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April 2004

Product Guide Specification

Specifier Notes: This product guide specification is written according to the Construction Specifications Institute (CSI) 3-Part Format. The section must be carefully reviewed and edited by the Architect or Engineer to meet the requirements of the project and local building code. Coordinate this section with other specification sections and the Drawings. Delete all "Specifier Notes" when editing this section.

SECTION 03051

CONCRETE SEALER

Specifier Notes: This section covers DynaCrete® "PIM+ Permanent Internal Membrane" for use on all portland cement and alkaline substrates, such as concrete, shotcrete, stucco, and mortar. Consult DynaCrete U.S.A. for assistance in editing this section for the specific application.

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Penetrating sealer for concrete surfaces.

1.2 RELATED SECTIONS

Specifier Notes: Edit the following list of related sections as required for the project. List other sections with work directly related to this section.

- A. Section 03300 - Cast-in-Place Concrete.

1.3 REFERENCES

Specifier Notes: List standards referenced in this section, complete with designations and titles. This article does not require compliance with standards, but is merely a listing of those used.

- A. AASHTO T259 - Method of Test for Resistance of Concrete to Chloride Ion Penetration.

- B. ASTM C 1202 - Standard Test Method for Electrical Indication of Concrete's Ability to Resist Chloride Ion Penetration.

1.4 SUBMITTALS

- A. Comply with Section 01330 - Submittal Procedures.
- B. Product Data: Submit manufacturer's product data, including surface preparation and application instructions.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Delivery: Deliver materials to site in manufacturer's original, unopened containers and packaging, with labels clearly identifying product name and manufacturer.
- B. Storage: Store materials in clean, dry area in accordance with manufacturer's instructions. Keep containers sealed until ready for use.
- C. Handling: Protect materials during handling and application to prevent damage or contamination.

1.6 ENVIRONMENTAL REQUIREMENTS

- A. Do not apply concrete sealer if air temperature is expected to be below 32 degrees F (0 degrees C) within 24 hours after application.

PART 2 PRODUCTS

2.1 MANUFACTURER

- A. DynaCrete U.S.A., Inc., PO Box 2625, 639 Eastland Drive, Twin Falls, Idaho 83303. Toll Free (888) 436-9663. Phone (208) 737-9450. Fax (208) 737-9448. Website www.dynacreteusa.com. E-Mail dynacreteusa@cableone.net.

2.2 CONCRETE SEALER

- A. Concrete Sealer: DynaCrete PIM+ Permanent Internal Membrane.
 - 1. Description: Clear, water-based, non-toxic, non-flammable, odorless, water-soluble, penetrating liquid compound.
 - 2. Specific Gravity: 1.094.
 - 3. pH (1 percent solution): 8.96.
 - 4. Volatile Organic Compounds (VOC) Content: 0.
- B. Chloride Ion Penetration Test, AASHTO T259:
 - 1. Concrete samples treated with DynaCrete PIM+ after 24 hours of casting and dry laboratory cured for 28 days before ponding with chloride solution for 90 days:
 - a. Depth 2 to 13 mm: 0.095 chloride ion content percent by mass of concrete.
 - b. Depth 13 to 25 mm: 0.022 chloride ion content percent by mass of concrete.
 - 2. Concrete samples treated with DynaCrete PIM+ after 21 days of dry laboratory curing and then ponding at 28 days with chloride solution:
 - a. Depth 2 to 13 mm: 0.105 chloride ion content percent by mass of concrete.

- b. Depth 13 to 25 mm: 0.025 chloride ion content percent by mass of concrete.
- C. Rapid Chloride Permeability Test, ASTM C 1202:
 - 1. Concrete samples treated with DynaCrete PIM+ after 24 hours of casting and dry laboratory cured for 28 days before ponding with chloride solution: 18.1 percent average drop in Coulombs as compared with control samples.
 - 2. Concrete samples treated with DynaCrete PIM+ after 21 days of dry laboratory curing and then ponding at 28 days with chloride solution: 47.2 percent average drop in Coulombs as compared with control samples.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Examine concrete surfaces to receive concrete sealer. Notify Architect if surfaces are not acceptable. Do not begin surface preparation or application until unacceptable conditions are corrected.

3.2 PROTECTION OF SURROUNDING AREAS

- A. Do not allow concrete sealer to contact non-alkali bearing materials, glass, glazed surfaces, or aluminum, as etching will occur.
- B. Use protective coverings to prevent overspray contact or wind-carried contact with surrounding surfaces.

3.3 SURFACE PREPARATION

- A. Prepare concrete surfaces in accordance with manufacturer's instructions.
- B. Ensure surfaces are free of cracks and defects greater than 0.04 inch (1 mm) in width.
- C. Repair cracks in accordance with manufacturer's instructions.
- D. Ensure surfaces are clean, free of standing water, and sound.
- E. Remove dirt, dust, oil, grease, paint, coatings, sealers, laitance, efflorescence, and other materials that could interfere with performance of concrete sealer.

3.4 APPLICATION

- A. Apply concrete sealer to concrete surfaces in accordance with manufacturer's instructions at locations indicated on the Drawings.
- B. Do not dilute concrete sealer, except in accordance with manufacturer's instructions.
- C. Testing Surfaces: Before application, determine coverage rate and number of coats required for each substrate by testing small inconspicuous areas of surfaces to receive concrete sealer.
- D. Apply concrete sealer to damp surfaces.
- E. Saturate surfaces with concrete sealer. Do not leave puddles.

- F. Flush surfaces with clean water 16 to 24 hours after first application of concrete sealer to remove alkalis and contaminants leaching to surface. Allow surfaces to dry.
- G. Determine if additional applications of concrete sealer are necessary by testing surfaces in accordance with manufacturer's instructions.
- H. Apply additional applications of concrete sealer, if necessary, until flushing with clean water no longer flushes alkali and contaminants to surface.
- I. Allow surfaces to thoroughly dry for a minimum of 24 hours after completion of final application of concrete sealer and testing of surfaces, before application of secondary coatings.
- J. Vertical Formed Surfaces: Apply concrete sealer in accordance with manufacturer's instructions as soon as forms have been stripped and surfaces rubbed, if required.
- K. Do not use concrete sealer to fill or seal cracks.

3.5 PROTECTION OF WORK AFTER APPLICATION

- A. Protect horizontal surfaces from foot traffic until concrete sealer has cured and surfaces appear dry.

END OF SECTION