

**PART 1 GENERAL****1.1 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including General Conditions and Division 1 Specification Sections, apply to this Section.

**1.2 SUMMARY**

- A. This Section includes pedestrian traffic grade fluid-applied waterproofing.
- B. Related Sections include the following:
  - 1. Division 1 Section "Sustainable Design Requirements".

**1.3 QUALITY ASSURANCE**

- A. The work of this section shall be performed by a company which specializes in the type of waterproofing work required for this Project, certified in writing by waterproofing manufacturer, with a minimum of 5 years of documented successful experience.
  - 1. Work shall be performed in compliance with Owner's insurance underwriters' requirements.
- B. Manufacturer shall specialize in manufacturing the type of waterproofing system specified in this section, with a minimum of 10 years of documented successful experience, and have the facilities capable of meeting all requirements of Contract Documents as a single-source responsibility and warranty.
- C. Curing compounds and form release agents shall be chemically compatible with materials used in the work of this section.
  - 1. This must be evaluated before starting waterproofing work.
- D. Pre-Installation Conference: Comply with Division 1 Section "Project Management and Coordination".
- E. Preconstruction Field Testing: Prior to installation of liquid elastomeric waterproofing, field-test adhesion to substrates as follows:
  - 1. Locate test where indicated or, if not indicated, as directed by Architect.
  - 2. Notify Architect one week in advance of the dates and times when test will be conducted.
  - 3. Arrange for tests to take place with manufacturer's technical representative present.
  - 4. Test Method: Test by hand pull method described below:
    - a. Install liquid elastomeric waterproofing in 5 foot length as detailed using same materials and methods for preparation and installation required for completed Work. Allow 12" long unadhered flap for testing.
    - b. Allow to cure fully before testing.
  - 5. Report whether or not liquid elastomeric waterproofing failed to adhere to substrates or tore cohesively.
  - 6. Evaluation of Field Test Results: Liquid elastomeric waterproofing not evidencing adhesive failure from testing, in absence of other indications of noncompliance with requirements, will be considered satisfactory.
    - a. Do not use liquid elastomeric waterproofing that fails to adhere to substrates during testing.
- F. Regulatory Requirements: Comply with applicable rules of the pollution-control regulatory agency having jurisdiction in the Project locale regarding volatile organic compounds (VOC) and use of hydrocarbon solvents.

**1.4 SUBMITTALS**

- A. Submit the following according to Conditions of the Construction Contract and Division 1 Specification Sections.
- B. Product Data: Shall be clearly marked to indicate all technical information which specifies full compliance with requirements of this section and Contract Documents, including manufacturer's published installation recommendations for the following:
  - 1. Waterproofing system clearly marked to identify all materials and accessories which the waterproofing manufacturer approves as being a complete waterproofing system guaranteed as a "single-responsibility" system for compliance with this section.
- C. Manufacturer's Data: Which verify curing compounds and form release agents used in Division 3 concrete work are chemically compatible with materials used for waterproofing work.

## D. Samples:

Item No.	Quantity	Size	Description
S1	5	8"x 8"	Liquid elastomeric waterproofing material.

E. Qualification Letter: From waterproofing materials manufacturer clearly describing installer's qualifications as required under "Quality Assurance" of this section.

F. Hazardous Materials Notification: In the event no product or material is available that does not contain asbestos, PCB or other hazardous materials as determined by the Owner, a "Material Safety Data Sheet" (MSDS) equivalent to OSHA Form 20 shall be submitted for that proposed product or material prior to installation.

G. Asbestos and PCB Certification: After completion of installation, but prior to Substantial Completion, Contractor shall certify in writing that products and materials installed, and processes used, do not contain asbestos or polychlorinated biphenyls (PCB), using format in Article 3 of General Conditions.

**1.5 DELIVERY, HANDLING, STORAGE**

A. Comply with General Conditions and Division 1 Section "Product Requirements".

**1.6 WARRANTY**

A. Comply with General Conditions and Division 1 Section "Product Requirements", except extend to 5 years, agreeing to repair or replace specified materials or Work that has failed within the warranty period. Failures include but are not limited to the following:

1. Leakage of water through membrane system.
2. Deterioration of waterproofing.
3. Releasing from substrate.

**PART 2 PRODUCTS****2.1 UNAUTHORIZED MATERIALS**

A. Materials and products required for work of this section shall not contain asbestos, polychlorinated biphenyls (PCB) or other hazardous materials identified by the Owner.

**2.2 ACCEPTABLE MANUFACTURERS**

A. General: For the purpose of establishing the minimum functional, aesthetic and quality standards required for work of this section, products of the following manufacturer are specified:

1. Neogard/Dallas, Texas.

B. Substitutions: Comply with General Conditions using form in Division 1 Section "Substitution Request Form".

**2.3 MATERIALS**

A. Pedestrian Traffic Deck Coating Material: Neogard's "PEDA-GARD M", complying with ASTM C957.

1. Primer: Concrete and metal primers as required by NEOGARD®.
2. Flashing Tape: 86218 flashing tape or approved equal having a minimum thickness of 30 mils.
3. Liquid Flashing: FC7500/FC7960 polyurethane coating.
4. Aggregate: 7992 silica (quartz) sand or other aggregate approved by NEOGARD®.
5. Base Coat: FC7500/FC7960 polyurethane coating, gray in color.
6. Topcoat: FC7510/FC7961 series polyurethane coating, gray in color.
7. Sealant: 70991 or other polyurethane sealant approved by NEOGARD®.

**2.4 MATERIAL PERFORMANCE CRITERIA**

A. Minimum Performance Requirements: The minimum performance requirements for the polyurethane coating system to be used on this project are:

1. Tensile Strength: 2200 psi, ASTM D412.
2. Elongation at Break at 75°F (24°C): 500%, ASTM D412.
3. Permanent Set at Break: 10%, ASTM D412.
4. Shore A Hardness: 84-90, ASTM D2240.
5. Tear Resistance: 165 pli, ASTM D1004.

6. Abrasion Resistance: 30 mg/1000 rev. ASTM D4060.
7. Adhesion to Substrate: 400 psi, ASTM D4541.
8. Weathering Resistance: Slight chalking, ASTM D822.
9. Moisture Vapor Transmission: 0.4 perms at 20 mils, ASTM E96.
10. Resistance to Water, Change in Weight: 1%, ASTM D471.

### **PART 3 EXECUTION**

#### **3.1 PREPARATION**

- A. Surfaces shall be prepared in accordance with waterproofing manufacturer's published instructions, including but not limited to the following:
  1. Prior to application, surfaces shall be inspected by manufacturer's representative.
  2. Surfaces shall be free of cracks and other imperfections, dirt, dust, grease, oil, loose material and other incompatible materials which will affect the proper application and performance of waterproofing system.
  3. Verify the bond requirements and compatibility of surfaces to receive waterproofing materials.
  4. Comply with preparation requirements set forth in Paragraphs 5, 6, 10.2 and 14 of ASTM C1127.
- B. Projections Through Waterproofing:
  1. Drains, sleeves, curbs, pipes and similar items which pass through surfaces to receive waterproofing shall be properly installed and approved before applying waterproofing materials.
  2. Comply with requirements for terminal conditions set forth in paragraph 10.4 of ASTM C1127.
- C. Expansion and Control Joints:
  1. Coordinate with requirements for Division 5 Section "Architectural Joint Systems".
  2. Control joints shall be properly formed and free of broken edges or loose aggregate.
  3. Comply with requirements for treatment of joints as set forth in Paragraph 6.10 of ASTM C981.
- D. Mask off adjoining surfaces not to receive waterproofing materials, and close off deck drains, to prevent spillage and migration of liquid materials outside the membrane area or into the drainage system.
- E. Apply 12" wide strip of joint cover sheet over cracks, non-working joints, and expansion joints, over 1/16" but not exceeding 1/2" in width.
  1. Center cover sheet over crack or joints.
    - a. Roll sheet into 1/8" coating of waterproofing.
  2. Apply second coat over sheet extending minimum of 6" beyond sheet edges.

#### **3.2 APPLICATION**

- A. Prepare and apply waterproofing materials in strict compliance with manufacturer's published instruction and Contract Documents, including but not limited to the following:
  1. Cover 1/16" to 1/2" wide cracks with 12" wide cover sheet.
  2. Dry film thickness not less than 32 mils excluding substrate primer and sand aggregate applied at manufacturer's recommended rate.
  3. At horizontal surfaces, apply double aggregate-bearing top courses.
  4. Do not apply waterproofing during inclement weather or when air temperature is below 40°F (4°C).
  5. Do not apply waterproofing to damp, frozen, dirty, dusty or unsuitable deck surfaces.
    - a. Concrete surfaces must be cured for 28 days.
  6. Provide positive ventilation when waterproofing is applied in enclosed areas, to remove toxic fumes.
  7. Comply with membrane installation requirements set forth in Paragraphs 10.4 and 15 of ASTM C1127.
- B. At Vertical Surfaces:
  1. Apply waterproofing materials from floor to 6" on vertical surfaces in a continuous monolithic application.
  2. Comply with requirements for terminal conditions set forth in Paragraph 10.4 of ASTM C1127.
- C. Comply with requirements for drainage of membrane as set forth in Paragraph 11 of ASTM C1127.

#### **3.3 PROTECTION**

- A. Protect the completed waterproofing work as required to maintain the integrity of waterproofing performance.

**3.4 FLOOD TESTING**

- A. Upon completion of waterproofing work, flood testing is required in the presence of Architect [ and Owner's Representative ].
  - 1. Submerge entire membrane area with clean water to a depth necessary to check all seams and perform flood testing for a minimum of 24 consecutive hours.
  - 2. Divide surface into areas as required so as not to exceed load permitted by Structural Engineer.
  - 3. Carefully observe for possible leaks.
    - a. If leaks occur, drain water and repair leaks as recommended by waterproofing manufacturer, then submerge entire membrane area with clean water and continue flood testing for a minimum of 24 consecutive hours from the time each leak is repaired.
  - 4. Waterproofing system must be completely watertight and approved in writing by Architect.

**3.5 SCHEDULE OF LOCATIONS**

- A. Base and floor at Mechanical Rooms, where noted in Finish Schedule.
- B. Where indicated on Drawings.

**END OF SECTION**