

SECTION 072600 - VAPOR RETARDERS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Underslab vapor retarders.

1.2 RELATED REQUIREMENTS

- A. Section 033000 - Cast-in-Place Concrete: Vapor retarder under concrete slabs on grade.

1.3 DEFINITIONS

- A. Vapor Retarder: Airtight barrier made of material that is relatively water vapor impermeable, to degree specified, with seams and joints sealed to adjacent surfaces.
- B. Vapor Retarder Class: A measure of a material or assembly's ability to limit the amount of moisture that passes through that material or assembly. Vapor retarder class is defined using Procedure A, Desiccant Method at 73 degrees F and 50 percent Relative Humidity (RH), in accordance with ASTM E96/E96M and ICC (IBC)-2018, as follows:
 - 1. Class I: 0.1 perm or less.
 - 2. Class II: Greater than 0.1 perm to 1.0 perm.
 - 3. Class III: Greater than 1.0 perm to 10 perms.
 - 4. Vapor Permeable: 5 perms or greater.

1.4 REFERENCE STANDARDS

- A. ASTM D882 - Standard Test Method for Tensile Properties of Thin Plastic Sheeting.
- B. ASTM D1709 - Standard Test Methods for Impact Resistance of Plastic Film by the Free-Falling Dart Method.
- C. ASTM E96/E96M - Standard Test Methods for Gravimetric Determination of Water Vapor Transmission Rate 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. ASTM F1249 - Standard Test Method for Water Vapor Transmission Rate Through Plastic Film and Sheeting Using a Modulated Infrared Sensor.
- G. ICC (IBC)-2018 - International Building Code.

1.5 SUBMITTALS

- A. See Section 013000 - Administrative Requirements for submittal procedures.
- B. Product Data: Provide data on material characteristics, performance criteria, and limitations.

1.6 QUALITY ASSURANCE

- A. Installer Qualifications: Company specializing in performing the work of this section with minimum three years experience.

1.7 FIELD CONDITIONS

- A. Maintain temperature and humidity recommended by materials manufacturers before, during, and after installation.

PART 2 PRODUCTS

2.1 VAPOR RETARDERS

- A. Sheet Vapor Retarder:
 - 1. Basis of design product:
 - a. Stego Wrap 15-Mil Vapor Barrier; Stego Industries, LLC:
www.stegoindustries.com.
 - b. Substitutions: See Section 016000 - Product Requirements.
 - 2. Class A when tested in accordance with ASTM E1745.
 - 3. Thickness: Min. 15 mils.
 - 4. Tensile Strength: 70.6 lbf/in when tested in accordance with ASTM D882.
 - 5. Puncture Resistance: 2,266 grams when tested in accordance with ASTM D1709.
 - 6. Water Vapor Permeance: 0.0086 perms when tested in accordance with ASTM F1249.
- B. Include manufacturer's recommended adhesive or pressure-sensitive tape.

2.2 ACCESSORIES

- A. Vapor-Retarder Tape: Pressure-sensitive tape of type recommended by vapor-retarder manufacturer for sealing joints and penetrations in vapor retarder.
- B. Adhesive for Vapor Retarders: Product recommended by vapor-retarder manufacturer and has demonstrated capability to bond vapor retarders securely to substrates indicated.
- C. Pipe boots shall be constructed from the same vapor barrier material, tape and/or mastic per manufacturer's instructions.

PART 3 EXECUTION

3.1 PREPARATION

- A. Remove projections, protruding fasteners, and loose or foreign matter that might interfere with proper installation.

- B. Clean and prime substrate surfaces to receive adhesives and sealants in accordance with manufacturer's installation instructions.
- C. Earth or granular fill under slabs shall be level and tamped or rolled prior to installation of slab vapor barrier.

3.2 INSTALLATION

- A. Sheet Vapor Retarders: Place, protect, and repair sheet vapor retarder in accordance with ASTM E1643 and manufacturer's written instructions.
 - 1. Install vapor retarder with longest dimension parallel with direction of concrete pour.
 - 2. Face laps away from exposed direction of concrete pour.
 - 3. Lap vapor retarder over footings and grade beams not less than 6 inches, sealing vapor retarder to concrete.
 - 4. Lap joints 6 inches and seal with manufacturer's recommended tape.
 - 5. Terminate vapor retarder at the top of floor slabs, grade beams, and pile caps, sealing entire perimeter to floor slabs, grade beams, foundation walls, or pile caps.
 - 6. Seal penetrations in accordance with vapor retarder manufacturer's instructions.
 - 7. Protect vapor retarder during placement of reinforcement and concrete.
 - a. Repair damaged areas by patching with vapor retarder material, overlapping damages area by 6 inches on all sides, and sealing to vapor retarder.

3.3 FIELD QUALITY CONTROL

- A. Take digital photographs of each portion of installation prior to covering up vapor retarders.

3.4 PROTECTION

- A. Do not leave materials exposed to weather longer than recommended by manufacturer.
- B. Protect vapor retarders from damage until concealed by permanent construction. Foot traffic should be reduced to minimum to avoid punctures to the vapor barrier.

3.5 REPAIR

- A. All punctures should be repaired with authorized tape and mastic according to manufacturer's instructions prior to placing the concrete.

END OF SECTION 072600