ABSOLUTE BARRIER® Y40BAC

HIGH PERFORMANCE LLDPE/EVOH GEOMEMBRANE GAS BARRIER

Viaflex

PRODUCT DESCRIPTION

Absolute Barrier® Y40BAC is a seven-layer co-extruded geomembrane consisting of very flexible, linear-low-density polyethylene (LLDPE) with an inner core of chemically resistant EVOH barrier resin, designed specifically as a barrier against radon, methane and VOCs. High strength LLDPE provides exceptional tear and impact resistance. A robust stabilization package that exceeds the industry standard; provides long-term protection from thermal oxidation and ultraviolet degradation in exposed applications.

PRODUCT USE

Absolute Barrier® Y-Series is designed to stop gas vapor migration on Brownfield sites, in residential and commercial buildings, as well as geomembrane containment and covering systems. When installed under concrete slabs as a gas barrier, a passive system is recommended to include a ventilated system with sump(s) that could be converted to an active control system with properly designed ventilation fans. Y40BAC is over 800 times less permeable to methane gas than LLDPE vapor barriers in a comparable thickness.

Absolute Barrier® performs extremely well preventing the degradation of EPS geofoam by protecting it from harsh VOCs including direct gasoline or diesel fuel contact.

Absolute Barrier® Y40BAC is a highly effective, interim and long-term buried landfill caps with VOC diffusion coefficients ranging from 50 to 200 times less than standard 80 mil HDPE geomembranes. Contaminants found in leachate and gas in municipal and hazardous waste landfills can migrate through standard HDPE; contributing to both atmospheric and groundwater contaminations. Absolute Barrier® Y-Series is an effective barrier to a wide range of VOCs including benzene, toluene, trichloroethylene, perchloroethylene, and many others.

SIZE & PACKAGING

Absolute Barrier® Y40BAC is available in 16' c-fold mill rolls or in large one-piece fabricated panels up to 38,000 sq. ft. All fabricated panels are accordion folded and tightly rolled onto a heavy-duty core for ease of handling and time saving installation.

EPS Geofoam Protection

PRODUCT	PART #
ABSOLUTE BARRIER®	Y40BAC

APPLICATIONS

- EPS Geofoam Protection
- Buried Landfill Cap
- Temporary Landfill Gas Cover
- Floating Gas Cover
- Underslab VOC Barrier
- Underslab Radon Barrier
- Underslab Methane Barrier
- Underslab Vapor Barrier
- Remediation Cover / Liner
- Leachate Collection Ponds
- Odor Control Barrier
- Secondary Containment

Absolute Barrier®

THE ULTIMATE IN GAS CONTAINMENT

ABSOLUTE BARRIER® Y40BAC

HIGH PERFORMANCE LLDPE/EVOH GEOMEMBRANE GAS BARRIER

		ABSOLUTE BARRIER® Y40BAC			
		IMPERIAL		METRIC	
PROPERTIES	TEST METHOD	MINIMUM	TYPICAL	MINIMUM	TYPICAL
Appearance		Black		Black	
Thickness	ASTM D5199	40 Mils Average	40 Mils Nominal	1.02 mm Average	1.02 mm Nominal
Weight		205 lbs/msf		1001 g/m^2	
Tensile Strength	ASTM D6693	125 lbs/in	140 lbs/in	219 N/cm	245 N/cm
Tensile Elongation at Break	ASTM D6693	550 %	650 %	550 %	650 %
Tear Strength	ASTM D1004	22 lbs	27 lbs	98 N	120 N
Puncture Resistance	ASTM D4833	70 lbs	90 lbs	311 N	400 N
Oxidation Induction Time (OIT) or High Pressure OIT (HPOIT)	ASTM D3895 ASTM D5885	100 min 400 min	250 min -	100 min 400 min	250 min -
Carbon Black Content [7]	ASTM D4218	2.0 %	2.3 %	2.0 %	2.3 %
Carbon Black Dispersion	ASTM D5596	Pass			
Benzene Permeance	See Note [6]	2.27 x 10^{-10} m^2/sec or 1.81 x 10^{-13} m/s			
Toluene Permeance	See Note [6]	3.15 x 10^{-10} m^2/sec or 7.28 x 10^{-14} m/s			
Ethylbenzene Permeance	See Note [6]	2.47 x 10^{-10} m^2/sec or 1.67 x 10^{-14} m/s			
M & P-Xylenes Permeance	See Note [6]	2.33 x 10^{-10} m^2/sec or 1.91 x 10^{-14} m/s			
O-Xylene Permeance	See Note [6]	2.20 x 10^{-10} m^2/sec or 1.71 x 10^{-14} m/s			
Methane Permeance	ASTM D1434	< 3.70E^{-13} m/s			
Hydrogen Sulfide	See Note [9]	1.09E^{-09} m/s			
Trichloroethylene (TCE)	See Note [6]	1.53 x 10^{-10} m^2/sec or 5.25 x 10^{-15} m/s			
Perchloroethylene (PCE)	See Note [6]	1.44 x 10^{-10} m^2/sec or 5.22 x 10^{-15} m/s			
Cold Temperature Impact	ASTM D746	-40° F		-40° C	
Maximum Static Use Temperature		180° F		82° C	
FACTORY SEAM REQUIREMENTS					
Bonded Seam Strength	ASTM D6392 Mod. [5]	80 lbs/in	90 lbs/in	140 N/cm	158 N/cm
Seam Peel Adhesion	ASTM D6392 Mod. [5]	60 lbs/in	70 lbs/in	105 N/cm	123 N/cm

[5] Raven Industries performs seam testing at 20" per minute.

[6] Aqueous Phase Film Permeance.
Permeation of Volatile Organic Compounds through EVOH Thin Film Membranes and Coextruded LLDPE/EVOH/LLDPE Geomembranes, McWatters and Rowe, Journal of Geotechnical and Geoenvironmental Engineering© ASCE/ September 2015. (Permeation is the Permeation Coefficient adjusted to actual film thickness - calculated at 1 kg/m^3.) The study used to determine PCE and TCE is titled: Evaluation of diffusion of PCE & TCE through high performance geomembranes by Di Battista and Rowe, Queens University 8 Feb 2018.

[7] No carbon black in barrier layers.

[9] The study used to determine diffusion coefficients is titled: Hydrogen Sulfide (H_2S) Transport through Simulated Interim Covers with Conventional and Co-Extruded Ethylene-Vinyl Alcohol (EVOH) Geomembranes.

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Note: To the best of our knowledge, unless otherwise stated, these are typical property values and are intended as guides only, not as specification limits. Chemical resistance, odor transmission, longevity as well as other performance criteria is not implied or given and actual testing must be performed for applicability in specific applications and/or conditions. VIAFLEX MAKES NO WARRANTIES AS TO THE FITNESS FOR A SPECIFIC USE OR MERCHANTABILITY OF PRODUCTS REFERRED TO, no guarantee of satisfactory results from reliance upon contained information or recommendations and disclaims all liability for resulting loss or damage. Limited Warranty available at www.viaflex.com

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