

**SECTION 07 13 53
MEMBRANE WATERPROOFING**

PART 1 - GENERAL

1.01 SCOPE:

- A. Provide all of the labor, materials, equipment and services required to furnish and install the membrane waterproofing.

1.02 QUALITY ASSURANCE:

- A. Manufacturer's qualifications: Obtain primary waterproofing materials of each type required from a single manufacturer to the greatest extent possible. Provide secondary materials only as recommended by manufacturer of primary materials.
- B. Installer: A firm with not less than 5 waterproofing projects similar to requirements for this Project with satisfactory in-service performance and which is acceptable to primary waterproofing materials manufacturer.
- C. Pre-installation conference: Prior to installing waterproofing and associated work, meet at Project site with installer of each component of associated work, inspection and testing agency representatives (if any), and installers of work requiring coordination with waterproofing work. Review material selections and procedures to be followed in performing work. Notify the Architect at least 48 hours before conducting meeting.

1.03 SUBMITTALS:

- A. Prior to installation, submit to the Architect for review the following:
 - 1. Complete and fully descriptive manufacturer's literature for each product named.
 - 2. Statements from the manufacturers of their acceptance of these documents and conditions and/or any modifications proposed to the system specified. The statement shall include, but not be limited to, that the proposed use of his materials, for the conditions encountered, is proper.
 - 3. Shop drawings: Show locations and extent of waterproofing. Include details for substrate joints and cracks, sheet flashings, penetrations, inside and outside corners, tie-ins with adjoining waterproofing, and other termination conditions.
 - 4. Provide affidavits certifying that materials delivered and workmanship performed conform to the requirements of these Contract Documents.

1.04 PROJECT CONDITIONS:

- A. Substrate: Proceed with work after substrate construction, openings, and penetrating work have been completed and areas are free of standing or running water, ice, and frost. Verify that concrete is dry, smooth, and free from sharp or ragged out-angles, honeycombing, rock pockets, depressions, and projections.
- B. Weather: Proceed with waterproofing and associated work only when existing and forecasted weather conditions will permit work to be performed in accordance with manufacturers' recommendations and warranty requirements.

1.05 WARRANTY:

- A. Submit a written warranty executed by the manufacturer, agreeing to repair or replace sheet membrane waterproofing that fails in materials or workmanship within specified warranty period.

1. Warranty period: 5 years from date of Substantial Completion.
- B. The warranty shall not deprive the Owner of other rights the Owner may have under other provisions of the Contract Documents and will be in addition to and run concurrent with other warranties made by the Contractor under requirements of the Contract Documents.

PART 2 - PRODUCTS

2.01 APPROVED SYSTEMS AND MANUFACTURERS:

- A. Products/Manufacturers:
 1. Bituthene Waterproofing System as manufactured by W. R. Grace.
 2. Or an approved equal as manufactured by:
 - a. Carlisle Coatings and Waterproofing.
 - b. W. R. Meadows.

2.02 MATERIALS:

- A. All products shall be those of the same manufacturer.
- B. Materials:
 1. Primer: Bituthene 3000 (75 degrees F and up) or Bituthene 3100 (25 degrees - 75 degrees F).
 2. Waterproof membrane: Bituthene (60 mil).
 3. Sealing joints and edges: Bituthene - Lap joints minimum of 6". Seal edges with EM-3000 Elastomeric Mastic - P.15.
 4. Adhesive (as per manufacturer's instructions): Bituthene - PBA-3000.
 5. Drainage board: Hydroduct 220 as manufactured by W. R. Grace.

PART 3 - EXECUTION

3.01 SURFACE PREPARATION:

- A. Clean and prepare surfaces to receive waterproofing, in accordance with manufacturer's recommendations.
- B. Ensure surfaces are firm, and free from frost, loose particles, cracks, pits, rough projections, grease, oil and other foreign matter detrimental to adhesion and monolithic application of waterproofing.
- C. Concrete substrate:
 1. Do not proceed with installation until concrete has properly cured and dried, minimum 7 days.
 2. Fill form tie rod holes with concrete and finish flush with surrounding surface.
 3. Repair bugholes over 1/2" in length and 1/4" deep and finish flush with surrounding surface.
 4. Remove scaling to sound, unaffected concrete and repair exposed area.
 5. Grind irregular construction joints to suitable flush surface.

3.02 INSTALLATION:

- A. General:
 1. Comply with manufacturer's instructions for handling and installing sheet waterproofing material.

2. Coordinate installing waterproofing materials with associated work to provide complete system complying with combined recommendations by manufacturers and installers involved in the Work. Schedule installation to minimize exposure of sheet waterproofing materials.
3. Seal projections through membrane and seal seams. Bond to vertical surfaces and also, where shown or recommended by manufacturer, bond to horizontal surfaces.
4. Top edge seal: For vertical and sloped-wall membrane, finish in reglet (where provided); otherwise finish under flashing or under masonry in joint. Caulk exposed edges with mastic or sealant.
5. Expansion joints: Install joint filler with protruding rounded surface, as recommended by manufacturer.
 - a. Apply continuous 8" wide strip of membrane on joint, followed by membrane application.
6. Coat exposed areas of sheet and flashing materials. Comply with sheet manufacturer's recommendations for applying and curing the coating.

- B. Concrete surfaces shall be primed in accordance with the manufacturer's instructions.

3.03 MEMBRANE INSTALLATION:

- A. Membrane:
1. Apply membrane in sections of 8' in length or less.
 2. On walls over 8' high, the membrane shall be applied in two or more sections with the upper section overlapping the lower by at least 2-1/2".
 3. Hand rollers or heavy hand pressure shall be used to assure good initial contact.
- B. Cover area immediately with drainage board.
1. Apply to wall with mastic strips as recommended by the manufacturer.
 2. Overlap drainage board at edges and ends.
 3. Install with filter fabric on side toward backfill.
 4. Backfill immediately and do not leave exposed.

3.04 FIELD QUALITY CONTROL:

- A. In place testing: Before completed membranes on horizontal surfaces are covered by protection course or other work, test for leaks with a 1" depth of water maintained over the high point for 24 hours. Repair any leaks. Repeat test and repairs until no leaks remain.

3.05 PROTECTION:

- A. Protect completed membrane during installation of other materials or processes over membrane and throughout remainder of construction period. Do not allow traffic of any type on unprotected membrane.

- END OF SECTION -