TDS

VERSION 21.0

VAPOR RETARDERS

DIVISION
033000, 072600

PRODUCT NAME

Viper• II 20-mil "Class A" 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 II 20-mil is a unique high strength polyolefin-based under-slab vapor barrier specifically designed for preventing moisture migration through concrete slabs-on-grade. Viper II 20-mil reduces water vapor emission transfer and moisture migration from entering the building envelope on commercial, industrial and residential applications. Viper II 20-mil controls condensation, mold, mildew, degradation and prevents costly flooring failures and damage to moisture sensitive furnishings within a building's interior. Viper II 20-mil may be used to reduce radon and methane gas migration and is resistant to other adverse soil conditions.

COMPOSITION & MATERIALS

Viper II 20-mil is manufactured using the latest generation of prime virgin (non-recycled) polyolefin resin, constructed in a 7-layer plastic extrusion process and engineered with physical properties that maintain long-term performance. The 7-layer extrusion process creates an excellent balance of high puncture and tensile strength while maintaining very low water vapor permeance characteristics. This product maintains (long-term) high performance and will not biodegrade/decompose when exposed to various soil types and below slab conditions.

SIZE

Standard Size: 14' x 105' rolls

WEIGHT

Approximately 142 lbs per roll

BENEFITS

- Manufactured using 7-layer extrusion technology from virgin polyolefin resin
- Maintains long-term performance after exposure to adverse soil conditions
- Exceeds ASTM E 1745 "Class A" guidelines
- High puncture and tensile strength
- 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 882 Standard Test Method for Tensile Properties of Thin Plastic Sheeting

ASTM F 1249 Standard Test Method for Water Vapor Transmission Rate Through Plastic Film and Sheeting Using a Modulated Infrared Sensor

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

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 II 20-mil testing is done by accredited, third-party testing agencies following stringent industry guidelines and testing standards.

ENVIRONMENTAL CONSIDERATIONS

Viper II 20-mil can aid in controlling soil gas and poisons such and methane and radon.

PHYSICAL PROPERTIES

Viper II 20-mil 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 II 20-mil with the longest dimension parallel with the direction of the pour. Unfold to full width.

Extend Viper II 20-mil 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 Double Bond Tape or a combination of Viper Double Bond Tape and Viper Vapor Tape at such terminations.

SEAMS AND PENETRATIONS
Seal around pipes, support columns, or any other penetrations, with Viper VaporPatch, VaporCheck Mastic, or at a minimum, a combination of Viper II 20-mil 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 II 20-mil should be effectively sealed with Viper Vapor Tape, Viper VaporPatch or VaporCheck Mastic to maintain the 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 II 20-mil. Carelessness during installation can damage the most puncture-resistant vapor barriers.

Avoid driving stakes through Viper II 20-mil. 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.

PROPERTIES **TEST PROCEDURE** (INDEPENDENT TEST FACILITY)	TEST METHOD **APPLICABLE STANDARDS**	RESULTS **IP UNITS**
THICKNESS	N/A	20-mil
WEIGHT	N/A	142 lbs
COLOR	N/A	SILVER/BLACK
CLASSIFICATION	ASTM E 1745	EXCEEDS CLASS A, B, C
PUNCTURE RESISTANCE	ASTM D 1709 METHOD B	3,404 grams
TENSILE STRENGTH	ASTM D 882	95.2 lbf/in (MD), 107.8 lbf/in (TD)
OPERATING TEMPERATURE RANGE	N/A	-70° F to 180° F
WATER VAPOR PERMEANCE	ASTM F 1249	0.013 perms*
RADON DIFFUSION COEFFICIENT	K124-02-95 (ISO/TS 11665-13)	4.3 x 10^{-12} m2/s

**grains/(ft²*hr*inHg)*

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