



Linear Low Density Polyethylene

LLDPE

FEATURES

- LLDPE is flexible and durable
- Some LLDPEs can be fabricated in custom sized panels
- Excellent chemical resistance & UV stability
- Product is cost effective & flexible
- Wide product range: smooth, textured, and conductive
- Product available in 20, 30, 40, 60, 80 and 100 mil thicknesses

Polyethylene is the most commonly used liner in the industry and must be installed by certified technicians. LLDPE is designed to be used when higher elongation properties are required.

Colorado Lining is a certified installer of polyethylene products and maintains year round field crews capable of installing your next job. We want to work with you to make your job a success!

APPLICATIONS

- Landfill caps & cells
- Vapor barriers
- Golf course ponds
- Greens & bunker liners
- Pond & lake liners
- Irrigation reservoirs
- Drop-in tank liners & containment pits

FOR MORE INFO CALL 800.524.8672



WWW.COLORADOLINING.COM

VERSION UPDATE 02.21.17

Product Data



Smooth LLDPE Material Information

Properties	Test Method	Test Value								Testing Frequency minimum	
		20 mils	30 mils	40 mils	50 mils	60 mils	80 mils	100 mils	120 mils		
Thickness mils (min. ave.) • lowest individual of 10 values	D5199	Nom. -10%	Nom. -10%	Nom. -10%	Nom. -10%	Nom. -10%	Nom. -10%	Nom. -10%	Nom. -10%	Nom. -10%	Per roll
Density g/ml (max.)	D1505/D729	0.939	0.939	0.939	0.939	0.939	0.939	0.939	0.939	0.939	200,000 lb
Tensile Properties ⁽¹⁾ (min. ave.) • break strength l lb/in. • break elongation - %	D6693 Type IV	76 800	114 800	152 800	190 800	228 800	304 800	380 800	456 800		20,000 lb
2% Modulus - lb/in. (max.)	D5323	1200	1800	2400	3000	3600	4800	6000	7200		per formulation
Tear Resistance - lb (min. ave.)	D1004	11	16	22	27	33	44	55	66		45,000 lb
Puncture Resistance - lb (min. ave.)	D4833	28	42	56	70	84	112	140	168		45,000 lb
Axi-Symmetric Break Resistance Strain - % (min.)	D4218 ⁽²⁾	30	30	30	30	30	30	30	30	30	per formulation
Carbon Black Content (%)	D5596	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	2.0-3.0	2.0-3.0	45,000 lb
Carbon Black Dispersion		note ⁽³⁾	note ⁽³⁾	note ⁽³⁾	note ⁽³⁾	note ⁽³⁾	note ⁽³⁾	note ⁽³⁾	note ⁽³⁾	note ⁽³⁾	45,000 lb
Oxidative Induction Time (OIT) ⁽⁴⁾ (a) Standard OIT (min. ave.) or (b) High Pressure OIT (min. ave.)	D3895 D5885	100 400	100 400	100 400	100 400	100 400	100 400	100 400	100 400	100 400	200,000 lb
Oven Aging at 85°C ⁽⁵⁾ (a) Standard OIT (min. ave.) % retained after 90 days or (b) High Pressure OIT (min. ave.) % retained after 90 days	D5721 D3895 D5885	35 60	35 60	35 60	35 60	35 60	35 60	35 60	35 60	35 60	per each formulation
UV Resistance ⁽⁶⁾ (a) Standard OIT (min. ave.) or (b) High Pressure OIT (min. ave.) % retained after 1600 hrs ⁽⁸⁾	D7238 D3895 D5885	N.R. ⁽⁷⁾ 35	N.R. ⁽⁷⁾ 35	N.R. ⁽⁷⁾ 35	N.R. ⁽⁷⁾ 35	N.R. ⁽⁷⁾ 35	N.R. ⁽⁷⁾ 35	N.R. ⁽⁷⁾ 35	N.R. ⁽⁷⁾ 35	N.R. ⁽⁷⁾ 35	per each formulation

(1) Machine direction (MD) and cross machine direction (XMD) average values should be on the basis of 5 test specimens each direction.

- Break elongation is calculated using a gage length of 2.0 in. at 2.0 in./min.

(2) Other methods such as D 1603 (tube furnace) or D 6370 (TGA) are acceptable if an appropriate correlation to D 4218 (muffle furnace) can be established.

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

(4) The manufacturer has the option to select either one of the OIT methods listed to evaluate the antioxidant content in the geomembrane.

(5) It is also recommended to evaluate samples at 30 and 60 days to compare with the 90 day response.

(6) The condition of the test should be 20 hr. UV cycle at 75°C followed by 4 hr. condensation at 60°C

(7) 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.

(8) UV resistance is based on percent retained value regardless of the original HP-OIT value