



Technical Data High Density Polyethylene (HDPE) Geomembrane - Textured

Properties	Test Method	Test Value				Testing Frequency (minimum)
		1.00mm	1.50mm	2.00mm	2.50mm	
Thickness (min. ave.) • lowest individual for 8 out of 10 values • lowest individual for any of the 10 values	D 5994	nom. (-5%) -10% -15%	nom. (-5%) -10% -15%	nom. (-5%) -10% -15%	nom. (-5%) -10% -15%	per roll
Asperity Height mils (min. ave.) (1)	GM 12	0.25mm	0.25mm	0.25mm	0.25mm	every 2nd roll (2)
Density (min. ave.)	D 1505/ D 792	0.940 g/cc	0.940 g/cc	0.940 g/cc	0.940 g/cc	90,000 kg
Tensile Properties (min. ave.) (3) • yield strength • break strength • yield elongation • break elongation	D 6693 Type IV	15 kN/m 10 kN/m 12% 100%	22 kN/m 16 kN/m 12% 100%	29 kN/m 21 kN/m 12% 100%	37 kN/m 26 kN/m 12% 100%	9,000 kg
Tear Resistance (min. ave.)	D 1004	125 N	187 N	249 N	311 N	20,000 kg
Puncture Resistance (min. ave.)	D 4833	267 N	400 N	534 N	667 N	20,000 kg
Stress Crack Resistance (4)	D 5397 (App.)	300 hr.	300 hr.	300 hr.	300 hr.	per GRI GM10
Carbon Black Content (range)	D 1603 (5)	2.0-3.0%	2.0-3.0%	2.0-3.0%	2.0-3.0%	9,000 kg
Carbon Black Dispersion	D 5596	note (6)	note (6)	note (6)	note (6)	20,000 kg
Oxidative Induction Time (OIT) (min. ave.) (7) (a) Standard OIT — or — (b) High Pressure OIT	D 3895 D 5885	100 min. 400 min.	100 min. 400 min.	100 min. 400 min.	100 min. 400 min.	90,000 kg
Oven Aging at 85°C (7), (8) (a) Standard OIT (min. ave.) - % retained after 90 days — or — (b) High Pressure OIT (min. ave.) - % retained after 90 days	D 5721 D 3895 D 5885	55% 80%	55% 80%	55% 80%	55% 80%	per each formulation
UV Resistance (9) (a) Standard OIT (min. ave.) — or — (b) High Pressure OIT (min. ave.) - % retained after 1600 hrs (11)	GM11 D 3895 D 5885	N.R. (10) 50%	N.R. (10) 50%	N.R. (10) 50%	N.R. (10) 50%	per each formulation

- Of 10 readings; 8 out of 10 must be $\geq 0.18\text{mm}$, and lowest individual reading must be $\geq 0.13\text{mm}$; also see Note 6.
- Alternate the measurement side for double sided textured sheet
- 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 33mm. Break elongation is calculated using a gauge length of 50mm.
- The SP-NCTL test is not appropriate for testing geomembranes with textured or irregular rough surfaces. Test should be conducted on smooth edges of textured rolls or on smooth sheets made from the same formulation as being used for the textured sheet materials. The yield stress used to calculate the applied load for the SP-NCTL test should be the manufacturer's mean value via MQC testing.
- 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.
- 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.

This data is based on GRI GM13 Revision 8: 7/10/06. It is provided for informational purposes only and is not intended as a warranty or guarantee. Skellerup Containment Systems assumes no responsibility in connection with the use of this data. These values are subject to change without notice. Please contact us for updated information.

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