

ABSOLUTE BARRIER® Y40BAC

HIGH PERFORMANCE LLDPE/EVOH GEOMEMBRANE GAS BARRIER

RAVEN

PRODUCT DESCRIPTION

Absolute Barrier® Y-Series 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 Y40BAC 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® Y-Series 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, ethylbenzene, o-xylene and many others.

SIZE & PACKAGING

Absolute Barrier® 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	Underslab Methane Barrier
Buried Landfill Cap	Underslab Vapor Barrier
Temporary Landfill Gas Cover	Remediation Cover / Liner
Floating Gas Cover	Leachate Collection Ponds
Underslab VOC Barrier	Odor Control Barrier
Underslab Radon Barrier	Secondary Containment

Absolute Barrier®
THE ULTIMATE IN GAS CONTAINMENT

ABSOLUTE BARRIER® Y40BAC

HIGH PERFORMANCE LLDPE/EVOH GEOMEMBRANE GAS BARRIER

ABSOLUTE BARRIER® Y40BAC

PRO-FORMA DATA SHEET - TYPICAL VALUES

PROPERTIES	TEST METHOD	IMPERIAL		METRIC	
		TYPICAL	MINIMUMS	TYPICAL	MINIMUMS
WEIGHT		208 lbs/msf	190 lbs/msf	1016 g/m ²	928 g/m ²
THICKNESS	ASTM D5199	42 mils	40 mils	1.07 mm	1.02 mm
DENSITY	ASTM D1505	See Note ⁸		See Note ⁸	
³ TENSILE STRENGTH	ASTM D638 1. Tensile Strength at Break 2. % Elongation at Break	139 e/in. 650 %	125 lbf/in. 550 %	24.3 N/mm 650 %	21.8 N/mm 550 %
OXIDATIVE INDUCTION TIME (OIT)	ASTM D3895-A	> 275 min.	> 100 min.	> 275 min.	> 100 min.
HIGH PRESSURE OIT (HPOIT)	ASTM D5885	> 900 min.	> 400 min.	> 900 min.	> 400 min.
PUNCTURE RESISTANCE	ASTM D4833	94 lbf	80 lbf	418 N	356 N
³ TEAR RESISTANCE	ASTM D1004	27 lbf	20 lbf	120 N	85 N
UV RESISTANCE	GRI GM17	Pass			
OVEN AGING AT 85°C (HPOIT)	GRI GM17	Pass			
LOW TEMP BRITTLINESS	ASTM D746 - Method B	Pass, 5 min @ -40°F			
BENZENE PERMEANCE	See Note ⁶	8.85E ⁻¹¹ m/s			
TOLUENE PERMEANCE	See Note ⁶	1.23E ⁻¹⁰ m/s			
ETHYLBENZENE PERMEANCE	See Note ⁶	9.63E ⁻¹¹ m/s			
M & P-XYLENES PERMEANCE	See Note ⁶	9.10E ⁻¹¹ m/s			
O-XYLENE PERMEANCE	See Note ⁶	8.60E ⁻¹¹ m/s			
METHANE PERMEANCE	ASTM D1434	< 3.70E ⁻¹³ m/s			
HYDROGEN SULFIDE	See Note ⁹	1.09E ⁻⁰⁹ m/s			
CARBON BLACK DISPERSION	ASTM D5596	Pass - See Note ⁷			
CARBON BLACK %	ASTM D1603	> 2.0 %			
OXYGEN TRANSMISSION RATE	ASTM D 3985	0.033 cc/ [m ² -day]			
PERMS	ASTM E96-A 73° F, 50% RH	< 0.0082 grains/(ft ² -hr-in-Hg)		< 0.0054 g/(24hr-m ² -mm Hg)	
MAXIMUM STATIC USE TEMP		180° F		82° C	
MINIMUM STATIC USE TEMP		-70° F		-57° C	

FACTORY SEAM REQUIREMENTS

BONDED SEAM STRENGTH	ASTM D6392 Mod. ⁵	80 lbf/in.	60 lbf/in.	140 N/cm	105 N/cm
SEAM PEEL ADHESION	ASTM D6392 Mod. ⁵	70 lbf/in.	50 lbf/in.	123 N/cm	88 N/cm

³ Tests are an average of machine and transverse directions.

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)

⁷ Carbon black dispersion (only near spherical agglomerates) for 10 different views: 9 in Categories 1 or 2 and 1 in Category 3

⁸ Multi-layer barrier contains LLDPE resin meeting a density value of less than 0.924 g/cm³ Max.

⁹ The study used to determine diffusion coefficients is titled: Hydrogen Sulfide (H₂S) Transport through Simulated Interim Covers with Conventional and Co-Extruded Ethylene-Vinyl Alcohol (EVOH) Geomembranes.

PRO-FORMA SHEET CONTENTS: The data listed in the Pro-Forma data sheet is representative of initial production runs. These values may be revised at anytime without notice as additional test data becomes available.

Absolute Barrier® Y-Series Y40BAC is seven layer, co-extruded membrane consisting of a very flexible, linear low-density polyethylene (LLDPE) and a barrier core layer to provide superior resistance to gas transmission. LLDPE provides high elongation, tremendous tear resistance and bursting strength. A minimum carbon black content of 2.0% provides excellent protection from UV rays and harsh weather conditions. Absolute Barrier® is an effective barrier against methane, radon, gasoline, benzene and many hazardous VOCs.



Scan QR Code to download technical data sheets.

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. RAVEN INDUSTRIES 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.ravenefd.com

RAVEN ENGINEERED FILMS
P.O. Box 5107 Sioux Falls, SD 57117-5107
Ph: +1 (605) 335-0174 • TF: +1 (800) 635-3456

© 2016 RAVEN INDUSTRIES INC. All rights reserved.

efdsales@ravenind.com
www.ravenefd.com

RAVEN

071816 EFD1499