

SECTION 07 10 00

WATERPROOFING AND DAMPPROOFING

PART 1 GENERAL

1.1 SUMMARY

- A. Furnish labor and materials to complete waterproofing and dampproofing shown and specified.
- B. Section Includes:
 - 1. Horizontal joint waterproofing
 - 2. Expansion joint fillers
 - 3. Cavity wall flashing system
 - 4. Below-slab vapor barrier

1.2 RELATED SECTIONS

- A. Section 03 30 00 – Cast-In-Place Concrete
- B. Section 04 22 00 – Concrete Unit Masonry
- C. Section 05 40 00 – Cold Formed Metal Framing
- D. Section 07 62 00 – Flashing and Sheet Metal
- E. Section 09 29 00 – Drywall-Sheathing

1.3 SUBMITTALS

- A. Comply with Section 01 33 00.

1.4 WARRANTY

- A. The Contractor must guarantee all materials and workmanship for a minimum period of two (2) years from the date of Substantial Completion of the building unless longer warranty periods are specified for individual specified products.
- B. The Contractor will, at any time within the two (2) year period, remedy all leaks of any nature in any part of the building due to the use of faulty materials and/or workmanship, without additional cost to the Owner. The Contractor shall further reimburse the Owner for any damage occasioned by such leaks.
- C. The Contractor is cautioned to supplement the work, described in this section of the specifications, by any means necessary to permit the above guarantee, which he will be called upon to make as an obligation of the Contract.

07 10 00-1

1.5 PRE-INSTALLATION MEETING

- A. The Contractor will schedule and conduct a pre-installation meeting for the following items:
 - 1. Cavity wall flashing system
 - 2. Underslab moisture barrier
- B. The following shall be in attendance:
 - 1. Contractor
 - 2. Architect
 - 3. Product supplier and or manufacturer's representative
 - 4. Installer

PART 2 PRODUCTS

2.1 MATERIALS:

- A. Horizontal expansion joint waterproofing of exterior slabs or slabs on grade: Tremco Vulkem #45 SSL Sealant as manufactured by Tremco, W.R. Meadows, Inc., or approved alternate. Color to be coordinated with Architect.
- B. Horizontal expansion Joint Filler: Asphalt impregnated expansion joint material. Provide "Zip Strip" type filler so that top ½" can be removed for sealant installation.
- C. Cavity wall flashing system:
 - 1. Cavity Wall Flashing System:
 - a. Through-Wall Flashing: Flex-Flash flashing polyester scrim reinforced, minimum 40-mils thick, self-adhering, pressure sensitive clear no drool adhesive membrane formulated with Dupont "Evaloy" Kee, manufactured by Holmann & Barnard, Inc.. Provide with all available preformed shapes (i.e. corners, level changes, end dams, stop ends, etc.) as needed to fit job conditions. Apply Primer-SA by HB where installed on exterior sheathing and/or CMU.
 - b. Drainage & Vents: Mortar Net Drainage & Vent System or Mortar Trap & Weep Vent by HB.
 - c. Termination Bar: Provide continuous aluminum or stainless-steel termination bar where membrane terminates on wall sheathing or substrate. Secure to substrate with screws meeting manufacturer detailing.
 - d. Drip Edge: Not required. Terminate membrane flashing at front masonry edge. Flex-flash should be extended beyond the wall face and cut flush with the brick.
 - e. Sealant: Provide sealant at termination bar and where thru wall flashing ends overlap, inside and outside corners and any other type of soft joints. Verify compatibility of sealant with any adjacent materials. HB Sealant, Dow Corning 790 & 791 with 1200 prime coat. Silaflex-1A with #260-205 primer or Sonolastic NPI with #733 primer.
 - 2. Alternate manufacturers with equal or better product may submit product data to Architect for approval, following requirements of Section 01 60 00.
 - a. "TotalFlash" system by Mortar Net USA Ltd, is an approved alternate system, Drainage and weep vents must be provided in addition to the built-in drainage mat.

07 10 00-2

D. Weep and Ventilation Vents:

1. QV- Quadro Vent by HB, or Weepvent by Mortar Net, ½" thick, size as required to match brick or CMU veneer head dimension.
2. Install at 24" o.c. horizontally for brick veneer, 32 o.c. horizontally for CMU veneer.
3. Provide ventilation vents at top of wall in same location and centering as weep vents.
4. Confirm Color with Architect for each masonry color used.

E. Mortar Collection Material:

1. Mortar Trap by HB, or MortarNet by Mortar Net, or approved alternate.
2. Thickness as required to fill cavity. Install just above thru-wall flashing in cavity at bottom of walls and above window and door openings per manufacturer's instructions.

F. Underslab Moisture Barrier: 15 mil thick virgin polyethylene, Approved Products and Manufacturers:

- "Stego Wrap Class A", vapor barrier (15-mil) by Stego Industries, LLC, 877-464-7834, www.stegoindustries.com
 - Vaporguard by Reef Industries, 713-507-4250, www.reefindustries.com
 - Moistop Ultra 15 by Fortifiber, 800-773-4777, www.fortifiber.com
 - Perminator HP 15 mil by WR Meadows, 800-342-5976, www.wrmeadows.com
1. Use High Density Polyethylene Tape with pressure sensitive adhesive. Minimum width 4 inches. Sealing tape shall be coated with a high tack natural rubber adhesive.
 2. Waterproofing adhesive or mastic equal to Stego Mastic shall be a high quality, long lasting, asphalt-based material and shall be applied in accordance with its manufacturer's specification. Waterproofing adhesive shall be compatible for use with the vapor barrier and shall meet the applicable standards for the intended use. The installation contractor shall submit the product specification for Architect's review and approval prior to using the product.
 3. References
 - a. ASTM E 1745-09 Standard Specification for Plastic Water Vapor Retarders Used in Contact with Soil or Granular Fill Under Concrete Slabs.
 - b. ASTM E 154-99 (2005) Standard Test Methods for Water Vapor Retarders Used in Contact with Earth Under Concrete Slabs, on Walls, or as Ground Cover.
 - c. ASTM E 96-05 Standard Test Methods for Water Vapor Transmission of Materials.
 - d. ASTM F 1249-06 Standard Test Method for Water Vapor Transmission Rate Through Plastic Film and Sheeting Using a Modulated Infrared Sensor.
 - e. ASTM E 1643-09 Selection, Design, Installation, and Inspection of Water Vapor Retarders Used in Contact with Earth or Granular Fill Under Concrete Slabs.
 4. American Concrete Institute (ACI):
 - a. ACI 302.2R-06 Guide for Concrete Slabs that Receive Moisture-Sensitive Flooring Materials.
 5. Vapor barrier must have all of the following qualities:
 - a. Permeance of less than 0.01 Perms [$\text{grains}/(\text{ft}^2 \cdot \text{hr} \cdot \text{inHg})$] as tested in accordance with ASTM E 1745 Section 7.
 - b. Other performance criteria:
 - i. Strength: ASTM E 1745 Class A.
 - ii. Thickness: 15 mils minimum

6. Quality control/assurance (Submit the following for Architect's approval):
 - a. Summary of test results as per paragraph 8.3 of ASTM E 1745.
 - b. Manufacturer's samples, literature.
 - c. Manufacturer's installation instructions for placement, seaming and penetration repair instructions.

G. Above-Grade Wall Waterproofing Membrane: Refer to section 07 27 26

H. Refer to Section 07 19 00 for brick damp-proofing.

I. Refer to Section 03 30 00 for water-stops.

PART 3 EXECUTION

3.1 WORKMANSHIP:

- A. Horizontal expansion joint waterproofing:
 1. All horizontal expansion joints shall be 1/2 inch asphalt impregnated expansion joint material with "zip-strip" feature. Insulation-type material will not be acceptable. Install to provide 1/2" depth below finish surface and apply sealant as called for above.
- B. Expansion joint Filler:
 1. All vertical expansion joints shall be 1/2 inch asphalt impregnated expansion joint material. Not Insulation. The top 1/2 inch of material shall be omitted and joint filled with caulking as specified in Section 07 92 00. All caulking shall be installed flush with wall surface.
- C. Cavity Wall Flashing System:
 1. The installer shall be knowledgeable of system installation. Contractor to have product representative on site when installation begins to verify correct installation procedures are being performed.
 2. Contractor to inspect each installed section of flashing system and approve before covering with veneer.
 3. Install Flashing/Drainage System in accordance with manufacturer's installation instructions.
 4. Install cavity wall flashing system at base of exterior masonry cavity walls and above doors and window openings where located in exterior masonry cavity walls and where shown on drawings. Extend flashing flush with outside face of masonry veneer.
 5. Prior to installation of wall flashing, prime substrate where wall flashings are to be installed with product approved by manufacturer.
 6. Where installed at stud walls, secure to sheathing with continuous galvanized metal or stainless steel termination bar and set in adhesive.
 7. Where installed at CMU walls, secure with continuous galvanized metal or stainless steel termination bar and set in adhesive.
 8. Install preformed shapes at corners, changes in elevation, etc. provide end dams and end stops where required per manufacturer's instruction. Provide preformed transitions where transitioning from grade to top of walk or drive.

07 10 00-4

9. Replace any damaged membrane prior to installation of masonry veneer.
10. Coordinate installation in veneer with weeps and drainage material.
11. At brick veneer cavity walls, grout solid below grade, turn out at bed joint at least one brick course below finished floor, or 4" (1/2 course) below finished floor for CMU veneer unless shown otherwise on drawings. Install above all window and door openings at masonry cavity walls and where shown on drawings.
12. Just prior to laying of masonry veneer, install mortar collection material.
13. Install weep joints at brick head joints, 24" o.c. (horizontally), at CMU head joints at 32" o.c. (horizontally).
14. If masonry is to receive paint, stain, or special coating, weep vents and drainage vents are not to be coated. Protect as required during coating process.

D. Below-Slab Vapor Barrier (15 mil below-slab):

1. Prepare surfaces in accordance with manufacturers instructions.
2. Installation shall be in accordance with manufacturer's instructions and ASTM E 1643. All lap joints and areas to be sealed shall be free from dirt, dust, and moisture. Sealing tape shall be applied in temperatures ranging from 41°F to 122 °F or according to its manufacturer specification. Where inconsistencies occur between the project plans and specification and ASTM E1643, the project plans and specification shall govern.
3. Unroll vapor barrier with the longest dimension parallel with the direction of the pour.
4. Lap vapor barrier over footings and seal to foundation walls or top of footings with manufacturer approved sealant.
5. Overlap joints 6 inches and seal with manufacturer's tape.
6. Seal all penetrations (including pipes) with manufacturer's pipe boot and sealant.
7. No penetration of the vapor barrier is allowed except for reinforcing steel and permanent utilities.
8. Repair damaged areas by cutting patches of vapor barrier, overlapping damaged area 6 inches and taping all four sides with tape.
9. Pipe/Conduit Boots and Penetration Sealing:
 - a. Cut a piece of vapor barrier. Width: minimum 12 inches Length: one and one-half times the pipe circumference
 - b. With scissors, cut slits half the width of the vapor barrier.
 - c. Wrap boot around pipe and tape onto pipe, completely taping the base to vapor barrier using the polyethylene tape.
 - d. Install mastic around and through groups of conduit, grade stakes or piping, which cannot be sealed by taping. Seal to vapor barrier. As an allowable alternate method of penetration sealing in lieu of taping, mastic may be used to seal around single penetrations such as pipe, conduit, floor drains, etc. Confirm that the material mastic is installed at is compatible with the mastic prior to application.
10. Seal vapor barrier to top of footings with mastic where vapor barrier terminates at perimeter or interior footings. When vapor barrier terminates at concrete or CMU walls, seal with mastic. Do not apply mastic above top of finished slab elevation.

- E. Vertical Expansion Joint Filler: Protect from adjacent finish application. Prep substrate and install per Emseal instruction for application in which it is being installed.

END OF SECTION

07 10 00-5