

# SPECIFICATION INFORMATION



# VIPER<sup>®</sup> CS II

## 10-mil "CLASS A"

**Vapor Retarders**  
**Division: 03300**  
**Division: 07260**

Revised: 06-08-11

### 1.0 Product Name

**Viper<sup>®</sup> CS II 10**  
 Crawl-Space Vapor Barrier.

### 2.0 Manufacturer

 **Insulation Solutions<sup>®</sup>**  
 Insulation Solutions Inc.  
 401 Truck Haven Road.  
 East Peoria, IL 61611

Engineering Assistance  
 Toll Free: 866-698-6562  
 Fax: 309-698-0065  
[www.insulationsolutions.com](http://www.insulationsolutions.com)

### 3.0 Product Description

#### 3.1 Basic Use:

**Viper<sup>®</sup> CS II 10** is a high performance crawl-space vapor barrier designed to prevent moisture migration from the soil into the crawl-space. **Viper<sup>®</sup> CS II 10** 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.

#### 3.2 Composition & Materials:

**Viper<sup>®</sup> CS II** is a 10-mil, multi-layer, plastic extrusion manufactured from prime virgin polyolefin resins.

#### 3.3 Size:

**Viper<sup>®</sup> CS II 10-mil** is available in 1400 sq. ft. rolls (14' X 100').

#### 3.4 Weight:

**Viper<sup>®</sup> CS II 10-mil** weighs approximately 85 lbs. per roll.

#### 3.5 Benefits:

- Very low water vapor permeance
- Exceeds ASTM E 1745 "Class A" requirements
- Resists punctures and tears during rigorous installation
- Holds up to degrading chemicals found in the contacting soil
- Greatly reduces moisture migration through slab-on-grade applications

### 4.0 Technical Data

#### 4.1 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 D 638** Standard Test Method for Tensile Properties of Plastics
- **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 Installation of Water Vapor Retarders Used in Contact with Earth or Granular Fill Under Concrete Slabs

*Note: To the best of our knowledge, these are typical property values and are intended as guides only, not as specification limits. Insulation Solutions Inc.<sup>®</sup> makes no warranties as to the fitness for a specific use or merchantability of products referred to, no guarantee of satisfactory results from reliance upon contained information or recommendations and disclaims all liability for resulting loss or damage.*

PROPERTIES	TEST METHOD	VIPER <sup>®</sup> VAPORCHECK II 10	
		English	Metric
<i>Test Results - Independent Test Facility</i>			
Thickness, Nominal		10-mil	0.254 mm
Weight Per Roll		85 lbs	63.5 kg
Classification	ASTM E 1745	EXCEEDS "CLASS A"	
Tensile Strength	ASTM D 882	55 lbf/in	25 kg
Tensile Strength	ASTM D 638	3017 PSI	20.8 MPa
Puncture Resistance	ASTM D 1709	2747 grams	
Maximum Use Temperature		180° F	82° C
Minimum Use Temperature		-70° F	-57° C
Water Vapor Permeance	ASTM F 1249	0.021 perms	0.014 perms
Water Vapor Transmission Rate (WVTR)	ASTM F 1249	0.0084 grains/(ft <sup>2</sup> *hr)	0.006 grams/(m <sup>2</sup> *hr)

#### 4.2 Environmental Considerations:

**Viper® CS II 10 can be used as a radon and methane gas barrier.**

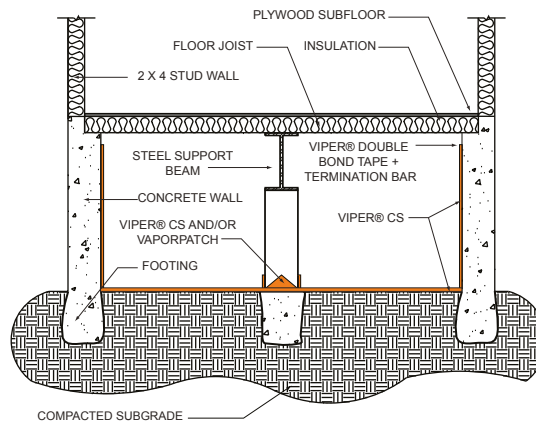
#### 4.3 Physical Properties

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

### 5.0 Installation

#### VIPER® CS II 10 PLACEMENT

- 5.1 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 sub base or granular base.
- 5.2 Unroll **Viper® CS II 10** in correlation with the longest dimension of the crawl-space area. Unfold to twelve foot width.
- 5.3 Install **Viper® CS II 10** 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 II 10** for future termite inspection. Seal the top edge of **Viper® CS II 10** with urethane caulk.
- 5.4 Holes or openings through **Viper® CS II 10** should be effectively sealed with all weather Viper® VaporTape, white polyethylene tape, Viper® VaporPatch and/or mastic to maintain the integrity of the vapor barrier. Overlap joints a minimum of six inches. Seal overlap together with all weather Viper® VaporTape or white polyethylene tape.



#### PROTECTION

- 5.5 Proper care should be taken when installing **Viper® CS II 10**. Carelessness during installation can damage even the most puncture resistant vapor retarders.
- 5.6 **Viper® CS II 10** will help guard against possible punctures and tears present from rigorous construction traffic.
- 5.7 Avoid driving stakes through **Viper® CS II 10**. If this cannot be avoided, each individual hole must be repaired.

**Note:** These are very general installation instructions. Instructions on architectural or structural drawings should be reviewed and followed as well. Detailed installation instructions accompany each roll of **Viper® CS II 10**.

### 6.0 Availability & Cost

**Viper® CS II 10** is sold through construction supply houses across the United States and Canada.

**Viper® CS II 10** current cost information can be obtained by calling our corporate sales office at 866-698-6562.

### 7.0 Warranty

To the best of our knowledge, the specification chart on page one lists typical property values and are intended as guides only, not as specification limits. INSULATION SOLUTIONS INC. MAKES NO WARRANTIES AS TO THE FITNESS FOR A SPECIFIC USE OR MERCHANTABILITY OF PRODUCTS REFERRED TO, NO GUARANTEE OF SATISFACTORY RESULTS FROM RELIANCE UPON CONTAINED INFORMATION OR RECOMMENDATIONS AND DISCLAIMS ALL LIABILITY FOR RESULTING LOSS OR DAMAGE.

### 8.0 Maintenance

**Viper® CS II 10** requires no maintenance once installed.

### 9.0 Technical Services

Technical Information and detailed test results can be obtained by calling our corporate office at 866-698-6562.

### 10.0 Filing Systems

Additional Information is available from the manufacturer.