

SECTION 071015 – WATERPROOFING FOR STEAM UTILITY DISTRIBUTION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification sections, apply to this section.

1.2 SUMMARY

- A. This section includes the furnishing and installation of all waterproofing over concrete areas.
- B. Related section includes Division 03 Section "Cast-In-Place Concrete for Steam Utility Distribution."

1.3 REFERENCES

- A. Except as herein specified or as indicated on the Drawings, the work of this section shall comply with the following:
 - 1. ASTM Standard Specifications, Methods, Test Methods and Classifications.
 - a. D146 - Methods of Sampling and Testing Bitumen - Saturated Felts and Fabrics Used in Roofing and Waterproofing.
 - b. D412 - Test Methods for Rubber Properties in Tension.
 - c. D570 - Test Method for Water Absorption of Plastics.
 - d. D882 - Test Methods for Tensile Properties of Thin Plastic Sheeting.
 - e. D1790 - Test Method for Brittleness Temperature of Plastic Film by Impact.
 - f. D1822 - Test Method for Tensile-Impact Energy to Break Plastics and Electrical Insulating Materials.
 - g. E96 - Test Methods for Water Vapor Transmission of Materials.
 - h. E154 - Methods of Testing Materials for Use as Vapor Barriers Under Concrete Slabs and as Ground Cover in Crawl Spaces.
 - i. G21 - Recommended Practice for Determining Resistance of Synthetic Polymeric Materials to Fungi.

1.4 SUBMITTALS

- A. Manufacturer's literature for waterproofing products and protection board to include:
 - 1. Technical data to demonstrate compliance with Specifications.
 - 2. Manufacturer's recommended installation procedures, including details and dimensions.

1.5 QUALITY ASSURANCE

A. Qualifications:

1. Fabrication and installation personnel:
 - a. Trained and experienced in the fabrication and installation of the materials and equipment.
 - b. Where applicable, installation personnel must be certified by the product manufacturer.
 - c. Knowledgeable of the design and the reviewed Shop Drawings.

1.6 DELIVERY, STORAGE AND HANDLING

A. Receiving and storage:

1. All materials shall be delivered in original, unbroken, brand marked containers or wrapping as applicable.
2. Handle and store materials:
 - a. In a manner which will prevent:
 - 1) Deterioration or damage.
 - 2) Contamination with foreign matter.
 - 3) Damage by weather or element.
 - b. In accordance with manufacturer's directions.

B. Rejected material and replacements:

1. Reject damaged, deteriorated or contaminated material and immediately remove from the site.
2. Replace rejected materials with new materials at no addition cost to Owner.

1.7 WARRANTY

A. Upon completion of this portion of the work, and as a condition of its acceptance, deliver to Engineer 2 copies of a warranty signed by Contractor, and officer of the applicator firm, and the materials supplier, in which the signatories state and affirm:

1. The work of this section was completed in accordance with the requirements of the Contract Documents.
2. Should water penetrate through the work of this section within 5 years following date of Substantial Completion of the Work, and promptly upon receipt of notice from Owner to that effect, the materials supplier will provide such additional waterproofing and protection board materials as are required, and Contractor and applicator will provide

such equipment, labor, and other materials as are required, to properly repair the area through which water penetrated.

3. Should the water penetration be due to faulty original workmanship or materials of this section, the equipment, labor and materials will be provided at no additional cost to Owner.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Sheet applied waterproof membrane:

1. Sheet applied waterproof membrane:
 - a. Sheet applied rubberized asphalt membrane with full surface adhesion.
 - b. Bituthene by W.R. Grace and Company, Chicago, Illinois; or an approved equal:
 - c. Applied with a minimum thickness of 60 mils and in strict accordance with the manufacturer's recommendations.

B. Fluid applied waterproofing:

1. Procor by W.R. Grace and Company, Chicago, Illinois.
2. Applied with a minimum thickness of 60 mils and in strict accordance with the manufacturer's recommendations.

C. Pre-applied waterproof membrane:

1. Preprufe 200 by W.R. Grace and Company, Chicago, Illinois.

D. Protection board:

1. Asphalt impregnated, pressure-bonded product that offers ease of application and bonding to waterproof membrane.
2. Consult waterproof membrane manufacturers for recommended compatible products.

PART 3 - EXECUTION

3.1 PREPARATION

A. Preinstallation meeting:

1. Attendance: Contractor, material supplier representative, Subcontractor's designated site superintendent for this section and Project Representative.
2. Review areas scheduled for waterproofing and review the approved manufacturer's recommended installation procedures.

- B. Substrate inspection meeting:
 - 1. Attendance: Contractor, material supplier representative, Subcontractor's designated site superintendent for this section and Project Representative.
 - 2. Visually inspect surfaces that have been prepared to receive waterproofing.
 - 3. Prior to first significant application of each product used on the Project.
 - 4. Repeat substrate inspection meeting for every 4,000 square feet of application or more frequently as deemed necessary by the Project Representative.
- C. Work shall take place within 24 hours of backfilling.
- D. Proceed with the work of this section only under favorable weather conditions.

3.2 INSTALLATION

- A. General:
 - 1. Apply in accordance with approved manufacturer's recommendations.
 - 2. Concrete surfaces shall be free of loose materials, debris, dust, oil, grease, standing water and other items which might adversely affect the integrity of the waterproofing system.
 - 3. Work shall be done by workers with daily experience in this type of work.
 - 4. Surface preparation consisting of sandblasting, acid etching or other means approved by Owner and manufacturer shall be done by waterproofing Subcontractor.
- B. Under base slab:
 - 1. Place mud slab in accordance with Division 03 Section "Cast-In-Place Concrete for Steam Utility Distribution."
 - 2. Apply waterproofing onto mud slab in accordance with manufacturer's application instructions.
 - 3. Use either sheet applied waterproof membrane or pre-applied waterproof membrane.
- C. Earth side of walls and top slabs:
 - 1. Apply waterproofing material onto wall surface in accordance with manufacturer's application instructions.
 - 2. Embed protection board into fresh material.
 - 3. Use either sheet applied waterproof membrane or fluid applied waterproofing.

3.3 FIELD QUALITY CONTROL

- A. Do not place backfill or concrete until Engineer has inspected finished waterproofing.

3.4 CLEANING

- A. Prior to acceptance of the work of this section, thoroughly clean all related areas in accordance with Division 01 requirements.

END OF SECTION 071015