

**SECTION 07 26 00  
VAPOR RETARDERS**

**PART 1 GENERAL**

1.1 RELATED DOCUMENTS

- A. The provisions of the general Conditions, Supplementary Conditions, and the Sections included under Division 1, General Requirements, are included as a part of this Section.

1.2 SECTION INCLUDES

- A. Sheet and sealant materials for controlling vapor diffusion through on grade concrete slabs.

1.3 REFERENCES

- A. ASHRAE Fundamentals Handbook: CHAPTER 25
- B. ASTM C920 – Standard Specification for Elastomeric Joint Sealant
- C. ASTM E96/E96M – Standard Test Methods for Water Vapor Transmission of Materials
- D. ASTM E1643 – Standard Practice for Selection, Design, Installation, and Inspection of Water Vapor Retarders Used in Contact with Earth or Granular Fill Under Concrete Slabs
- E. ASTM E1745 – Standard Specification for Plastic Water Vapor Retarders Used in Contact with Soil or Granular Fill Under Concrete Slabs
- F. SWRI (Sealant, Waterproofing and Restoration Institute) - Sealant and Caulking Guide Specification
- G. FBC - Florida Building Code
- H. ACI 302.1R – Guide for Concrete Floor & Slab Construction
- I. ACI 302.2R – Guide for Concrete Slabs that Receive Moisture Sensitive Flooring Materials

1.4 PERFORMANCE REQUIREMENTS

- A. Water Vapor Transmission Rate: Maximum 1.1 grain/ft<sup>2</sup>/24 hrs per ASTM E96/E96M
- B. Minimum ASTM E1745 Class B rating for slabs on grade

1.5 SUBMITTALS

- A. Submit under provisions of Section 01 33 00
- B. Product Data: Provide data indicating material characteristics, performance criteria, and limitations.
- C. Provide the manufacturer's installation instructions indicating preparation and installation requirements techniques per ASTM E 1643.

1.6 QUALITY ASSURANCE

- A. Perform Work in accordance with SWRI - Sealant and Caulking Guide Specification requirements for materials and installation.

1.7 SEQUENCING

- A. Sequence work under the provisions of Section 01 11 00.
- B. Sequence the work to permit installation of materials in conjunction with other retardant materials, seals, and air barrier assemblies.
- C. Do not install vapor retarder until items penetrating it are in place.

**PART 2 PRODUCTS**

2.1 SHEET MATERIALS

- A. Above Grade Sheet Retarder: Polyethylene film, 6-mil thick, a perm rating of 1.1.
- B. Below Grade Sheet Retarder (Slabs on grade) shall have the following properties
  - 1. Permeance Rating: Per ASTM E96/E96M or ASTM F1249  
Shall meet permeance requirement for both new material and after ASTM E 1745 mandatory

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condition test (ASTM E 96 Sections 8, 11, 12, & 13)

- a. New material Less than 0.1 perms (gr/ft<sup>2</sup>/hr/in-HG)
- b. After conditioning: Less than 0.1 perms (gr/ft<sup>2</sup>/hr/in-HG)
- 2. Water Vapor Retarder: ASTM E 1745 meeting or exceeding Class A
- 3. Minimum thickness: 10-mils per ACI 302.2R
- 4. Polyethylene film reinforced with glass fiber square mesh, 15-mil thick, and perm rating of 0.5.

2.2 SEALANTS

- A. Butyl Sealant: ASTM C920, butyl rubber base, single component, solvent release, non-skinning, black color
- B. Polysulfide Sealant: ASTM C920, single component, chemical curing, capable of continuous water immersion, non-sagging type; black color.
- C. Polyurethane Sealant: ASTM C920, single component, chemical curing, non-sagging, and black color
- D. Primer: Recommended by sealant manufacturer to suit application.
- E. Cleaner: Non-corrosive type; recommended by sealant manufacturer; compatible with adjacent materials.

2.3 ADHESIVES

- A. Adhesive: Compatible with sheet barrier and substrate, permanently non-curing

2.4 ACCESSORIES

- A. Thinner and Cleaner for Sheet: As recommended by sheet material manufacturer.
- B. Tape shall be as required by the manufacturer of the vapor retarder with a maximum water vapor transmission rate of 0.3 perms (ASTM E96/E96M).
- C. Optional construction pipe booth from vapor barrier material applied per manufacturer's requirements.

**PART 3 EXECUTION**

3.1 EXAMINATION

- A. Verify condition of substrate and adjacent materials under provisions of Section 01 31 00.

3.2 PREPARATION

- A. Remove loose or foreign matter that might impair adhesion.
- B. Clean and prime substrate surfaces to receive adhesive and sealants in accordance with manufacturer's instructions.

3.3 INSTALLATION

- A. Install materials in accordance with manufacturer's instructions.
- B. Concrete slabs on grade shall have a vapor barrier located between the slab and the earth.
- C. Lap all joints a minimum of 6" and tape joints.
- D. Seal all penetrations (including pipes) per manufacturer's requirements.
- E. Repair any damaged areas by cutting patches of vapor retarder material, overlapping damaged area at least 6" into undamaged material and taping all sides.

END OF SECTION