

## Product Description

Absolute Barrier™ Y-Series Y30BAC and Y40BAC are seven layer co-extruded geomembranes consisting of very flexible, linear low-density polyethylene (LLDPE) with an inner core of chemically resistant 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 Y30BAC and Y40BAC are 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. Y30BAC and Y40BAC are over 800 times less permeable to methane gas than LLDPE vapor barriers in a comparable thickness.

Absolute Barrier™ also performs extremely well against gasoline vapor transmission in geofoam protection applications.

Absolute Barrier™ Y-Series Y30BAC and Y40BAC are highly effective temporary and long-term landfill caps with VOC diffusion coefficients ranging from 20 to 38 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' layflat or in fabricated panels up to 30,000 sq. ft. All 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™ .....	Y30BAC
ABSOLUTE BARRIER™ .....	Y40BAC

## APPLICATIONS

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

**Absolute Barrier™**  
THE ULTIMATE IN GAS CONTAINMENT

# ABSOLUTE BARRIER™ Y-Series Y30BAC & Y40BAC



High Performance LLDPE Geomembrane Gas Barrier

## PRO-FORMA DATA SHEET - TYPICAL VALUES

PROPERTIES	TEST METHOD	ABSOLUTE BARRIER™ Y30BAC		ABSOLUTE BARRIER™ Y40BAC	
		Imperial	Metric	Imperial	Metric
WEIGHT		144 lbs/msf	703 g/m <sup>2</sup>	195 lbs/msf	952 g/m <sup>2</sup>
THICKNESS	ASTM D5199	30 mils	0.76 mm	40 mils	1.02 mm
DENSITY	ASTM D792 or D1505	See Note <sup>3</sup>		See Note <sup>3</sup>	
*TENSILE STRENGTH lbf/in. width (N/mm width)	ASTM D638/D6693 1. Tensile Strength at Break 2. % Elongation at Break	85 lbf/in. 504 %	14.9 N/mm 504 %	105 lbf/in. 458 %	18.4 N/mm 458 %
OXIDATIVE INDUCTION TIME (OIT)	ASTM D3895 Method A	> 100 min.		> 100 min.	
HIGH PRESSURE OIT (HPOIT)	ASTM D5885	> 400 min.		> 400 min.	
PUNCTURE RESISTANCE	ASTM D4833	74 lbf	329 N	94 lbf	418 N
*TEAR RESISTANCE	ASTM D1004	19 lbf	85 N	25 lbf	111 N
UV RESISTANCE	GRI GM17	Pass		Pass	
OVEN AGING AT 85°C (HPOIT)	GRI GM17	Pass		Pass	
LOW TEMP, IMPACT FAILURE TEMP	ASTM D746 Method B	Pass, 5 min @ -40°F		Pass, 5 min @ -40°F	
BENZENE PERMEANCE	See Note <sup>1</sup>	2.94E-10 m/s		2.21E-10 m/s	
TOLUENE PERMEANCE	See Note <sup>1</sup>	2.78E-10 m/s		2.09E-10 m/s	
ETHYLBENZENE PERMEANCE	See Note <sup>1</sup>	2.62E-10 m/s		1.96E-10 m/s	
M & P-XYLENES PERMEANCE	See Note <sup>1</sup>	2.62E-10 m/s		1.96E-10 m/s	
O-XYLENE PERMEANCE	See Note <sup>1</sup>	2.46E-10 m/s		1.84E-10 m/s	
CARBON BLACK DISPERSION	ASTM D5596	Pass - See Note <sup>2</sup>		Pass - See Note <sup>2</sup>	
CARBON BLACK %	ASTM D1603 or D4218	> 2.0 %		> 2.0 %	
OXYGEN TRANSMISSION RATE	ASTM D 3985	0.099 cc/ [m <sup>2</sup> -day]		0.033 cc/ [m <sup>2</sup> -day]	
PERMS	ASTM E96 Method A 73° F, 50% RH	< 0.0098 grains/(ft <sup>2</sup> -hr-in-Hg)	< 0.0065 g/(24hr-m <sup>2</sup> -mm Hg)	< 0.0082 grains/(ft <sup>2</sup> -hr-in-Hg)	< 0.0054 g/(24hr-m <sup>2</sup> -mm Hg)
FACTORY SEAM REQUIREMENTS					
BONDED SEAM STRENGTH	ASTM D6392 Mod.**	59 lbf/in.	103 N/cm	59 lbf/in.	103 N/cm
SEAM PEEL ADHESION	ASTM D6392 Mod.**	50 lbf/in.	87 N/cm	50 lbf/in.	87 N/cm

\* Tests are an average of MD and TD directions.

\*\* Raven Industries performs seam testing at 12" per minute.

1 Aqueous Phase Film Permeance. Diffusive Transport of VOCs through LLDPE and Two Coextruded Geomembranes, McWatters and Rowe, Journal of Geotechnical and Geoenvironmental Engineering© ASCE/September 2010. (Permeation is the Permeation Coefficient adjusted to actual film thickness)

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

3 Multi-layer barrier contains LLDPE resin meeting a density value of less than 0.924 g/cm<sup>3</sup> Max.

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 Y30BAC and Y40BAC are seven layer, co-extruded membranes 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.



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](http://www.RavenEFD.com)



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