



# VIPER CS

## CRAWL SPACE VAPOR BARRIER

VERSION 21.0

## CRAWL SPACE VAPOR BARRIER

DIVISION  
070000

### PRODUCT NAME

Viper• CS 10-mil Crawl Space 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 CS 10-mil is a high performance crawl space vapor barrier designed to prevent moisture migration from the soil into the crawl space. Viper CS 10 mil helps guard against mold, mildew, allergens, fungus, radon gas, methane gas, heat loss due to damp insulation, wood rot and overall degradation of the crawl space.

#### COMPOSITION & MATERIALS

Viper CS 10-mil is a triple-ply, extrusion coated, virgin polyethylene membrane. Viper CS 10-mil is manufactured using woven high-density fibers yielding the highest strength to weight ratio, tensile strength and puncture resistance of any product of its kind.

#### SIZE

Standard Sizes: 12' x 100', 4' x 200'

#### WEIGHT

Approximately 36 lbs per 1,000 ft<sup>2</sup>

### TECHNICAL DATA

#### APPLICABLE STANDARDS

**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 D 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

**ASTM D 6241** Standard Test Method for Static Puncture Strength of Geotextiles and Geotextile-Related Products Using a 50-mm Probe

**ASTM E 84-21** Standard Test Method for Surface Burning Characteristics of Building Materials

#### ENVIRONMENTAL CONSIDERATIONS

Viper CS 10-mil can aid in reducing soil gas and poisons, such as methane and radon.

#### PHYSICAL PROPERTIES

Viper CS 10-mil exceeds all ASTM E 1745 Class A, B and C requirements for under-slab vapor retarders.

### INSTALLATION

#### PLACEMENT

If sump pump is present or is to be installed, slightly slope grade in the direction of the sump pit to allow for proper drainage. Tamp or roll subbase or granular base.

Unroll Viper CS 10-mil in correlation with the longest dimension of the crawl space area. Unfold to twelve-foot width.

Install Viper CS 10-mil by means of Viper Double Bond Tape, mechanical fasteners, termination bar and/or high-grade construction adhesive to the upper portion of the block/concrete wall. Leave at least a three-inch gap from the sill to the top of the Viper CS 10-mil for future termite inspection. Seal top edge of Viper CS 10-mil with urethane caulk.

Holes or openings through Viper CS 10-mil should be effectively sealed with all-weather Viper Vapor Tape, Viper VaporPatch and/or Viper VaporCheck Mastic to maintain the integrity of the vapor barrier. Overlap joints a minimum of six inches. Seal overlap together with all-weather Viper Vapor Tape.

#### PROTECTION

Proper care should be taken when installing Viper CS 10-mil. Carelessness during installation can damage even the most puncture resistant vapor retarders.

Viper CS 10-mil will help guard against possible punctures and tears present from rigorous construction traffic.

Avoid driving stakes through Viper CS 10-mil. If this cannot be avoided, each individual hole must be repaired.

These are very general installation instructions. Instructions on architectural or structural drawings should be reviewed and followed. Detailed installation instructions can be obtained by calling our corporate office at 866.698.6562 or online at [www.isibp.com](http://www.isibp.com).

## WARRANTY

Warranty information can be obtained by calling the manufacturer at 866.698.6562 or visiting [www.isibp.com](http://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](http://www.isibp.com).

PROPERTIES TEST PROCEDURE (INDEPENDENT TEST FACILITY)	TEST METHOD APPLICABLE STANDARDS	RESULTS IP UNITS
THICKNESS (NOMINAL)	N/A	10-mil
WEIGHT (PER MSF)	N/A	36 lbs
CLASSIFICATION	ASTM E 1745	CLASS A, B, C
TENSILE STRENGTH (NEW MATERIAL)	ASTM E 154 SEC. 9	136 lbf/in (MD), 134 lbf/in (TD)
TENSILE STRENGTH (AFTER SOAKING)	ASTM E 154 SEC. 9	140 lbf/in (MD), 133 lbf/in (TD)
TEAR STRENGTH	ASTM D 751 (TONGUE)	54 lbs (WARP), 57 lbs (WEFT)
* GRAB TENSILE	ASTM D 751	138 lbf (DIRECTIONAL AVERAGE)
BURSTING STRENGTH	ASTM D 751 (MULLEN)	318 lbs
PUNCTURE RESISTANCE (MAX WEIGHT SUSTAINED)	ASTM D 1709	15,839 grams
PUNCTURE RESISTANCE	ASTM D 5602	76 lbs
CBR PUNCTURE	ASTM D 6241	626 lbf
MAXIMUM USE TEMPERATURE	N/A	180°F
MINIMUM USE TEMPERATURE	N/A	-70°F
FLAME SPREAD/SMOKE DEVELOPED	ASTM E 84 - 21	CLASS A
WATER VAPOR PERMEANCE WATER VAPOR TRANSMISSION RATE	ASTM E 96 / 154 SEC. 7	.0016 perms .0006 grains/ft <sup>2</sup> *HR
RADON DIFFUSION COEFFICIENT	K/124/02/95	11 x 10 <sup>-12</sup> M <sup>2</sup> /S

\*Tests are an average of machines and transverse directions



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