

SECTION 03 05 80 - UNDER-SLAB VAPOR BARRIER

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Products Supplied Under This Section
 - 1. Vapor Barrier, seam tape, mastic, pipe boots, detail strip for installation under concrete slabs.
- B. Related Sections
 - 1. Section 03 30 00 Cast-in-place Structural Concrete

1.3 REFERENCES

- A. American Society for Testing and Materials (ASTM)
 - 1. ASTM E 1745-97 (2004) Standard Specification for Plastic Water Vapor Barriers Used in Contact with Soil or Granular Fill Under Concrete Slabs
 - 2. ASTM E 154-88 (2005) Standard Test Methods for Water Vapor Barriers Used in Contact with Earth Under Concrete Slabs
 - 3. ASTM E 96-95 Standard Test Methods for Water Vapor Transmission of Materials
 - 4. ASTM E 1643-98 (2005) Standard Practice for Installation of Water Vapor Barriers 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.

1.4 SUBMITTALS

- A. Quality Control / Assurance
 - 1. Full set of test results as per paragraph 8.3 of ASTM E 1745.
 - 2. Manufacturer's samples, literature
 - 3. Manufacturer's installation instructions for placement, seaming and pipe boot installation.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Vapor Barrier (Performance based specification). When the specifications of different sections conflict, the contractor shall perform to the most restrictive provision. Vapor Barrier membrane must have the following properties.

1. Permeance as tested after mandatory conditioning (ASTM E 154 sections 8,11,12,13) less than 0.01 Perms [grains/(ft² *hr. * in. Hg)]
2. Other performance criteria
 - a. Strength: ASTM E 1745 Class A
 - b. Thickness: 15 mils minimum

2.2 ACCESSORIES

- A. Seam Tape
 1. Tape must have the following qualities:
 - a. Water Vapor Transmission Rate ASTM E 96, 0.3 perms or lower
 2. Seam Tape
 - a. Manufacturer's standard seam tape.
 - b. Stego Crete Claw (for slabs on void boxes).
- B. Vapor Proofing Mastic
 1. Mastic must have the following qualities:
 - a. Water Vapor Transmission Rate ASTM E 96 0.3 perms or lower
- C. Pipe Boots
 1. Construct pipe boots from Vapor Barrier material, pressure sensitive tape and/or mastic per manufacturer's instructions.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Ensure that subsoil is approved by architect or geotechnical firm
 1. Level and tamp or roll aggregate, sand, or tamped earth base.

3.2 INSTALLATION

- A. Install Vapor Barrier:
 1. Installation shall be in accordance with manufacturer's written instructions and ASTM E 1643-09.
 - a. Unroll Vapor Barrier with the longest dimension parallel with the direction of the pour.
 - b. Lap Vapor Barrier over footings or seal to foundation walls.
 - c. Overlap joints 6 inches and seal with manufacturer's tape.
 - d. Seal all penetrations (including pipes) per manufacturer's instructions.
 - e. No penetration of the Vapor Barrier is allowed except for reinforcing steel and permanent utilities.
 - f. Repair damaged areas by cutting patches of Vapor Barrier, overlapping damaged area 6 inches, and taping all four sides with tape.

END OF SECTION 03 05 80