

## UNDER-SLAB VAPOR BARRIERS

### PART 1 -- GENERAL

#### 1.01 SUMMARY

- A. Products Supplied Under This Section:
  - 1. Vapor 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 barrier.
- B. Samples: Submit 8.5 inch x 11 inch (216 x 279 mm) samples of specified vapor barrier.
- C. Quality Control Submittals:
  - 1. Manufacturer's Instructions: Submit manufacturer's installation instructions for vapor barrier placement, seaming and sealing.

### PART 2 -- PRODUCTS

#### 2.01 UNDER-SLAB VAPOR BARRIERS

- A. Vapor Barrier Must Have all of the Following Qualities:
  - 1. Permeance of less than 0.01 perms [grains/(ft<sup>2</sup> \* hr \* in. Hg)] per ASTM F 1249 or ASTM E 96.
  - 2. Permeance of less than 0.01 perms [grains/(ft<sup>2</sup> \* hr \* in. Hg)] after conditioning when tested to ASTM E 154 (ASTM E 1745 Sections 7.1.2–7.1.5).
  - 3. Puncture Resistance not less than 2,700 grams per ASTM D 1709, Method B
  - 4. ASTM E 1745 "Class A".
  - 5. Minimum 10-mil thick.
- B. Vapor Barrier Products:
  - 1. VIPER VAPORCHECK II 10-MIL by Insulation Solutions, Inc., P: 866-698-6562, [www.viper2.com](http://www.viper2.com).
  - 2. PERMINATOR 10-MIL by W.R. Meadows, Inc., P: 847-214-2100, [www.wrmeadows.com](http://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. WHITE VIPER VAPOR TAPE by Insulation Solutions, Inc., P: 866-698-6562, [www.viper2.com](http://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 0.01 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](http://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](http://www.viper2.com).
  2. Or equal meeting product performance listed above.

## PART 3 -- EXECUTION

### 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 barrier in accordance with ASTM E 1643 and manufacturer's instructions.
  1. Unroll vapor 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**