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SECTION 07 1616 CRYSTALLINE WATERPROOFING

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Crystalline waterproofing.
- B. Preparation of surfaces to be waterproofed, including plugging active water leaks.

1.02 RELATED REQUIREMENTS

- A. Section 03 3000 - Cast-in-Place Concrete: Concrete work to be waterproofed.
- B. Section 04 2000 - Unit Masonry: Concrete masonry work to be waterproofed.

1.03 REFERENCE STANDARDS

- A. COE CRD-C 48 - Method of Test for Water Permeability of Concrete; 1992.

1.04 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
- B. Product Data: Manufacturer's data sheets on each product to be used, including:
 1. Test data showing hydraulic permeability.
 2. Preparation instructions and recommendations.
 3. Storage and handling requirements and recommendations.
 4. Installation methods.
 5. Details for waterproofing at joints, intersections, and other special conditions.
 6. Precautions for curing and filling water holding structures.
- C. Specimen warranty.

1.05 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacture of products of the type specified <<and providing technical representatives to visit project site; or None - N/A>>.
- B. Installer Qualifications: Acceptable to manufacturer, with documented experience on at least <<5; or ____>> projects of similar nature within the last <<5; or ____>> years.

1.06 DELIVERY, STORAGE, AND HANDLING

- A. Store products in manufacturer's unopened packaging until ready for installation.
- B. Take necessary precautions to keep cementitious materials dry.

1.07 FIELD CONDITIONS

- A. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's absolute limits.

1.08 WARRANTY

- A. See Section 01 7800 - Closeout Submittals, for additional warranty requirements.
- B. Provide installer's warranty agreeing to correct leaking waterproofing for <<2 years; or ____>> from Date of Substantial Completion, unless leakage is caused by structural failure, movement of the structure, or other causes beyond the installer's control.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Crystalline Waterproofing:
 1. Euclid Chemical Company<<; **VANDEX SUPER**; ; **HEY'DI K-11**; ; _____; or None - N/A>>; www.euclidchemical.com.
 2. Gemite Products Inc<<; _____; or None - N/A>>; www.gemite.com.

MASTER TEXT ONLY

3. Koster American Corporation<<; **Koster NB-1 Grey**; ; or None - N/A>>; www.kosterusa.com.
4. Vandex<<; _____; or None - N/A>>; www.vandex-usa.com.
5. W.R. Meadows, Inc.; CEM-KOTE CW PLUS: www.wrmeadows.com/sle.
6. Xypex Chemical Corporation<<; **XYPEX Concentrate**; ; or None - N/A>>; www.xypex.com.
7. _____.
8. Substitutions: <<See Section 01 6000 - Product Requirements; or Not permitted>>.

2.02 APPLICATIONS

- A. Waterproofing for building surfaces:
 1. <<Inside; or Outside>> of elevator pits.
 2. <<Inside; or Outside>> of footings and foundation walls.
 3. <<Inside; or Outside>> of _____.
 4. Between concrete mud slab and finish slab (coating application, not dry sprinkle).
 5. Surfaces indicated on drawings.
- B. Waterproofing for water holding structures:
 1. Inside of swimming pools.
 2. <<Inside; or Outside>> of potable water storage tank(s).
 3. <<Inside; or Outside>> of waste water tank(s) and flumes.
 4. <<Inside; or Outside>> of salt water storage tank(s).
 5. <<Inside; or Outside>> of _____.
 6. Surfaces indicated on drawings.

2.03 MATERIALS

- A. Crystalline Waterproofing: Portland cement and chemical compound that when applied to the surface of concrete forms insoluble crystals in the capillary pores preventing the passage of liquids, while having no adverse effect on the normal properties of concrete.
 1. Hydraulic Permeability: No measurable leakage or water flow at <<200 psi (1.38 MPa); _____ psi (____ MPa)>> pressure when tested in accordance with COE CRD-C 48, using minimum <<2 inch (50 mm); _____ inch (____ mm)>> thick sample and <<20; or _____>> days duration.
 2. Toxicity: Non-toxic.
 - a. NSF-approved for use with potable water.
 - b. USDA-approved for use in food plants.
 3. Color: <<Gray; White; or _____>>.
- B. Plugging Compound: Cementitious compound meeting requirements specified for waterproofing, with additional characteristic of rapid set under water, recommended or approved by waterproofing manufacturer.
- C. Patching Compound: Ready-mixed cementitious mortar recommended or approved by waterproofing manufacturer.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Do not begin installation until substrates have been properly prepared.
- B. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.02 PREPARATION

- A. Clean surfaces thoroughly prior to installation.
- B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions. Use sand blasting, water blasting, or acid etching as recommended.
- C. Plug water leaks.

MASTER TEXT ONLY

- D. Patch holes, construction joints, and cracks. Remove defective concrete.
- E. Obtain approval of manufacturer's field representative before beginning installation.

3.03 INSTALLATION

- A. Install in strict accordance with manufacturer's instructions. Maintain environmental conditions required and recommended by manufacturer. Keep a copy of manufacturer's instructions on site.
- B. Coordinate installation with installation of products that must penetrate waterproofed surfaces.
- C. Prevent excessive drying of surface.
 - 1. Cure waterproofing for at least 3 days, or length of time required by manufacturer, with water spray and adequate air circulation.
 - 2. Do not use chemical curing agents unless explicitly approved by waterproofing manufacturer.
- D. Do not backfill, fill water or liquid holding structures, or apply finish coatings until time period recommended by manufacturer has passed.

3.04 FIELD QUALITY CONTROL

- A. Flood test waterproofing application by filling water holding structures to capacity and allowing to stand for not less than <<24 hours; 2 weeks; or _____>>.
- B. If any leaks appear, notify Architect and drain.
 - 1. Repair leaks at no additional cost to Owner.
 - 2. Repeat flood test until all leakage is eliminated.

3.05 PROTECTION

- A. Protect from damage by weather. Do not cover with impermeable (plastic) sheeting unless air circulation is provided.
- B. Touch-up, repair or replace damaged waterproofing after Date of Substantial Completion.

END OF SECTION