



ULTRATECH
INTERNATIONAL, INC.

Product Data Sheet

Part # 8770



Ultra-Containment Wall

30 mil Textured Polyethylene Liner

Polyethylene liners offer superior tensile strength and stiffness and are resistant to chemicals and puncture. These geomembranes are safe for potable water containment and can be fabricated into panels of up to one acre in size. Based on GM 13 "Standard Specification for Test Methods, Test Properties and Testing Frequency for High Density Polyethylene (HDPE) Textured Geomembranes"

Specifications

Property	Test Method	Test Value
Thickness	ASTM D-5199	30 Mil
Asperity Height mils (min. avg)	GM 12	16 mil (1)
Density		0.940 g/ml
Tensile Properties		Note 3
Yield Strength	ASTM D-6693 Type IV	63 lb/in
Break Strength	ASTM D-6693 Type IV	45 lb/in
Yield Elongation	ASTM D-6693 Type IV	12%
Break Elongation - %	ASTM D-6693 Type IV	100%
Tear Resistance (min. avg)	ASTM D-1004	21 lb
Puncture Resistance (min. avg)	ASTM D-4833*	45 lb
Stress Crack Resistance	ASTM D-5397 (App.)	300 hr (4)
Carbon Black Content (range)	ASTM D-1603	2.0-3.0 % (5)
Carbon Black Dispersion	ASTM D-5596	Note 6
Oxidative Induction Time (OIT) (min. avg)		Note 7
Standard OIT	ASTM D-3895	100 min
High Pressure OIT	ASTM D-5885	400 min
Oven aging at 85 degrees C	ASTM D-5721	Note 7,8
Standard OIT (min. avg) - % retained after 90 days	ASTM D-3895	55%
High Pressure OIT (min. avg) - % retained after 90 days	ASTM D-5885	80%
UV Resistance	GM 11	Note 9
Standard OIT (min. avg)	ASTM D-3895	N.R. (10)
High Pressure OIT (min. avg) - % retained after 1600 hours	ASTM D-5885	50%



This information is provided for reference only and is not intended as a warranty or guarantee.

(1) Of 10 readings; 8 out of 10 must be ≥ 14 mils and lowest individual reading must be ≥ 12 mils; also see note 6.
 (2) Alternate the measurement side for double sided textured sheet.
 (3) 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 inches.
 (4) P-NCTL test is not appropriate for geomembranes with textured or irregular surfaces. Test smooth edges of textured rolls or smooth sheets made from the same formulation as textured sheet materials. The yield used to calculate the applied load for SP-NCTL test should be the manufacturer's mean value via MQC testing.
 (5) 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.

(6) Carbon black dispersion (only near spherical agglomerates) for 10 different views: 9 in Categories 1 or 2 and 1 in Category 3.
 (7) The manufacturer has the option to select either one of the OIT methods listed to evaluate the antioxidant content in the geomembrane.
 (8) It is also recommended to evaluate samples at 30 and 60 days to compare with the 90 day response.
 (9) The condition of the test should be 20 hr. UV cycle at 75 Degree C followed by 4 hr. condensation at 60 Degree C
 (10) 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.
 (11) UV resistance is based on percent retained value regardless of the original HP-OIT value.