

SPECIFICATION INFORMATION



VIPER[®]CS 10-mil

Vapor Retarders
Division: 03300
Division: 07260

Revision #2

1.0 Product Name

Viper[®] CS 10
Crawl-Space Vapor Barrier.

2.0 Manufacturer



Insulation Solutions[®]

Insulation Solutions Inc.
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Engineering Assistance
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3.0 Product Description

3.1 Basic Use:

Viper[®] CS 10 is a high performance crawl-space vapor barrier designed to prevent moisture migration from the soil into the crawl-space. Viper[®] CS 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[®] CS 10 is a white, 10-mil triple ply, extrusion coated, virgin polyethylene membrane. Viper[®] CS 10 is manufactured using woven high-density fibers yielding the highest strength to weight ratio, tensile strength, tear resistance, bursting strength and puncture resistance of any product produced of its kind.

3.3 Size:

Viper[®] CS 10 is available in 2400 sq. ft. rolls (12' X 200').

3.4 Weight:

Viper[®] CS 10 weighs approximately 36 lbs. per 1000 sq. ft.

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 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 / ASTM D 751 Standard Test Method for Coated Fabrics**
- **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.[®] 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 [®] CS 10	
<i>Test Results - Independent Test Facility</i>		<i>English</i>	<i>Metric</i>
Thickness, Nominal		10-mil	0.25 mm
Weight Per MSF		36 lbs	16.3 kg
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)	61.7 kg 60.8 kg
Tensile Strength (After Soaking)	ASTM E 154, Sec. 9	140 lbf./in. (MD) 133 lbf./in. (TD)	63.5 kg 60.3 kg
Tear Strength	ASTM D 751 Tongue	54 lbs. (warp) 57 lbs. (weft)	24.5 kg 25.8 kg
Bursting Strength	ASTM D 751 Mullen	318 lbs.	144 kg
Puncture Resistance	ASTM D 1709	15,839 grams	
Puncture Resistance	ASTM D 5602	76 lbs.	34,473 g
Maximum Use Temperature		180° F	82° C
Minimum Use Temperature		-70° F	-57° C
Water Vapor Permeance	ASTM E 96 / 154 Sec. 7	.0016 perms .00058 WVTR	.0010 perms CLASS A

4.2 Environmental Considerations:

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

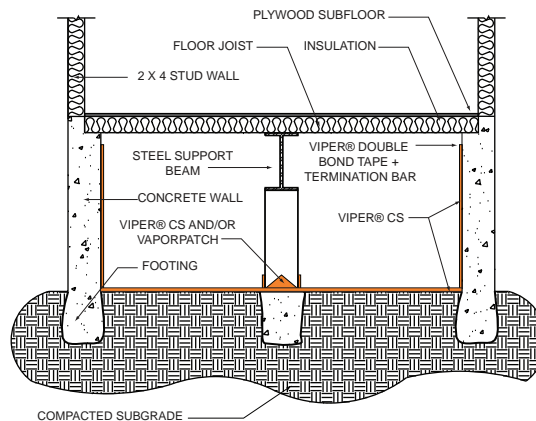
4.3 Physical Properties

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

5.0 Installation

VIPER® CS 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 10 in correlation with the longest dimension of the crawl-space area. Unfold to twelve foot width.
- 5.3 Install Viper® CS 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 10 for future termite inspection. Seal the top edge of Viper® CS 10 with urethane caulk.
- 5.4 Holes or openings through Viper® CS 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 10. Carelessness during installation can damage even the most puncture resistant vapor retarders.
 - 5.6 Viper® CS 10 will help guard against possible punctures and tears present from rigorous construction traffic.
 - 5.7 Avoid driving stakes through Viper® CS 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 10.

6.0 Availability & Cost

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

Viper® CS 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 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.