

## SECTION 07 16 00 – UNDERSLAB VAPOR RETARDER

### PART 1 – GENERAL

#### 1.01 SECTION INCLUDES

- A. Surface preparation.
- B. Application of an under slab vapor retarder.

#### 1.02 RELATED SECTIONS

- A. Section 03300 - Concrete.

#### 1.03 REFERENCES

- A. American Society for Testing and Materials (ASTM)
  - 1. ASTM E1745 - Standard Specification for Plastic Water Vapor Retarders Used in Contact with Soil Or Granular Fill Under Concrete Slabs.
  - 2. ASTM E154 - Standard Test Methods for Water Vapor Retarders Used in Contact with Earth Under Concrete Slabs.
  - 3. ASTM E96 - Standard Test Methods for Water Vapor Transmission of Materials.
  - 4. ASTM E1643 - Standard Practice for Installation of Water Vapor Retarders Used in Contact with Earth or Granular Fill Under Concrete Slabs.
  - 5. ASTM F1249-01 Standard Test Method for Water Vapor Transmission Rate Through Plastic Film and Sheeting Using a Modulated Infrared Sensor.
- B. American Concrete Institute (ACI)
  - 1. ACI 302.1R-96 Vapor Barrier Component (plastic membrane) is not less than 10 mils thick.

#### 1.04 SUBMITTALS

- A. Comply with Section 01330 - Submittal Procedures.
- B. Submit manufacturer's product data and application instructions.

### DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials to site in manufacturer's original, unopened containers and packaging, with labels clearly identifying product name and manufacturer.
- B. Store materials in a clean dry area in accordance with manufacturer's instructions.
- C. Stack membrane on smooth ground or wood platform to eliminate warping.
- D. Protect materials during handling and application to prevent damage or contamination.
- E. Ensure membrane is stamped with manufacturer's name, product name and membrane thickness at intervals of no more than 85" (220 cm).

## 1.06 ENVIRONMENTAL REQUIREMENTS

- A. Product not intended for uses subject to abuse or permanent exposure to the elements.
- B. Do not apply on frozen ground

## PART 2 PRODUCTS

### 2.01 MANUFACTURER

- A. W.R. Meadows, Inc., PO Box 338, Hampshire, Illinois 60140-0338. (800) 342-5976. (847) 683-4500. Fax (847) 683-4544. Web Site [www.wrmeadows.com](http://www.wrmeadows.com).
  - 1. Acceptable Products:
    - a. W.R. Meadows, Inc.; Perminator 10-Mil.
    - b. Fortifiber Corporation; Moistop Ultra 10.
    - c. Raven Industries Inc.; Vapor Block 10

### 2.02 MATERIALS

- A. Plastic Vapor Retarder
  - 1. Performance Based Specification: Vapor Retarder membrane must meet or exceed all requirements of ASTM E1745 Classes A, B, & C.
    - a. Maximum Permeance ASTM E96: 0.024 Perms
    - b. Water Vapor Transmission Rate ASTM F1249 calibrated to ASTM E96 (water method): 0.012 grains/ft<sup>2</sup>/hr
    - c. Resistance to Organisms and Substrates in Contact with Soil  
ASTM E154, Section 13: 0.051 Perms
    - d. Tensile Strength ASTM E154, Section 9: 52 LBS. Force/Inch
    - e. Puncture Resistance ASTM D1709, Method B: 3,770 Grams
    - f. Water Vapor Retarder ASTM E1745: Meets or exceeds Class A, B & C
    - g. Thickness of Retarder (plastic) ACI 302.1R-96: Not less than 10 mils
- B. ACCESSORIES
  - 1. Seam Tape  
High Density Polyethylene Tape with pressure sensitive adhesive. Minimum width 4 inches.
  - 2. Pipe Boots  
Construct pipe boots from vapor barrier material and pressure sensitive tape per manufacturer's instructions.

## PART 3 EXECUTION

### 3.01 EXAMINATION

- A. Examine surfaces to receive membrane. Notify Architect if surfaces are not acceptable.  
Do not begin surface preparation or application until unacceptable conditions have been corrected.

3.02 SURFACE PREPARATION

- A. Prepare surfaces in accordance with manufacturer's instructions.

3.03 APPLICATION

- A. Installation shall be in accordance with manufacturer's instructions and ASTM E 1643–98.
- B. Unroll vapor barrier with the longest dimension parallel with the direction of the pour.
- C. Lap vapor barrier over footings and seal to foundation walls.
- D. Overlap joints 6 inches and seal with manufacturer's tape.
- E. Seal all penetrations (including pipes) with manufacturer's pipe boot.
- F. No penetration of the vapor barrier is allowed except for reinforcing steel and permanent utilities.
- G. Repair damaged areas by cutting patches of vapor barrier, overlapping damaged area 6 inches and taping all four sides with tape.

END OF SECTION