

CONCRETE SLAB APPLICATIONS
SECTION 072100 – UNDER-SLAB INSULATION/VAPOR BARRIER

PART 1 – GENERAL

1. RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

2. SUMMARY

- A. This Section includes the following:

- 1. Composite under-slab insulation/vapor barrier and accessories.

3. REFERENCES

- A. American Society for Testing and Materials (ASTM).

- 1. ASTM C 518-04 Standard Test Method for Steady-State Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus.
 - 2. ASTM E 96 Standard Test Methods for Water Vapor Transmission of Materials.
 - 3. ASTM E 1643 Standard Practice for Installation of Water Vapor Retarders Used in Contact with Earth or Granular Fill Under Concrete Slabs.
 - 4. ASTM D 545-99 Standard Test Methods for Preformed Expansion Joint Fillers for Concrete Construction (Nonextruding and Resilient Types).
 - 5. ASTM D3575-00e1 Standard Test Methods for Flexible Cellular Materials Made From Olefin Polymers.

4. SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Product Test Reports: Based on evaluation of comprehensive tests performed by a qualified testing agency for insulation products.
- C. Research/Evaluation Reports: For foam/plastic insulation.

5. QUALITY ASSURANCE

- A. Source Limitations: Obtain each type of building insulation through one source from a single manufacturer.

6. DELIVERY, STORAGE AND HANDLING

- A. Protect insulation materials from physical damage. Store inside and in a dry location. Comply with manufacturer's written instructions for handling, storage and protection during installation.
- B. Protect plastic insulation as follows:
 - 1. Do not expose to sunlight, except to extent necessary for period of installation and concealment.
 - 2. Protect against ignition at all times.

PART 2 – PRODUCTS

1. COMPOSITE UNDER-SLAB INSULATION/VAPOR BARRIER

- A. Composite under-slab insulation/vapor barrier: Closed cell foam core, bubble pack media and two layers of cross-woven polyethylene with reflective aluminum laminated to the interior; Thickness: 3/4 inch nominal (19 mm), 1/2 inch compressed (12 mm); Thermal Resistance: Average thermal resistance (R): 5.9 hr•ft²•°F/Btu; Maximum permeance: ASTM E-96, not greater than 0.002 perms.
 - 1. Basis of Design Product: Provide Insul-Tarp as manufactured by Insulation Solutions, Inc. (www.insul-tarp.com).

2. ACCESSORIES

- A. Vapor Barrier Seam Tape: Polyethylene coated film tape with aggressive rubber adhesive; Minimum 4 inch (102 mm) width; Maximum permeance: ASTM E-96, not greater than 0.10 perms.
 - 1. Basis of Design Product: Provide 4" x 180' White Polyethylene Tape as manufactured by Insulation Solutions, Inc. (www.insulationsolutions.com).
- B. Vapor Proofing Mastic: Latex modified asphalt clay emulsion with polymers and colloids to formulate a vapor/waterproof coating; Maximum permeance: ASTM E-96, not greater than 0.10 perms.
 - 1. Basis of Design Product: Provide VaporCheck Mastic as manufactured by Insulation Solutions, Inc. (www.insulationsolutions.com).
- C. Pipe Boots: Self adhering cross-woven polyethylene vapor barrier with aggressive all weather acrylic adhesive; Maximum permeance: ASTM E-96, not greater than 0.10 perms.
 - 1. Basis of Design Product: Provide Viper VaporPatch as manufactured by Insulation Solutions, Inc. (www.insulationsolutions.com).

PART 3 – EXECUTION

1. EXAMINATION

- A. Examine substrates and conditions with installer present, for compliance with requirements of sections in which substrates and related work are specified and for other conditions affecting performance.
 - 1. Proceed with installation only after unsatisfactory conditions have been corrected.

2. PREPARATION

- A. Clean substrates and substances harmful to insulation, including removing projections capable of interfering with insulation placement.
- B. Ensure that the subsoil is approved by architectural or geotechnical firm.
 - 1. Level and tamp or roll aggregate, sand or tamped earth base.

3. INSTALLATION OF COMPOSITE UNDER-SLAB INSULATION/VAPORBARRIER

- A. Installation shall be in accordance with manufacturer's instructions and ASTM E 1643.
- B. Unroll composite under-slab insulation/vapor barrier with longest dimension parallel with the direction of the pour.
- C. Overlap joints a minimum of 3 to 6 inches and seal with manufacturer's tape.
- D. Seal all penetrations per manufacturer's instructions.

4. PROTECTION

- A. Protect installed insulation from damage due to harmful weather exposures, physical abuse and other causes. Provide temporary coverings or enclosures where insulation is subject to abuse and cannot be concealed and protected by permanent construction immediately after installation.

END OF SECTION