

SECTION 07 14 00
FLUID-APPLIED WATERPROOFING

PART 1 GENERAL

1.01 SUBMITTALS

A. Action Submittals:

1. Product Data: Copies of manufacturer's literature for products proposed.
2. Shop Drawings:
 - a. Show limits of waterproofing on all surfaces to receive waterproofing.
 - b. Show termination at base of foundation, top, sides, and at abutment to other elements.

B. Informational Submittals:

1. Certification: Compliance with product requirements specified.
2. Sample copy of guarantee to be provided. Upon completion and acceptance of the Work required by this section, submit an executed copy of the guarantee.
3. Applicator approval letter from membrane manufacturer.
4. Sustainable Design: In accordance with Section 01 81 13, Sustainable Design Requirements for Non-LEED™ Projects, document sustainability performance of items listed below.
 - a. Product Data for Low Emitting Materials-Paints and Coatings:
 - 1) A complete list of paints and coatings used inside the building envelope during construction.
 - 2) Manufacturer's literature documenting VOC content of each product and compliance with requirements of Green Seal Standard GS-11, Green Seal Standard GC-03, and South Coast Air Quality Management District (SCAQMD) Rule No. 1113.

1.02 QUALITY ASSURANCE

- A. Applicator: Approved by fluid applied waterproofing manufacturer.**

1.03 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials to Project Site in sealed, undamaged containers. Identify each container with material name, date of manufacture, and lot number.**

- B. Store material in dry area out of direct sunlight. Storage area temperature shall not exceed 90 degrees F.

1.04 ENVIRONMENTAL REQUIREMENTS

- A. Perform Work only when existing and forecasted weather conditions are within limits established by manufacturer of materials and products used.
- B. Proceed with installation only when substrate construction and preparation work is complete and in condition to receive waterproofing.

1.05 SPECIAL GUARANTEE

- A. Furnish manufacturer's extended guarantee or warranty, with Contracting Officer named as beneficiary, in writing, as Special Guarantee. Special Guarantee shall provide for correction or, at the option of Contracting Officer, removal and replacement of Work specified in this specification section found defective during a period of 3 years after date of Substantial Completion. Duties and obligations for correction or removal and replacement of defective Work shall be as specified in the Contract Clauses.

PART 2 PRODUCTS

2.01 MANUFACTURERS AND PRODUCTS

- A. Carlisle Coatings and Waterproofing, Sapulpa, OK; MiraSEAL.
- B. Or equal.

2.02 MEMBRANE

- A. Physical Characteristics: Single component, polyurethane elastomer-based fluid applied waterproofing membrane; ASTM C836.
- B. Functional Characteristics: None.
- C. Performance Characteristics: Volatile Organic Compound (VOC) content limit of 250 grams/liter in accordance with EPA Method 24.

2.03 RELATED MATERIALS

- A. As follows, compatible with components produced by membrane manufacturer:
 - 1. Primers: As recommended by membrane manufacturer for type of substrate involved.

2. Sealants and Backer Rod:
 - a. Physical Characteristics;
 - 1) Sealants: Low modulus, unmodified polyurethane or as recommended by membrane manufacturer.
 - 2) Backer Rod: Expanded polyethylene rod; ASTM D3575.
 - b. Functional Characteristics: None.
 - c. Performance Characteristics: None.
3. Flashing Reinforcement:
 - a. Physical Characteristics: Woven, uncoated fiberglass mesh on 0.05-inch thick precured polychloroprene.
 - b. Functional Characteristics: None.
 - c. Performance Characteristics: None.
4. Protection Board (or Rigid Insulation): Approved by membrane manufacturer.
5. Drainage Board: Provide as required by manufacturer for Project conditions.

PART 3 EXECUTION

3.01 CONDITIONS OF SURFACES

- A. Verify curing methods used for concrete are compatible with membrane system.

3.02 PREPARATION

- A. Cleaning:
 1. Thoroughly clean surfaces to receive membrane following membrane manufacturer's recommendations.
 2. Treat as necessary to remove laitance, loose material on surface, grease, oil, and other contaminants that will affect bond of the membrane.
 3. Vacuum clean or clear water wash surfaces and allow to dry completely.
- B. Fill voids and control joints with sealant and overcoat with nonflow membrane material. Fill or coat visible shrinkage cracks to minimum 2 inches either side of crack.
- C. Use drop cloths or masking as required for protection of adjacent surfaces.

3.03 FLASHINGS-FLUID APPLIED

- A. Unless Drawings establish more restrictive requirements, the following minimum requirements apply:
1. Fill construction joint voids at intersections of vertical and horizontal walls with backer rod and sealant in accordance with requirements of membrane manufacturer.
 2. Nonreinforced Flashing:
 - a. Install nonreinforced flashing at construction joints not subject to movement, at all intersecting surfaces that are structurally and rigidly connected, and at all piping or other penetrations through membraned surface that do not require reinforced flashing.
 - b. Apply 50-mil minimum dry film thickness of membrane for 4 inches minimum onto adjacent surfaces.
 - c. At intersections of membrane with vertical walls, piping penetrations, and at projections through horizontal membrane, extend flashing coat to a height not greater than finished horizontal surface, with due allowance for installation of sealant work. Trowel a 1-inch high, 45-degree cant at meeting angle using nonflowing membrane material.
 - d. At projections through a vertical membrane, extend flashing coat 4 inches minimum onto penetrating element.
 3. Reinforced Flashing:
 - a. Apply flashing reinforcement over cracks, expansion and control joints, and at changes of plane where adjacent surfaces are not structurally and rigidly connected and also at penetrations through a membrane surface.
 - b. Apply 50-mil dry film thickness embedment coat of membrane to surfaces to be flashed. Extend 6 inches minimum out onto adjacent deck surface.
 - c. Embed reinforcement in wet coating. Embedment coating should extend 2 inches beyond reinforcement.
 - d. At intersections of membrane with vertical walls, extend embedment coat and reinforcement to a height not greater than finished horizontal surface with due allowance for installation of sealant work. Trowel a 1-inch high, 45-degree cant at meeting angle using nonflowing coating material.

3.04 MEMBRANE

- A. Install, following safety and weather conditions required by manufacturer or as modified by applicable rules and regulations of federal, state, and local authorities having jurisdiction.

- B. Following manufacturer's instructions, apply membrane material with a calibrated notched squeegee, trowel, or approved spray equipment to produce a 50-mil minimum dry thickness.
- C. Extend membrane over previously flashed areas.
- D. Use self-leveling membrane material up to a 5 percent slope.
- E. Use nonflow membrane material for vertical surfaces and surfaces over a 5 percent slope.
- F. Allow membrane to cure overnight. At temperatures less than 75 degrees F and relative humidities less than 50 percent, extend curing time.

3.05 PROTECTION

- A. Protect cured vertical membranes exposed to backfilling operations with protection board.
- B. Butt all boards; do not overlap.
- C. Adhere or bond protection boards to membrane as recommended by membrane manufacturer.

3.06 CLEANING

- A. Clean stains from adjacent surfaces with toluene, 1-1-1, trichloroethane, xylene, commercial tar remover, or as recommended by the membrane manufacturer.
- B. Remove foreign matter from finished membrane surface.

3.07 APPLICATION SCHEDULE

- A. Membrane:
 - 1. Apply waterproofing membrane, protection board, and drainage board to exterior surfaces of cast-in-place concrete structures below finish ground level that enclose spaces that may be occupied, such as stairways, galleries, pump rooms, mechanical and electrical equipment rooms, and other areas shown. Do not include water-holding basins.
 - 2. Apply membrane from top of footings to 6 inches below finished grade.

END OF SECTION

