

## PRODUCT DESCRIPTION

VaporBlock<sup>®</sup> Plus<sup>™</sup> 20 is a seven-layer co-extruded barrier made from state-of-the-art polyethylene and EVOH resins to provide unmatched impact strength as well as superior resistance to gas and moisture transmission. VaporBlock<sup>®</sup> Plus<sup>™</sup> 20 is a highly resilient underslab / vertical wall barrier designed to restrict naturally occurring gases such as radon and/or methane from migrating through the ground and concrete slab. VaporBlock<sup>®</sup> Plus<sup>™</sup> 20 is more than 100 times less permeable than typical high-performance polyethylene vapor retarders against Methane, Radon and other harmful VOCs.

VaporBlock<sup>®</sup> Plus<sup>™</sup> 20 is one of the most effective underslab gas barriers in the building industry today far exceeding ASTM E-1745 (Plastic Water Vapor Retarders Used in Contact with Soil or Granular Fill Under Concrete Slabs) Class A, B and C requirements. Available in a 20 (Class A) mil thicknesses designed to meet the most stringent requirements. VaporBlock<sup>®</sup> Plus<sup>™</sup> 20 is produced within the strict guidelines of our ISO 9001:2008 Certified Management System.

## PRODUCT USE

VaporBlock<sup>®</sup> Plus<sup>™</sup> 20 resists gas and moisture migration into the building envelop when properly installed to provide protection from toxic/harmful chemicals. It can be installed as part of a passive or active control system extending across the entire building including floors, walls and crawl spaces. When installed as a passive system it is recommended to also include a ventilated system with sump(s) that could be converted to an active control system with properly designed ventilation fans.

VaporBlock<sup>®</sup> Plus<sup>™</sup> 20 works to protect your flooring and other moisture-sensitive furnishings in the building's interior from moisture and water vapor migration, greatly reducing condensation, mold and degradation.

## SIZE & PACKAGING

VaporBlock<sup>®</sup> Plus<sup>™</sup> 20 is available in 10' x 150' rolls to maximize coverage. All rolls are folded on heavy-duty cores for ease in handling and installation. Other custom sizes with factory welded seams are available based on minimum volume requirements. Installation instructions and ASTM E-1745 classifications accompany each roll.



Under-Slab Vapor/Gas Retarder

## PRODUCT

## PART #

VaporBlock<sup>®</sup> Plus<sup>™</sup> 20 ..... VBP20

## APPLICATIONS

Radon Barrier	Under-Slab Vapor Retarder
Methane Barrier	Foundation Wall Vapor Retarder
VOC Barrier	



# VAPORBLOCK® PLUS™ VBP20

UNDER-SLAB VAPOR / GAS BARRIER

PROPERTIES	TEST METHOD	VAPORBLOCK® PLUS™ 20	
		IMPERIAL	METRIC
APPEARANCE		White/Gold	
THICKNESS, NOMINAL		20 mil	0.51 mm
WEIGHT		102 lbs/MSF	498 g/m <sup>2</sup>
CLASSIFICATION	ASTM E 1745	CLASS A, B & C	
<sup>3</sup> TENSILE STRENGTH	ASTM E 154 Section 9 (D-882)	58 lbf	102 N
IMPACT RESISTANCE	ASTM D 1709	2600 g	
PERMEANCE (NEW MATERIAL)	ASTM E 154 Section 7 ASTM E 96 Procedure B	0.0098 Perms grains/(ft <sup>2</sup> ·hr·in·Hg)	0.0064 Perms g/(24hr·m <sup>2</sup> ·mm Hg)
PERMEANCE (AFTER CONDITIONING) (SAME MEASUREMENT AS ABOVE PERMEANCE)	ASTM E 154 Section 8, E96 Section 11, E96 Section 12, E96 Section 13, E96	0.0079 0.0079 0.0097 0.0113	0.0052 0.0052 0.0064 0.0074
WVTR	ASTM E 96 Procedure B	0.0040 grains/hr·ft <sup>2</sup>	0.0028 gm/hr·m <sup>2</sup>
BENZENE PERMEANCE	See Note <sup>6</sup>	1.57E <sup>-10</sup> m/s	
TOLUENE PERMEANCE	See Note <sup>6</sup>	2.18E <sup>-10</sup> m/s	
ETHYLBENZENE PERMEANCE	See Note <sup>6</sup>	1.71E <sup>-10</sup> m/s	
M & P-XYLENES PERMEANCE	See Note <sup>6</sup>	1.62E <sup>-10</sup> m/s	
O-XYLENE PERMEANCE	See Note <sup>6</sup>	1.53E <sup>-10</sup> m/s	
HYDROGEN SULFIDE	See Note <sup>9</sup>	1.92E <sup>-09</sup> m/s	
RADON DIFFUSION COEFFICIENT	K124/02/95	< 1.1 x 10 <sup>-13</sup> m <sup>2</sup> /s	
METHANE PERMEANCE	ASTM D 1434	3.68E <sup>-12</sup> m/s Gas Transmission Rate (GTR): 0.32 mL/m <sup>2</sup> ·day·atm	
MAXIMUM STATIC USE TEMPERATURE		180° F	82° C
MINIMUM STATIC USE TEMPERATURE		- 70° F	- 57° C

<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>9</sup> The study used to determine diffusion coefficients is titled: Hydrogen Sulfide (H<sub>2</sub>S) Transport through Simulated Interim Covers with Conventional and Co-Extruded Ethylene-Vinyl Alcohol (EVOH) Geomembranes.

#### VaporBlock® Plus™ Placement

All instructions on architectural or structural drawings should be reviewed and followed. Detailed installation instructions accompany each roll of VaporBlock® Plus™ and can also be located on our website.

ASTM E-1643 also provides general installation information for vapor retarders.

**VaporBlock® Plus™**  
UNDERSLAB VAPOR RETARDER / GAS BARRIER

VaporBlock® Plus™ is a seven-layer co-extruded barrier made using high quality virgin-grade polyethylene and EVOH resins to provide unmatched impact strength as well as superior resistance to gas and moisture transmission.

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)

#### WIND DEFENDER®

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