



16-MIL REINFORCED CLASS A VAPOR BARRIER

VERSION 20.0

VAPOR RETARDERS

DIVISION
033000, 072600

PRODUCT NAME

Viper® VaporCheck® 16-mil
"Class A" Reinforced Under-Slab Vapor Barrier

MANUFACTURER

ISI BUILDING PRODUCTS
401 Truck Haven Road
East Peoria, IL 61611
866.698.6562 / www.isibp.com

PRODUCT DESCRIPTION

BASIC USE

Viper VaporCheck 16-mil is a unique high strength, high performance, cross-woven reinforced polyethylene-based under-slab vapor barrier specifically designed for preventing moisture migration through concrete slabs-on-grade. Its superior strength properties greatly restrict punctures and tears that come with extensive jobsite traffic. Viper VaporCheck reduces water vapor emission transfer and moisture migration from entering the building envelope on commercial, industrial and residential applications. Viper VaporCheck may be used to reduce radon and methane gas migration and is resistant to other adverse soil conditions. Viper VaporCheck is also designed to control condensation, mold, mildew and degradation and prevents costly flooring failures and damage to moisture sensitive furnishings within a building's interior.

COMPOSITION & MATERIALS

Viper VaporCheck 16-mil is manufactured using the latest generation of prime virgin (non-recycled) polyethylene resin, constructed in a triple-ply extrusion coated process and engineered with physical properties that maintain long-term performance. The extrusion coated process bonds woven high-density fibers together, using molten polyethylene, creating an excellent balance of high puncture and tensile strength while maintaining very low water vapor permeance characteristics. The cross-woven high-density fibers, used as the reinforcing layer, yield the highest strength-to-weight ratio, tensile strength, tear resistance, bursting strength and puncture resistance of any product produced of its kind.

SIZE

Standard Size: 2,400 ft² rolls (12' x 200')

WEIGHT

Approximately 130 lbs per roll

BENEFITS

- Unsurpassed puncture resistance
- Exceeds ASTM E 1745 "Class A" guidelines
- Maintains long-term performance after exposure to adverse soil conditions

- Resistant to alkali salts, moisture and other soil degrading chemicals
- Greatly reduces moisture migration through slab-on-grade applications

TECHNICAL DATA

APPLICABLE STANDARDS

American Society for Testing & Materials (ASTM)

ASTM E 1745 Standard Specification for Plastic Water Vapor Retarders Used in Contact with Soil or Granular Fill Under Concrete Slabs

ASTM E 154 Standard Test Methods for Water Vapor Retarders used in Contact with Earth Under Concrete Slabs, on Walls or as Ground Cover

ASTM D 1709 Standard Test Methods for Impact Resistance of Plastic Film by the Free-Falling Dart Method

ASTM D 5602 Standard Test Methods for Static Puncture Resistance of Roofing/Under Slab Membrane Specimens

ASTM E 96 Standard Test Methods for Water Vapor Transmission of Materials

ASTM D 882 Standard Test Method for Tensile Properties of Thin Plastic Sheeting

ASTM F 751 Standard Test Method for Coated Fabrics

ASTM E 1643 Standard Practice for Selection, Design, Installation, and Inspection of Water Vapor Retarders Used in Contact with Earth or Granular Fill Under Concrete Slabs

ACI 302.2R-06 Guide for Concrete Slabs that Receive Moisture-Sensitive Flooring Materials

NOTE: All Viper VaporCheck testing is done by accredited, third-party testing agencies following stringent industry guidelines and testing standards.

ENVIRONMENTAL CONSIDERATIONS

Viper VaporCheck can aid in controlling soil gas and poisons such as methane, radon, sulfates and petroleum contaminated soil.

PHYSICAL PROPERTIES

Viper VaporCheck exceeds all ASTM E 1745 "Class A" requirements for under-slab vapor retarders.

INSTALLATION

SUB-GRADE PREPARATION

Level and tamp or roll granular base as specified by the architectural or structural drawings.

VAPOR BARRIER PLACEMENT

Unroll Viper VaporCheck with the longest dimension parallel with the direction of the pour. Unfold to full width. Extend Viper VaporCheck over footings and seal to foundation wall, grade beam or slab at an elevation

consistent with the top of the slab or terminate at impediments such as water stops or dowels. Use Viper Vapor Tape, Viper Double Bond Tape, Viper VaporPatch and/or VaporCheck Mastic at such terminations.

SEAMS AND PENETRATIONS

Seal around pipes, support columns or any other penetration with Viper VaporPatch, VaporCheck Mastic or at a minimum, a combination of Viper VaporCheck and Viper Vapor Tape. Doing so creates a monolithic membrane between the surface of the slab and moisture sources below.

Holes or openings through Viper VaporCheck should be effectively sealed with Viper Vapor Tape, Viper VaporPatch or VaporCheck Mastic to maintain integrity of the vapor barrier. Overlap joints a minimum of six inches. Seal overlap together with Viper Vapor Tape and/or Viper Double Bond Tape.

PROTECTION

When installing reinforcing steel and utilities, in addition to the placement of concrete, take precaution to protect Viper VaporCheck. Carelessness during installation can damage the most puncture-resistant vapor barriers. Provide for additional protection in high traffic areas.

Place standard reinforcing bar supports on Viper VaporCheck. The strength characteristics of Viper VaporCheck will help guard against possible punctures caused by reinforcing bar supports.

Avoid driving stakes through Viper VaporCheck. If this cannot be avoided, each individual hole must be repaired.

If a cushion or blotter layer is required in the design between the vapor barrier and the slab, additional care should be taken, especially if sharp crushed rock is used. Washed rock will provide less chance of damage during placement.

These are general installation instructions. Instructions on architectural or structural drawings should be reviewed and followed. Detailed installation instructions can be obtained by calling the manufacturer at 866.698.6562 or visiting www.isibp.com.

WARRANTY

Warranty information can be obtained by calling the manufacturer at 866.698.6562 or visiting www.isibp.com.

MAINTENANCE

Requires no maintenance once installed.

TECHNICAL SERVICES

Technical information and detailed test results can be obtained by calling the manufacturer at 866.698.6562.

FILING SYSTEMS

Additional information can be obtained by calling the manufacturer at 866.698.6562 or visiting www.isibp.com.

TEST PROCEDURE (INDEPENDENT TEST FACILITY)	TEST METHOD APPLICABLE STANDARDS	RESULTS IP UNITS
THICKNESS (NOMINAL)	N/A	16-mil
WEIGHT (PER MSF)	N/A	47 lbs
CLASSIFICATION	ASTM E 1745	EXCEEDS CLASS A, B, C
PUNCTURE RESISTANCE	ASTM 1709	25,335 grams MAX WEIGHT
PUNCTURE RESISTANCE	ASTM E 154 SEC. 10	162.3 kg
PUNCTURE RESISTANCE	ASTM D 5602	123 lbs
TENSILE STRENGTH (NEW MATERIAL)	ASTM E 154 SEC. 9	167 lbf/in MD, 158 lbf/in TD
TENSILE STRENGTH (AFTER SOAKING)	ASTM E 154 SEC. 9	165 lbf/in MD, 163 lbf/in TD
ELONGATION (NEW MATERIAL)	ASTM E 154 SEC. 9	20.6% MD, 21.4% TD
ELONGATION (AFTER SOAKING)	ASTM E 154 SEC. 9	21.9% MD, 20.4% TD
TEAR STRENGTH	ASTM D 751 (TONGUE)	62 lbs WARP, 60 lbs WEFT
BURSTING STRENGTH	ASTM D 751 (MULLEN)	371 lbs
OPERATING TEMPERATURE RANGE	N/A	-70°F to 180°F
WATER VAPOR PERMEANCE (NEW MATERIAL)	ASTM E 96 / 154 SEC. 7	0.0015 perms
WATER VAPOR TRANSMISSION RATE (WVTR)	ASTM E 96 / 154 SEC. 7	0.00055 grains/(ft ² *hr)
CHEMICAL RESISTANCE	ASTM E 154	UNAFFECTED
LIFE EXPECTANCY	ASTM E 154	INDEFINITE

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AN AFFILIATE OF MEYER ENTERPRISES, LLC
 401 TRUCK HAVEN ROAD, EAST PEORIA, IL 61611
 PHONE: 309.698.0062 / FAX: 309.698.0065