

# ABSOLUTE BARRIER® X60BAL

HIGH PERFORMANCE HDPE/EVOH GEOMEMBRANE GAS BARRIER

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## PRODUCT DESCRIPTION

Absolute Barrier® X-Series X60BAL is a seven layer co-extruded geomembranes consisting of a durable high-density polyethylene (HDPE) with an inner core of highly effective EVOH barrier resin, designed specifically as a barrier against odors, methane, radon, and VOCs. High strength HDPE provides excellent chemical resistance and durability. The combination of these highly effective resins provides unequaled barrier performance in demanding buried applications.

## PRODUCT USE

Absolute Barrier® X-Series X60BAL is designed to stop gas vapor migration on Brownfield sites, in residential and commercial buildings, along with geomembrane containment covers and systems for effective odor control. 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.

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® X-Series X60BAL is effective in buried landfill cap applications and are 50 to 400 times less permeable to VOCs than standard 80 mil HDPE geomembranes. Leachate contaminants and landfill odors/gases in municipal and hazardous waste landfills can migrate through standard HDPE contributing to both atmospheric and groundwater contaminations. Absolute Barrier® X60BAL provide an effective barrier against a wide range of VOCs including benzene, toluene, ethylbenzene, o-xylene and many others.

## SIZE & PACKAGING

Absolute Barrier® is available in 16' wide layflat rolls in various lengths. All panels are tightly rolled onto a heavy-duty core for ease of handling and time saving installation. Absolute Barrier® geomembranes are produced in the color black as standard and can be manufactured in other custom colors with minimum quantity order requirements.



Landfill Rainshed Cover

## PRODUCT

## PART #

ABSOLUTE BARRIER® ..... X60BAL

## APPLICATIONS

Odor Control Barrier	Underslab Radon Barrier
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	

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

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## PRO-FORMA DATA SHEET - TYPICAL VALUES

		ABSOLUTE BARRIER® X60BAL			
		TYPICAL VALUES		MINIMUM VALUES	
PROPERTIES	TEST METHOD	IMPERIAL	METRIC	IMPERIAL	METRIC
WEIGHT		311 lbs/msf	1515 g/m <sup>2</sup>	296 lbs/msf	14,459 g/m <sup>2</sup>
THICKNESS	ASTM D5199	63 mils	1.6 mm	60 mils	1.5 mm
DENSITY	ASTM D792 or ASTM D1505	0.94 g/cm <sup>3</sup> (minimum)			
<sup>3</sup> TENSILE STRENGTH	ASTM D638/D6693 1. Tensile Strength at Break 2. % Elongation at Break	180 lbf/in. 404 %	31.5 N/mm 404 %	165 lbf/in. 380 %	29.2 N/mm 380 %
OXIDATIVE INDUCTION TIME (OIT)	ASTM D3895 Method A	> 180 min.		100 min	
HIGH PRESSURE OIT (HPOIT)	ASTM D5885	> 500 min.		400 min	
PUNCTURE RESISTANCE	ASTM D4833	141 lbf	627 N	108 lbf	480 N
<sup>3</sup> TEAR RESISTANCE	ASTM D1004	49 lbf	218 N	42 lbf	187 N
STRESS CRACK RESISTANCE	ASTM D5397	>1800 hrs		1800 hrs	
LOW TEMP, IMPACT FAILURE TEMP	ASTM D746 Method B	Pass, 5 min @ -40°F			
BENZENE PERMEANCE	See Note <sup>6</sup>	5.86E <sup>-11</sup> m/s			
TOLUENE PERMEANCE	See Note <sup>6</sup>	8.17E <sup>-11</sup> m/s			
ETHYLBENZENE PERMEANCE	See Note <sup>6</sup>	6.42E <sup>-11</sup> m/s			
M & P-XYLENES PERMEANCE	See Note <sup>6</sup>	6.06E <sup>-11</sup> m/s			
O-XYLENE PERMEANCE	See Note <sup>6</sup>	5.73E <sup>-11</sup> m/s			
METHANE PERMEANCE	ASTM D1434	< 2.46E <sup>-13</sup> m/s			
CARBON BLACK DISPERSION	ASTM D5596	Pass - See Note <sup>7</sup>			
CARBON BLACK %	ASTM D1603 or D4218	> 2.0 %		2 %	
PERMS	ASTM E96 - Method A 73° F, 50% RH	< 0.0042 grains/(ft <sup>2</sup> ·hr·in·Hg)	< 0.0028 g/(24hr·m <sup>2</sup> ·mm Hg)	N/A	N/A
MAXIMUM USE TEMPERATURE		180° F	82° C	N/A	N/A

<sup>3</sup> Tests are an average of machine and transverse directions.

<sup>6</sup> 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)

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

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.



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

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