

# VI-20™ GEOMEMBRANE

## HIGH-PERFORMANCE VAPOR INTRUSION BARRIER

### DESCRIPTION

VI-20 is a 7-layer co-extruded geomembrane made using high quality virgin-grade polyethylene and EVOH resins that provide unmatched impact strength as well as superior resistance to VOC vapor transmission. EVOH technology serves as a highly resilient under-slab and vertical wall barrier designed to restrict methane, radon and other harmful chemicals.

### APPLICATION

VI-20 is a 20-mil, high performance polyethylene-EVOH copolymer geomembrane, specially designed for use as a VOC barrier when used in conjunction with LIQUID BOOT® spray-applied vapor intrusion membrane to minimize vapor intrusion and nuisance water

(non-hydrostatic conditions) migration into buildings. VI-20 is ideal for applications with chlorinated solvents, BTEX and other PAHs.

### BENEFITS

- Polyethylene layers provide excellent chemical resistance and physical properties
- EVOH barrier technology provides superior protection against diffusion of chemicals when compared to typical HDPE geomembranes
- Manufactured at ISO 9001:2008 certified plant

### INSTALLATION

For use as a component of the LIQUID BOOT® Plus system. See installation guide for more information.



### PACKAGING

- Panel Dimensions: 10 ft x 150 ft (3 m x 45.7 m) Rolls
- Nominal Weight: 160 lbs

### VI-20 PROPERTIES

MATERIAL PROPERTY	TEST METHOD	TYPICAL VALUE
Color	-	Green
Membrane Thickness	ASTM D5199	20 mil (0.51 mm)
Water Vapor Retarder Classification	ASTM E1745	Class A, B, and C
Tensile Strength <sup>1</sup>	ASTM E154 Section 9	58 lb-f/in (102 N/cm)
Impact Resistance	ASTM D1709, Method B	3010 g
Water Vapor Transmission Rate <sup>2</sup>	ASTM E96, Procedure B	0.0040 grains/hr*ft <sup>2</sup> (0.0028 g/hr*m <sup>2</sup> )
Benzene Permeance	See Note 3	1.13 x 10 <sup>-10</sup> m <sup>2</sup> /s
Toluene Permeance	See Note 3	1.57 x 10 <sup>-10</sup> m <sup>2</sup> /s
Ethylbenzene Permeance	See Note 3	1.23 x 10 <sup>-10</sup> m <sup>2</sup> /s
m & p-Xylenes Permeance	See Note 3	1.17 x 10 <sup>-10</sup> m <sup>2</sup> /s
o-Xylene Permeance	See Note 3	1.10 x 10 <sup>-10</sup> m <sup>2</sup> /s
Perchloroethylene (PCE) Permeance	See Note 4	7.22 x 10 <sup>-11</sup> m <sup>2</sup> /s
Trichloroethylene (TCE) Permeance	See Note 4	7.66 x 10 <sup>-11</sup> m <sup>2</sup> /s
Radon Diffusion Coefficient	K124/02/95	<1.1 x 10 <sup>-13</sup> m <sup>2</sup> /s
Methane Permeance <sup>2</sup>	ASTM D1434	Gas Transmission Rate (GTR) 0.32 mL/m <sup>2</sup> *day*atm

Notes:

<sup>1</sup> Results are an average of machine and cross machine direction.

<sup>2</sup> Typical value based upon historical data.

<sup>3</sup> McWaters and Rowe, "Permeation of Volatile Organic Compounds through EVOH Thin Film Membranes and LLDPE/EVOH/LLDPE Geomembranes", *Journal of Geotechnical and Geoenvironmental Engineering*, September 2015.

<sup>4</sup> Battista and Rowe, "Evaluation of Diffusion of PCE and TCE Through High Performance Geomembranes", Queens University, February 2018.

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