

UNDER-SLAB VAPOR RETARDERS AND BARRIERS

PART 1 -- GENERAL

1.01 SUMMARY

- A. Products Supplied Under This Section:
 - 1. Vapor Retarders and Barriers, Seam Tape, Pipe Boot and Mastic for installation under concrete slabs.
- B. Related Sections:
 - 1. Section 03 30 00 – Cast-In-Place Concrete.
 - 2. Section 07 26 00 – Below-Grade Vapor Barriers.

1.02 REFERENCES

- A. American Society for Testing and Materials (ASTM):
 - 1. ASTM E 1745 Standard Specification for Water Vapor Retarders Used in Contact with Soil or Granular Fill under Concrete Slabs.
 - 2. ASTM D 1709 Standard Test Methods for Impact Resistance of Plastic Film by the Free-Falling Dart Method.
 - 3. ASTM F 1249 Standard Test Method for Water Vapor Transmission Rate Through Plastic Film and Sheeting Using a Modulated Infrared Sensor.
 - 4. ASTM E 96 Standard Test Methods for Water Vapor Transmission of Materials.
 - 5. ASTM E 154 Standard Test Methods for Water Vapor Retarders Used in Contact with Earth Under Concrete Slabs, on Walls, or as Ground Cover.
 - 6. ASTM E 1643 Standard Practice for Installation of Water Vapor Retarders Used in Contact with Earth or Granular Fill Under Concrete Slabs.
- B. American Concrete Institute (ACI):
 - 1. ACI 302.2R-06 Guide for Concrete Slabs that Receive Moisture-Sensitive Flooring Materials.

1.03 SUBMITTALS

- A. Product Data: Submit product data sheets on specified vapor retarder/barrier(s).
- B. Samples: Submit 8.5 inch x 11 inch (216 x 279 mm) samples of specified vapor retarder/barrier(s).
- C. Quality Control Submittals:
 - 1. Manufacturer's Instructions: Submit manufacturer's installation instructions for placement, seaming and pipe boot installation.

PART 2 -- PRODUCTS

2.01 UNDER-SLAB VAPOR BARRIERS AND RETARDERS

Specifier Note: Retain or delete paragraph(s) below to conform to project requirements. If multiple paragraphs are retained, create qualification and coordinate with drawings.

- A. Vapor Barrier must have all of the following qualities:
 - 1. Permeance of less than 0.005 perms [grains/(ft² * hr * in. Hg)] per ASTM F 1249 or ASTM E 96.
 - 2. Permeance of less than 0.005 perms [grains/(ft² * hr * in. Hg)] after conditioning when tested to ASTM E 154 (ASTM E 1745 Sections 7.1.2 – 7.1.5)
 - 3. ASTM E 1745 "Class A".
 - 4. Minimum 15-mil thick.
- B. Vapor Barrier products:
 - 1. VIPER VAPORCHECK II 15-MIL by Insulation Solutions, Inc., P: 866-698-6562, www.viper2.com.
 - 2. PERMINATOR 15-MIL by W.R. Meadows, Inc., P: 847-214-2100, www.wrmeadows.com.
 - 3. Or equal meeting product performance listed above.

- C. Vapor Barrier must have all of the following qualities:
 - 1. Permeance of less than 0.008 perms [grains/(ft² * hr * in. Hg)] per ASTM F 1249 or ASTM E 96.
 - 2. Permeance of less than 0.008 perms [grains/(ft² * hr * in. Hg)] after conditioning when tested to ASTM E 154 (ASTM E 1745 Sections 7.1.2 – 7.1.5)
 - 3. ASTM E 1745 “Class A”.
 - 4. Minimum 10-mil thick.
- D. Vapor Barrier products:
 - 1. VIPER VAPORCHECK II 10-MIL by Insulation Solutions, Inc., P: 866-698-6562, www.viper2.com.
 - 2. PERMINATOR 10-MIL by W.R. Meadows, Inc., P: 847-214-2100, www.wrmeadows.com.
 - 3. Or equal meeting product performance listed above.
- E. Vapor Retarder must have all of the following qualities:
 - 1. Permeance of less than 0.018 perms [grains/(ft² * hr * in. Hg)] per ASTM F 1249 or ASTM E 96.
 - 2. ASTM E 1745 “Class C”.
 - 3. Minimum 10-mil thick.
- F. Vapor Retarder products:
 - 1. VIPER VAPORCHECK II 10-MIL “Class C” by Insulation Solutions, Inc., P: 866-698-6562, www.viper2.com.
 - 2. PERMINATOR 10-MIL by W.R. Meadows, Inc., P: 847-214-2100, www.wrmeadows.com.
 - 3. Or equal meeting product performance listed above.

2.02 ACCESSORIES

- A. Seam Tape must have all of the following qualities:
 - 1. Minimum 4 inch (102 mm) width.
 - 2. Permeance less than 0.1 perms per ASTM F 1249 or ASTM E 96.
- B. Seam Tape Products:
 - 1. 4” x 180’ WHITE POLY TAPE by Insulation Solutions, Inc., P: 866-698-6562, www.viper2.com.
 - 2. Or equal meeting product performance listed above.
- C. Pipe Boot must have all of the following qualities:
 - 1. Permeance less than 0.007 perms per ASTM F 1249 or ASTM E 96.
- D. Pipe Boot Products:
 - 1. VIPER VAPOR PATCH by Insulation Solutions, Inc., P: 866-698-6562, www.viper2.com.
 - 2. Or equal meeting product performance listed above.
- E. Vapor Proofing Mastic must have all of the following qualities:
 - 1. Permeance less than 0.1 perms per ASTM F 1249 or ASTM E 96.
- F. Vapor Proofing Mastic Products:
 - 1. VIPER VAPORCHECK MASTIC by Insulation Solutions, Inc., P: 866-698-6562, www.viper2.com.
 - 2. Or equal meeting product performance listed above.

PART 3 -- EXECUTION

Specifier Note: Retain or delete paragraph below per project requirements and specifier’s practice.

3.01 PREPARATION

- A. Verify that substrate conditions are acceptable for product installation in accordance with architect, engineer and manufacturer’s installation instructions.

3.02 INSTALLATION

- A. Install under-slab vapor retarder/barrier in accordance with ASTM E 1643 or manufacturer’s instructions.

1. Unroll vapor retarder/barrier with the longest dimensions parallel with the direction of the concrete pour.
2. Lap vapor barrier over footings and or seal to foundation walls.
3. Overlap seams a minimum 6 inches and seal with a minimum 4 inch (102 mm) wide seam tape.
4. Seal all penetrations per architect, engineer and manufacturer's instructions.
5. Patch damaged areas per architect, engineer and manufacturer's instructions.

END OF SECTION