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HDPE - HIGH DENSITY POLYETHYLENE

Polyethylene is the most commonly used liner in the industry due to its high strength, good chemical resistance, and proven track record. Polyethylene must be installed by certified technicians, but still manages to be a cost effective alternative.

Colorado Lining International is a certified installer of Polyethylene products. We maintain year round field crews capable of installing your next job. We want to work with you to make your job a success.

Product Features:

- Chemical Resistance
- Durable
- Cost Effective
- UV Stable
- Wide Product Range:
 - SMOOTH
 - TEXTURED
 - CONDUCTIVE
 - COLORS AVAILABLE
- Available In 20, 30, 40, 60, 80, & 100 Mils

Uses & Applications:

- Landfills
- Wastewater Treatment Plants
- Animal Waste Lagoons
- Golf Course Ponds
- Gas Collection Covers
- Pond & Lake Liners
- Irrigation Reservoirs

- ***Project Photo: Nevada Power in Las Vegas, NV***
- ***Overflow Pond Lining***
- ***43,875 SF 40 Mil HDPE***





HDPE

Product Data Sheet

Table 1(a) – High Density Polyethylene (HDPE) Geomembrane -Smooth

Properties	Test Method	Test Value							Testing Frequency (minimum)
		30 mils	40 mils	50 mils	60 mils	80 mils	100 mils	120 mils	
Thickness (min. ave.)	D5199	nom.	Nom.	Nom.	Nom.	Nom.	Nom.	Nom.	Per roll
• lowest individual of 10 values		-10%	-10%	-10%	-10%	-10%	-10%	-10%	
Density mg/l (min.)	D 1505/D 792	0.940 g/cc	0.940 g/cc	0.940 g/cc	0.940 g/cc	0.940 g/cc	0.940 g/cc	0.940 g/cc	200,00 lb
Tensile Properties (1) (min. ave.)	D 6693 Type IV	63 lb/in. 114 lb/in.	84 lb/in. 152 lb/in.	105 lb/in. 190 lb/in.	126 lb/in. 228 lb/in.	168 lb/in. 304 lb/in.	210 lb/in. 380 lb/in.	252 lb/in. 456 lb/in.	20,000 lb
• yield strength		12%	12%	12%	12%	12%	12%	12%	
• break strength		700%	700%	700%	700%	700%	700%	700%	
• yield elongation									
• break elongation									
Tear Resistance (min. ave.)	D 1004	21 lb	28 lb	35 lb	42 lb	56 lb	70 lb	84 lb	45,000 lb
Puncture Resistance (min. ave.)	D 4833	54 lb	72 lb	90 lb	108 lb	144 lb	180 lb	216 lb	45,000 lb
Stress Crack Resistance (2)	D5397 (App.)	300 hr.	300 hr.	300 hr.	300 hr.	300 hr.	300 hr.	300 hr.	per GRI-GM10
Carbon Black Content (range)	D 1603 (3)	2.0-3.0%	2.0-3.0%	2.0-3.0%	2.0-3.0%	2.0-3.0%	2.0-3.0%	2.0-3.0%	20,000 lb
Carbon Black Dispersion	D 5596	note (4)	note (4)	note (4)	note (4)	note (4)	note (4)	note (4)	45,000 lb
Oxidative Induction Time (OIT) (min. ave.) (5)									200,000 lb
(a) Standard OIT	D 3895	100 min.	100 min.	100 min.	100 min.	100 min.	100 min.	100 min.	
— or —									
(b) High Pressure OIT	D 5885	400 min.	400 min.	400 min.	400 min.	400 min.	400 min.	400 min.	
Oven Aging at 85°C (5), (6)	D 5721								
(a) Standard OIT (min. ave.) - % retained after 90 days	D 3895	55%	55%	55%	55%	55%	55%	55%	per each formulation
— or —									
(b) High Pressure OIT (min. ave.) - % retained after 90 days	D 5885	80%	80%	80%	80%	80%	80%	80%	
UV Resistance (7)	GM 11								
(a) Standard OIT (min. ave.)	D 3895	N.R. (8)	N.R. (8)	N.R. (8)	N.R. (8)	N.R. (8)	N.R. (8)	N.R. (8)	per each formulation
— or —									
(b) High Pressure OIT (min. ave.) - % retained after 1600 hrs (9)	D 5885	50%	50%	50%	50%	50%	50%	50%	

- (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 gage length of 1.3 inches
Break elongation is calculated using a gage length of 2.0 in.
- (2) The yield stress used to calculate the applied load for the SP-NCTL test should be the manufacturer's mean value via MQC testing.
- (3) Other methods such as D 4218 (muffle furnace) or microwave methods are acceptable if an appropriate correlation to D 1603 (tube furnace) can be established.
- (4) Carbon black dispersion (only near spherical agglomerates) for 10 different views:
9 in Categories 1 or 2 and 1 in Category 3
- (5) The manufacturer has the option to select either one of the OIT methods listed to evaluate the antioxidant content in the geomembrane.
- (6) It is also recommended to evaluate samples at 30 and 60 days to compare with the 90 day response.
- (7) The condition of the test should be 20 hr. UV cycle at 75°C followed by 4 hr. condensation at 60°C.
- (8) Not recommended since the high temperature of the Std-OIT test produces an unrealistic result for some of the antioxidants in the UV exposed samples.
- (9) UV resistance is based on percent retained value regardless of the original HP-OIT value.