

GEOFLEX

Linear Low Density Polyethylene (LLDPE) Geomembrane – Smooth

Index Properties	Test Method	1,0mm	1,50mm	2,00mm	Frequency
Thickness - (min. ave.)	D 5199	nom. (mm) -10%	nom. (mm) -10%	nom. (mm) -10%	per roll
Density g/ml (max.)	D 1505/D 792	0,939 g/ml	0,939 g/ml	0,939 g/ml	90 000 kg
Tensile Properties ⁽¹⁾ (min.ave.)	D 6693 Type IV				9 000 kg
. break strength – N/mm		27	40	53	
. break elongation -%		800	800	800	
2% Modulus – N/mm (max.)	D 5323	420	630	840	Per formulation
Tear Resistance - N (min. ave)	D 1004	100	150	200	20 000 kg
Puncture Resistance – N (min. ave.)	D 4833	250	370	500	20 000 kg
Axi-Symmetric Break Resistance Strain - % (min).	D 5617	30	30	30	Per formulation
Carbon Black Content (range)%	D 1603 ⁽²⁾	2,0 – 3,0	2,0 – 3,0	2,0 – 3,0	20 000 kg
Carbon Black Dispersion	D 5596	Note ⁽³⁾	Note ⁽³⁾	Note ⁽³⁾	20 000 kg
Oxidative Induction Time (OIT) (min. ave.) ⁽⁴⁾ minutes					90 000 kg
a) Standard OIT or	D 3895	100	100	100	
b) High Pressure OIT	D 5885	400	400	400	
Performance Properties					
Oven Aging at 85° C ⁽⁵⁾	D 5721				per formulation
a) Standard OIT (min. ave.) - % retained after 90 days or	D 3895	35	35	35	
b) High Pressure OIT (min. ave.) % retained after 90 days	D 5885	60	60	60	
UV Resistance ⁽⁶⁾					per formulation
a) Standard OIT (min.ave.) or	D 3895	N.R. ⁽⁷⁾	N.R. ⁽⁷⁾	N.R. ⁽⁷⁾	
b) High Pressure OIT (min. ave.) % retained after 1600 hrs ⁽⁸⁾	D5885	35	35	35	

- 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 gauge length of 50 mm at 50mm/min.
- Other methods such as D 4218 (muffle furnace) or microwave methods are acceptable if an appropriate correlation to D1603 (tube furnace) can be established.
- Carbon black dispersion (only near spherical agglomerates) for 10 different views:
- 9 in Categories 1 or 2 and 1 in Category 3
- The manufacturer has the option to select either one of the OIT methods listed to evaluate the antioxidant content in the geomembrane.
- It is also recommended to evaluate samples at 30 and 60 days to compare with the 90-day response.
- The condition of the test should be 20 hr. UV cycle at 75°C followed by 4 hr. condensation at 60°C.
- 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.
- UV resistance is based on percent retained value regardless of the original HP-OIT value.

Note: LLDPE does not suffer from Stress Cracking

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