

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 ¹	ASTM E154 Section 9	58 lb-f/in (102 N/cm)
Impact Resistance	ASTM D1709	2600 g
Water Vapor Transmission Rate ²	ASTM E96, Procedure B	0.0040 grains/hr*ft ² (0.0028 g/hr*m ²)
Benzene Permeance	See Note 3	1.13 x 10 ⁻¹⁰ m ² /s
Toluene Permeance	See Note 3	1.57 x 10 ⁻¹⁰ m ² /s
Ethylbenzene Permeance	See Note 3	1.23 x 10 ⁻¹⁰ m ² /s
m & p-Xylenes Permeance	See Note 3	1.17 x 10 ⁻¹⁰ m ² /s
o-Xylene Permeance	See Note 3	1.10 x 10 ⁻¹⁰ m ² /s
Perchloroethylene (PCE) Permeance	See Note 4	7.22 x 10 ⁻¹¹ m ² /s
Trichloroethylene (TCE) Permeance	See Note 4	7.66 x 10 ⁻¹¹ m ² /s
Radon Diffusion Coefficient	K124/02/95	<1.1 x 10 ⁻¹³ m ² /s
Methane Permeance ²	ASTM D1434	Gas Transmission Rate (GTR) 0.32 mL/m ² *day*atm

Notes:

¹ Results are an average of machine and cross machine direction.

² Typical value based upon historical data.

³ 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.

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

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