

SECTION 07162 – WATERPROOFING SYSTEMS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section includes crystalline waterproofing system for negative-side application to masonry containment walls and associated concrete floor slab.

1.3 SUBMITTALS

- A. Product Data: For each type of product indicated. Include construction details, material descriptions and installation instructions for crystalline waterproofing and moisture vapor reduction system.
- B. Qualification Data: For Applicator.
- C. Product Certificates: For waterproofing, patching, and plugging materials, from manufacturer.
- D. Product Test Reports: Based on evaluation of comprehensive tests performed by manufacturer and witnessed by a qualified testing agency, for crystalline waterproofing.
- E. Field quality-control reports.

1.4 QUALITY ASSURANCE

- A. Applicator Qualifications: A firm experienced in applying crystalline waterproofing similar in material, design, and extent to that indicated for this Project, whose work has resulted in applications with a record of successful in-service performance, and that employs workers trained and approved by manufacturer.
- B. Mockups: Provide mockups to verify selections made under sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution.
 - 1. Build mockup of typical vertical and horizontal surfaces 10 sq. ft. in size.
 - 2. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Architect specifically approves such deviations in writing.

- C. Pre-installation Conference: Conduct conference at Project site with General Contractor, waterproofing subcontractor, Architect and Manufacturer's Representative prior to proceeding with any work.

1.5 PROJECT CONDITIONS

- A. Weather Limitations: Proceed with application only when existing and forecasted weather conditions permit crystalline waterproofing to be performed according to manufacturer's written instructions.
- B. Proceed with waterproofing work only after pipe sleeves, vents, curbs, inserts, drains, and other projections through the substrate to be waterproofed have been completed. Proceed only after substrate defects, including honeycombs, voids, and cracks, have been repaired to provide a sound substrate free of forming materials, including reveal inserts.
- C. Ambient Conditions: Proceed with waterproofing work only if temperature is maintained at **40 deg F (4.4 deg C)** or above during work and cure period, and space is well ventilated and kept free of water.

PART 2 - PRODUCTS

2.1 WATERPROOFING MATERIALS

- A. Crystalline Waterproofing: Prepackaged, grey-colored proprietary blend of portland cement, specially treated sand, and active chemicals that, when mixed with water and applied, penetrates into concrete and concrete unit masonry and reacts chemically with the byproducts of cement hydration in the presence of water to develop crystalline growth within substrate capillaries to produce an impervious, dense, waterproof substrate; that has VOC content complying with limits of authorities having jurisdiction; with properties meeting or exceeding the criteria specified below.
 - 1. Products: Subject to compliance with requirements, provide the following:
 - a. Koster American Corp.; NB-1 Grey

2.2 ACCESSORY MATERIALS

- A. Waterproofing Repair Mortar: Koster American Corp.; Repair Mortar
- B. Waterproofing Bonding Additive: Koster American Corp.; SB Bonding Emulsion
- C. Waterproofing Primer: Koster American Corp.; Polysil TG 500
- D. Sand: ASTM C 144.
- E. Portland Cement: ASTM C 150, Type I.
- F. Water: Potable.

2.3 MIXES

- A. Crystalline Waterproofing: Add prepackaged dry ingredients to water according to manufacturer's written instructions. Mix together with mechanical mixer or by hand to required consistency.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with Applicator present, for suitable conditions where waterproofing is to be applied.
- B. Proceed with application only after unsatisfactory conditions have been corrected.
- C. Notify Architect in writing of active leaks or defects that would affect system performance.

3.2 PREPARATION

- A. Protect other work from damage caused by cleaning, preparation, and application of waterproofing. Provide temporary enclosure as required to confine spraying operation and to ensure adequate ambient temperatures and ventilation conditions for application.
- B. Do not allow waterproofing, patching, and plugging materials to enter reveals or annular spaces intended for resilient sealants or gaskets, such as joint spaces between pipes and pipe sleeves.
- C. Stop active water leaks with plugging compound according to waterproofing manufacturer's written instructions.
- D. Repair damaged or unsatisfactory substrate with patching compound according to manufacturer's written instructions.
 - 1. At holes and cracks in substrate, remove loosened chips and cut reveal with sides perpendicular to surface, not tapered, and approximately 1 inch (25.4 mm) deep. Fill reveal with patching compound flush with surface.
- E. Surface Preparation: Comply with waterproofing manufacturer's written instructions to remove efflorescence, chalk, dust, dirt, mortar spatter, grease, oils, paint, curing compounds, and form-release agents to ensure that waterproofing bonds to surfaces.
 - 1. Clean concrete floor surfaces according to ASTM D 4258.
 - a. Concrete Floor Slabs: Shotblast surface to minimum CSP profile of 4.
 - 2. Clean concrete masonry unit wall surfaces according to ASTM D 4261.
 - a. Concrete Masonry Unit Wall Surfaces: Abrasive blast to remove all contaminants. Clean out all loose particles after blasting.

3.3 APPLICATION

- A. General: Comply with waterproofing and moisture vapor reduction system manufacturer's written instructions for application and curing.
- B. Concrete Masonry Unit Walls and Concrete Floor Slab Waterproofing:
 - 1. Apply primer over entire wall and floor that has been abrasive blasted and cleaned.
 - 2. Apply 3/8" thick parge coat of repair mortar with bonding additive over entire wall and floor.
 - 3. Apply 2 coats of cementitious waterproofing with bonding additive over entire wall and floor.

3.4 FIELD QUALITY CONTROL

- A. Inspection: Engage manufacturer's representative to inspect completed application and provide a written report that application complies with manufacturer's written instructions.

END OF SECTION 07162