

## 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 ISI Building Products, 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 ISI Building Products, 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 ISI Building Products, 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 ISI Building Products, 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**