

# TECHNICAL DATA

## VI-20™ GEOMEMBRANE

### HIGH-PERFORMANCE GAS VAPOR BARRIER

#### DESCRIPTION

VI-20™ is a 7-layer co-extruded EVOH geomembrane made using high quality virgin-grade polyethylene and barrier resins that provide unmatched impact strength as well as superior resistance to VOC vapor transmission. EVOH technology serves as a highly resilient underslab and vertical wall barrier designed to restrict methane, radon and other harmful chemicals. Applications for EVOH originated in the manufacturing of automotive fuel systems to control emissions of hydrocarbons, whose use was mandated by the US EPA and the CA Air Resources Board (CARB) to reduce VOC emissions.

#### APPLICATION

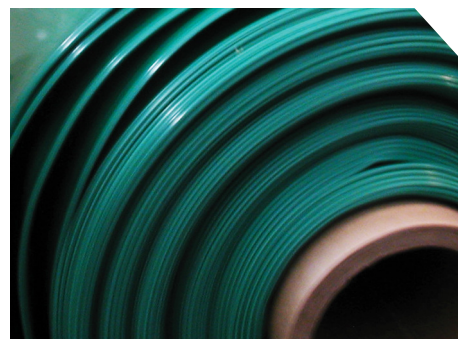
VI-20™ is a 20-mil, high performance poly-ethylene-EVOH copolymer geomembrane, specially designed for use as a VOC barrier when used in conjunction with Liquid Boot® spray-applied gas vapor membrane to minimize gas vapor and nuisance water (non-hydrostatic conditions) migration into buildings. VI-20™ 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, VI-20™ geomembrane is rolled out on prepared sub-grade, overlapping seams a minimum of six inches (6"). The geomembrane is cut around penetrations so that it lays flat on the sub-grade and tight at all inside corners. A thin (20 mil) tack coat of Liquid Boot® ("A" side without catalyst) is sprayed within the seam overlap. Once the VI-20™ geomembrane is installed, penetrations are then treated with VI-20™ Detailing Fabric prior to installation of the Liquid Boot® spray-applied gas vapor membrane and UltraShield™ G-1000 protection course.



EVOH technology provided in VI-20™ geomembrane has been shown to have VOC diffusion coefficients 20 times lower than an 80 mil HDPE geomembrane.

#### PACKAGING

**VI-20™ Geomembrane is available in the following packaging option:**

- ▶ 10 ft. x 150 ft. Rolls

#### VI-20™ CHEMICAL & PHYSICAL PROPERTIES

| CHEMICAL PROPERTY                  | TEST METHOD          | RESULT  |
|------------------------------------|----------------------|---|
| Benzene Diffusion Coefficient      | EPA Method 8260      | 4.5 x 10 <sup>-15</sup> m <sup>2</sup> /s       |
| Ethylbenzene Diffusion Coefficient | EPA Method 8260      | 4.0 x 10 <sup>-15</sup> m <sup>2</sup> /s       |
| m&p-Xylenes Diffusion Coefficient  | EPA Method 8260      | 3.7 x 10 <sup>-15</sup> m <sup>2</sup> /s       |
| Methane Permeability               | ASTM 1434            | < 5 x 10 <sup>-10</sup> m <sup>2</sup> /d • atm |
| o-Xylene Diffusion Coefficient     | EPA Method 8260      | 3.7 x 10 <sup>-15</sup> m <sup>2</sup> /s       |
| Radon Diffusion Coefficient        | EPA Method 8260      | 2.5 x 10 <sup>-14</sup> m <sup>2</sup> /s       |
| Toluene Diffusion Coefficient      | EPA Method 8260      | 4.2 x 10 <sup>-15</sup> m <sup>2</sup> /s       |
| PHYSICAL PROPERTY                  | TEST METHOD          | RESULT  |
| Membrane Composite Thickness       | ASTM D5199           | 20 mil  |
| Puncture Resistance                | ASTM D1709           | 2,600 g   |
| Tensile Strength                   | ASTM E154 Section. 9 | 58 lbs  |
| Water Vapor Transmission           | ASTM E154 & E96      | .0025 US Perms                                  |

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