

SECTION 07 16 16 - CRYSTALLINE WATERPROOFING

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Crystalline waterproofing.

1.02 RELATED REQUIREMENTS

- A. Section 03 30 00 - Cast-in-Place Concrete: Concrete to be waterproofed.

1.03 REFERENCE STANDARDS

- A. COE CRD-C 48 - Handbook for Concrete and Cement Standard Test Method for Water Permeability of Concrete; 1992.
- B. NSF 61 - Drinking Water System Components - Health Effects; 2022, with Errata.
- C. UL (DIR) - Online Certifications Directory; current listings at database.ul.com.
- D. NRCA (WM) - The NRCA Waterproofing Manual; 2021.

1.04 SUBMITTALS

- A. See Section 01 30 00 - 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.

1.05 DELIVERY, STORAGE, AND HANDLING

- A. See Section 01 74 19 - Construction Waste Management and Disposal for packaging waste requirements.
- B. Store products in manufacturer's unopened packaging until ready for installation.
- C. Take necessary precautions to keep cementitious materials dry.

1.06 FIELD CONDITIONS

- A. Maintain environmental conditions, such as temperature, humidity, and ventilation within limits recommended by manufacturer for acceptable results; do not install products under environmental conditions outside the manufacturer's indicated limits.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Crystalline Waterproofing:
 - 1. Euclid Chemical Company; VANDEX SUPER: www.euclidchemical.com/#sle.
 - 2. Tremco Commercial Sealants & Waterproofing; PermaQuik Crystalline Waterproofing: www.tremcosealants.com/#sle.
 - 3. W. R. Meadows, Inc; CEM-KOTE CW PLUS: www.wrmeadows.com/#sle.
 - 4. Substitutions: See Section 01 60 00 - Product Requirements.
- B. Liquid Waterproofing Admixture:

2.02 ASSEMBLIES

- A. Crystalline Waterproofing for Concrete Building Surfaces:
 - 1. Interior side of elevator pits.

2.03 MATERIALS

- A. Crystalline Waterproofing: Portland cement, quartz or silica sand, and other active chemicals that when applied to surface of concrete forms insoluble crystals in capillary pores preventing passage of liquids, while having no adverse effect on normal properties of concrete.
 - 1. Water Permeability of Applied Concrete: No measurable leakage or water flow at pressure ranging from 175 psi (1.21 MPa) to 200 psi (1.38 MPa) when tested in accordance with COE CRD-C 48, using at least 2-inch (51 mm) thick sample, and with applied surface preparation and installation in accordance with NRCA (WM).
 - 2. Toxicity: Non-toxic.
 - a. Potable Water and Drinking Water Safe: Provide UL (DIR) listed and labeled waterproofing; tested safe for use in potable drinking water applications in accordance with NSF 61.
- B. Patching Compound: Ready-mixed cementitious mortar approved by waterproofing manufacturer for patching or filling tie holes, reveals, honeycombs, or other damaged cementitious surfaces and compatible with substrate.

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 methods recommended by manufacturer for achieving best result for substrate under project conditions, and consider use of sandblasting, water blasting, or acid etching as recommended.
- C. Plug water leaks.
- 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 accordance with manufacturer's written instructions, maintain environmental conditions required and recommended by manufacturer, and keep a copy of manufacturer's instructions on site.
- B. Coordinate waterproofing installation with installation of products that must penetrate waterproofed surfaces.
- C. Prevent excessive drying of surface.
 - 1. Cure waterproofing for at least three 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 PROTECTION

- A. Protect from damage by weather; do not cover with vapor impermeable sheathing or films unless air circulation is provided.
- B. Touch-up, repair or replace damaged waterproofing after Date of Substantial Completion.

END OF SECTION 07 16 16

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