

SPECIAL SPECIFICATION

SECTION 07130S

SHEET WATERPROOFING

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Sheet membrane waterproofing, primer, mastic, and accessories; and protection board.

1.02 RELATED SECTIONS

- A. Section 02220 - Earthwork: Backfilling.
- B. Section 02710 - Subdrainage Systems: Drainage mats, tile and backfill.
- C. Section 03300 - Cast-in-Place Concrete: Substrate surfaces.
- D. Section 03410 - Structural Precast Concrete: Substrate surfaces.

1.03 REFERENCES

- A. ASTM D 412 - Rubber Properties in Tension.
- B. ASTM D 570 - Water Absorption of Plastics.
- C. ASTM E 96 - Water Vapor Transmission of Materials.

1.04 SUBMITTALS

- A. Product Data: Submit manufacturer's technical literature for each product.
- B. Shop Drawings: Submit details indicating special joint or termination conditions and special conditions of interface with other materials.
- C. Samples: Submit samples of sheet membrane and protection board.
- D. Manufacturer's Instruction: Submit manufacturer's printed installation instructions for each product; include applicable temperature ranges.
- E. Applicator Experience: Submit list of projects having similar scope of work which have been installed during last three years; identify projects by name, location and date, include names of reference and phone numbers.

- F. Manufacturer's Field Reports: Submit summary of job site observations, instructions and monitoring activities.
- G. Warranty: Submit signed and dated warranties from manufacturer and applicator.

1.05 QUALITY ASSURANCE

- A. Applicator Qualifications: Company specializing in application of specified waterproofing with minimum of three years documented experience and having written approval of waterproofing manufacturer.

1.06 PRE-INSTALLATION CONFERENCE

- A. Conduct pre-installation conference prior to installation.
- B. Require attendance of manufacturer's representative, applicator and related trades interfacing with system. Review and coordinate interfacing with adjacent materials, terminations and methods of flashing.

1.07 MOCKUP

- A. Mockup to represent conditions of finished work including internal and external corners, seam jointing, attachment method, sealing and counterflashing cover, control and expansion joints.

1.08 DELIVERY, STORAGE AND HANDLING

- A. Do not double stack membrane pallets.
- B. Keep primer, mastics and adhesives in dry area away from flames, sparks and excessive heat.
- C. Cover materials and allow for adequate ventilation.

1.09 ENVIRONMENTAL REQUIREMENTS

- A. Do not apply products when surface or ambient temperature is below 40 degrees F unless special low temperature products are used. Do not apply products in any instances where surface temperature is lower than 25 degrees F.
- B. Do not apply to damp or frozen surfaces or during inclement weather.

1.10 SEQUENCING AND SCHEDULING

- A. Coordinate and schedule work to ensure that construction materials placed against or over waterproofing and protection system will occur within seven days of membrane installation.

Do not expose membrane to ultraviolet rays beyond period of time recommended by system manufacturer.

- B. Install protection board within 24 hours of membrane installation.

1.11 WARRANTY

- A. Furnish executed warranties guaranteeing installed waterproofing system to be free of leaks and free from defects in materials and workmanship for a period of two years from date of completion and acceptance of waterproofing system.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

- A. Bituthene Waterproofing System 4000 by W. R. Grace and Co., Chicago, IL.
- B. Aquasel Waterproofing Membrane System by J&P Petroleum Products, Inc., Dallas, TX.
- C. Polyguard No. 650 Membrane by Polyguard Products Inc., Ennis, TX.

2.02 MATERIALS

- A. Sheet Membrane: Rubberized asphaltic sheet laminated to a polypropylene film, 60 mil minimum total thickness.
 - 1. Tensile Strength: 250, ASTM D 412.
 - 2. Elongation: 300, ASTM D 412.
 - 3. Water Absorption: 0.2 perms, ASTM D 570.
 - 4. Moisture Vapor: 0.1 perms, ASTM E 96.
- B. Surface Conditioner: Rubberized, water based type, as recommended by membrane manufacturer.
- C. Mastic: Rubberized asphaltic type recommended by membrane manufacturer.
- D. Liquid Membrane: Two component elastomeric, mastic grade.
- E. Cement Mortar: Epoxy or latex modified cementitious composition acceptable to membrane manufacturer.

- F. Concrete Patching Compound: Fast setting, non-shrinking patching compound, of type acceptable to membrane manufacturer.
- G. Asphaltic Protection Board: Preformed sheet or board, 1/8-inch thick at Contractor's option as follows:
 - 1. Sealtight Protection Course PC-2 by W.R. Meadows Inc.
 - 2. Bakerbord 501-A by Tex-Mastic.
 - 3. Tuff Stuff by J & P Petroleum Products Inc.
- H. Polystyrene Protection Board: Expanded polystyrene board, conforming to FS HH-I-524, Type I, Class A, 3/4-inch minimum thickness, equivalent to PB-3000 by W.R. Grace and Co.

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Verify that surfaces and conditions are ready to receive work of this section. Notify Architect of any existing conditions which will adversely affect execution. Beginning of execution will constitute acceptance of existing conditions.
- B. Ensure surfaces are reasonably smooth and free of holes, cracks or projections which might be detrimental to successful installation.
- C. Verify that items penetrating waterproofing system are securely installed.
- D. Verify that concrete surfaces have cured a period of time acceptable to membrane manufacturer.
- E. Verify that joints in masonry surfaces are struck flush with face of unit.

3.02 PREPARATION

- A. Protect adjacent surfaces not designated to receive waterproofing.
- B. Seal cracks and joints with recommended material and sealant. Use proper depth-width ratio as recommended by sealant manufacturer.
- C. Clean surfaces of foreign matter detrimental to installation of membrane.

- D. Remove sharp projections, fins, and loose material. Fill holes and honeycomb areas flush with concrete patching compound or cement mortar.
- E. Seal penetrations with mastic.
- F. Provide fillet or cant at junction of vertical and horizontal surfaces using cast-in-place cement mortar in configuration acceptable to membrane manufacturer.

3.03 WATERPROOFING INSTALLATION

- A. Install products using skilled workmen in accordance with manufacturer's printed instructions and recommendations.
- B. Apply primer and adhesives in accordance with manufacturer's instructions. Apply only as much primer as can be covered in one day.
- C. Prior to application of full membrane, provide membrane strips at inside corners, outside corners, and working joints with strips centered along axis of corner and working joint.
- D. Apply membrane with edges and ends overlapped at dimensions recommended by manufacturer.
- E. Remove release paper layer. Roll out surface with mechanical roller to encourage full contact bond.
- F. Completely bond sheet to substrate, except those areas directly over or within 3 inches of working cracks or expansion joints.
- G. Apply uniform bead of mastic to joint edges at locations recommended by manufacturer.
- H. Seal membrane to adjoining surfaces.
- I. Continue membrane over footing and down face 6 inches minimum, except terminate at point 12 inches below floor slab of protected space where footings are at greater depth.
- J. Seal items penetrating membrane with flashing membrane material and liquid membrane per manufacturer's instructions. Seal flashings watertight ensuring positive seal with membrane and penetrating member.

3.04 PROTECTION BOARD INSTALLATION

- A. Install separate protection board system over membrane and retain in place as recommended by manufacturer. Install in single layer with tight butt joints.
- B. Use either asphaltic board for membrane protection.

3.05 FIELD QUALITY CONTROL

- A. Manufacturer's Field Services: Notify manufacturer prior to start of work and make arrangements for manufacturer's technical representative to be present during first day's work to verify work is being conducted in accordance with their recommendations.
- B. Flood Test - Horizontal Surfaces:
 - 1. Before completed surfaces are covered by protection board or other work, test for leaks with 2 inch depth of water maintained for 48 hours.
 - 2. Repair any leaks revealed by examination of substructure, and repeat test until no leakage is observed.

3.06 CLEANING

- A. Clean materials from adjacent surfaces where inadvertently applied.

3.07 PROTECTION

- A. After installation, close off area to prevent unauthorized traffic.

END OF SECTION