		
Asperity Height, mils	GRI GM12	10	10		
Sheet Density, g/cc	ASTM D 1505/D 792	0.939	0.939	0.939	0.939
Tensile Properties ¹	ASTM D 6693				
1. Break Strength, lb/ in		60	90	152	228
2. Break Elongation, %		100	100	700	700
Tear Resistance, lb	ASTM D 1004	28	42	28	42
Puncture Resistance, lb	ASTM D 4833	60	90	108	144
Stress Crack Resistance ² , hrs	ASTM D 5617	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
Carbon Black Dispersion ⁴	ASTM D 5596		-Note 4-		
Oxidative Induction Time (OIT) Standard OIT, minutes A	STM D 3895	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
UV Resistance ⁵ GRI GM11 High Pressure OIT ⁶ (% retained after 1600 hrs)	ASTM D 5885	50	50	50	50
Seam Properties (@ 2 in/min)	ASTM D 6392				
1. Shear Strength, lb/ in		80	120	80	120
2. Peel Strength, lb/ in - Hot Wedge - Extrusion Fillet		60 52	91 75	60 52	91 78
Roll Dimensions					
1. Width (feet):		23	23	23	23
2. Length (feet)		750	500	750	500
3. Area (square feet):		17,250	11,500	17,250	11,500
4. Gross Weight (pounds, approx.)		3,500	3,500	3,470	3,470

- 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.
- The yield stress used to calculate the applied load for the SP-NCTL test should be the mean value via MQC testing.
- Other methods such as ASTM D 4218 or microwave methods are acceptable if an appropriate correlation can be established.
- Carbon black dispersion for 10 different views: 9 in Categories 1 and 2 with one allowed in category 3.
- The condition of the test should be 20 hr. UV cycle at 75°C followed by 4 hr. condensation 60°C.
- 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. Headwater Lining, LLC. assumes no responsibility in connection with the use of this data. These values are subject to change without notice. REV. 6/04



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