

**SECTION 07100**

**DAMPPROOFING AND WATERPROOFING**



Reviewed for Code Compliance  
Inspections Division  
Approved with Conditions

Date: **05/16/14**

**PART 1 GENERAL**

**1.01 SUMMARY**

- A. Section Includes:
  - 1. Under-Slab-On-Grade Vapor Retarder
  - 2. Below grade foundation waterproofing
- B. Related Sections:
  - 1. Section 03300 - Cast-In-Place Concrete
  - 2. Section 04200 - Unit Masonry
  - 3. Section 07200 – Thermal Protection

**1.02 SYSTEM DESCRIPTION**

- A. General: Provide waterproofing that prevents the passage of liquid water under hydrostatic pressure and complies with requirements as demonstrated by testing performed by an independent testing agency of manufacturer's current sheet membrane.
- B. Provide waterproofing at slab on grade and at elevator pit.

**1.03 SUBMITTALS**

- A. Submit "Letter of Conformance" with the following supporting data:
  - 1. Include product data on each type of dampproofing and waterproofing product specified, including data substantiating that materials comply with specified requirements.
    - a. Mark each copy to identify applicable products, characteristics, models, options and other supplemental data to clearly communicate information specific to this project.
- B. Samples, 3 x 6 inches minimum size, of each fluid-applied and sheet membrane waterproofing material specified for Project.

**1.04 QUALITY ASSURANCE**

- A. Installer Qualifications: Engage an experienced Installer who has completed fluid-applied and sheet membrane waterproofing applications similar in material, design, and extent to that indicated for Project and that has resulted in construction with a record of successful in-service performance.
  - 1. Assign work closely associated with waterproofing, including (but not limited to) waterproofing accessories, and flashings used in conjunction with waterproofing, expansion joints in membrane, insulation, and protection course on membrane, to Installer of fluid-applied waterproofing, for single, undivided responsibility.
- B. Single-Source Responsibility: Obtain primary waterproofing materials of each type required from a single manufacturer.
- C. Pre-Installation Conference: A pre-installation conference shall be held prior to commencement of field operations to establish procedures to maintain optimum working conditions and to coordinate this work with related and adjacent work. Agenda for meeting shall include review of special details and flashing.



1.05 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials to Project site in original packages with seals unbroken, labeled with manufacture name, product, date of manufacture, and directions for storage.
- B. Store materials in their original undamaged packages in a clean, dry, protected location and within temperature range required by waterproofing manufacturer. Protect stored materials from direct sunlight.

1.06 PROJECT CONDITIONS

- A. Environmental Conditions: Apply waterproofing within range of ambient and substrate temperatures recommended by waterproofing manufacturer. Do not apply waterproofing to a damp or wet substrate.
  - 1. Do not apply waterproofing in snow, rain, fog, or mist.
- B. Maintain adequate ventilation during penetration and application of waterproofing materials.

**PART 2 PRODUCTS**

2.01 MATERIALS, GENERAL

- A. General Compatibility: Provide products that are recommended by manufacturer to be fully compatible with indicated substrates.

2.02 UNDER-SLAB-ON-GRADE VAPOR RETARDER:

- A. Vapor Retarder Under-Slabs-On-Grade:
  - a. Polyethylene vapor barrier material shall be placed under all concrete slabs on grade. Provide in lengths and widths required for least number of seams.
  - b. Vapor barrier minimum thickness of ten (10) mils.
  - c. Lap all joints minimum six (6) inches and seal with mastic or tape. All pipe penetrations sealed with tape.
  - d. Vapor-Retarder Tape: Pressure-sensitive tape of type recommended by vapor retarder manufacturer for sealing joints and penetrations in vapor retarder.

2.03 BELOW GRADE FOUNDATION WATERPROOFING:

- A. Waterproofing:
  - 1. Trowel applied waterproofing membrane.
  - 2. Manufacturers:
    - a. "Thorseal Foundation Coating, No. T1180"; Thoro Consumer Products (216-839-7171)
    - b. Or equal.

2.04 MISCELLANEOUS MATERIALS

- A. In addition to primary waterproofing materials, provide the following:
  - 1. Primer/Filler/Sealer: As recommended by waterproofing manufacturer.
  - 2. Flashings, Cant Strips, and Accessories: As recommended by waterproofing manufacturer.



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### PART 3 EXECUTION

#### 3.01 EXAMINATION

- A. Examine substrates, areas, and conditions under which waterproofing systems will be applied, with Installer present, for compliance with requirements. Do not proceed with installation until unsatisfactory conditions have been corrected.
  - 1. Do not proceed with installation until after minimum concrete curing period recommended by waterproofing manufacturer.
  - 2. Verify substrate is visibly dry and free of moisture. Test for capillary moisture by plastic sheet method according to ASTM D4263.
- B. Inspect concrete and concrete masonry surfaces for:
  - 1. Contamination: Algae, chalkiness, dirt, dust, efflorescence, form oil, fungus, grease, mildew or other foreign substances.
  - 2. Surface absorption and chalkiness.
  - 3. Cracks: Measure crack width and record location of cracks.
  - 4. Damage and deterioration.
  - 5. Moisture content and moisture damage:
    - a. Use a moisture meter to determine if the surface is dry enough to receive the air and moisture barrier and record any areas of moisture damage or excess moisture.
  - 6. Compliance with specification tolerances:
    - a. Record areas that are out of tolerance (greater than 1/4 inch in 8-0 feet deviation in plane).
- C. Notify Architect in writing of anticipated problems using waterproofing over substrate.

#### 3.02 PREPARATION

- A. Clean substrate of projections and substances detrimental to work; comply with instructions of prime materials manufacturer.
- B. Install cant strips and similar accessories as shown and as recommended by prime materials manufacturer even though not shown.
- C. Fill voids, seal joints, and apply bond breakers as recommended by prime materials manufacturer.
- D. Prime substrate as recommended by prime materials manufacturer.

#### 3.03 INSTALLATION - GENERAL

- A. Comply with manufacturer's written installation recommendations, including preparation of substrate surfaces, detail coatings of joints and planar changes in substrate, and priming of substrates.
- B. Mix separately packaged components in accordance with manufacturer's written recommendations.

#### 3.04 INSTALLATION - UNDER-SLAB-ON-GRADE VAPOR RETARDER

- A. General: Extend vapor and moisture barriers to extremities of areas to be protected from vapor transmission. Extend vapor and moisture barriers to cover miscellaneous voids in insulated substrates, including those which have been stuffed with loose fiber-type insulation.
- B. Seal joints caused by pipes, conduits, electrical boxes, and similar items penetrating vapor retarders with vapor-retarder tape of type recommended by vapor retarder manufacturer to create an air-tight seal between penetrating objects and vapor retarder.



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- C. Repair any tears or punctures in vapor and moisture barriers immediately before concealment b other work. Cover with vapor-retarder tape or another layer of vapor retarder.

### 3.05 PROTECTING AND CLEANING

- A. Protect waterproofing from damage and wear during application and remainder of construction period, according to manufacturer's written instructions.
- B. Clean spillage and soiling from adjacent construction using cleaning agents and procedures recommended by manufacturer of affected construction.

**END OF SECTION**