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SECTION 033000

LIQUID CRYSTALLINE CONCRETE WATERPROOFING ADMIXTURE

**PART 1 - GENERAL**

1.1 SECTION INCLUDES

- A. Furnish all labor, materials, tools and equipment as necessary to perform incorporation of Liquid Crystalline Waterproofing Admixture for concrete mix. Admixture shall be added to the wet concrete mix at the batching plant or to the ready-mix-truck at job site as per manufacturer's instructions.
- B. Related Sections: *(Delete or add necessary Sections)*
  - 1. Section 033000 – Cast-in-Place Concrete.

1.2 REFERENCES

- A. ASTM C 39 - Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens.
- B. ASTM C 293 - Standard Test Method for Flexural Strength of Concrete (using Simple Beam with Center Point Loading).
- C. ACI 308 - Standard for Curing of Concrete.
- D. COE CRD-C 48 - Method of Test for Water Permeability of Concrete; U.S. Army Corps of Engineers.

1.3 SUBMITTALS

- A. General:  
Submit manufacturer's certification that proposed materials, details and systems as indicated and specified fully comply with manufacturer's details and specifications. If any portion of Contract Documents do not conform to manufacturer's standard recommendations, submit notification of portions of design that are at variance with manufacturer's specifications.
- B. Compatibility:  
Submit manufacturer's certification that proposed material is compatible with concrete mix design.
- C. Product Data:  
Submit manufacturer's product data, installation instructions and MSDS for product.

1.4 QUALITY ASSURANCE

- A. Manufacturer Qualifications:
  - 1. Company specializing in manufacturing concrete waterproofing products with minimum 10 years documented experience.
  - 2. Capable of providing field service representation during construction and approving application method.

## 1.5 DELIVERY, STORAGE AND HANDLING

- A. Deliver and store materials in a dry area at minimum 68°F (20°C). Handle and protect from freezing and contamination in accordance with manufacturer's instructions.
- B. Deliver materials in manufacturer's unopened containers, fully identified with brand, type, grade, class and all other qualifying information. Provide Material Safety Data Sheet.

## 1.6 SYSTEM REQUIREMENTS

- A. Provide materials and accessories in timely manner so as not to delay Work.

## 1.7 PRE-INSTALLATION CONFERENCE AND TRIAL MIXES

- A. Convene pre-installation conference at the Contractor's direction prior to commencing work to review methods and sequence of installation. The meeting shall include the Engineer, Contractor and/or Subcontractor, Manufacturer's Representative. Requirement for manufacturer's representative may be waived if Contractor provides sufficient evidence that Producer and Finisher have adequate experience with admixture required.
- B. Trial mixes shall be carried out with proposed mix design to insure that mix meets all requirements set forth in the specification, prior to actual installation of concrete.

## PART 2 - PRODUCTS

### 2.1 MANUFACTURERS

- A. Approved Manufacturers: AQUAFIN, Inc. 505 Blue Ball Rd., #160, Elkton, MD, 21921 Phone (800) 394-1410 or (410) 392-2300, Fax (410) 392-2324; e-mail [info@aquafin.net](mailto:info@aquafin.net).
- B. Requests for substitutions will be considered only if submitted to the architect/engineer in writing 10 days prior to bid date, and must include substantiation of product performance.

### 2.2 MATERIALS

- A. Crystalline Waterproofing Admixture: Liquid waterproofing admixture with the following characteristics:
  - 1. Product: Aquafin<sup>®</sup>-IC ADMIX
  - 2. Aggregate state: Liquid - non flammable - non corrosive
  - 3. Water/cement ratio (w/c): 0.55 maximum of concrete mix
  - 4. Compressive Strength: (ASTM C-39) Up to 25% increase over untreated concrete
  - 5. Flexural Strength: (ASTM C-293) Does not detrimentally alter concrete mix
  - 6. Permeability: (COE CRD-C 48) No measurable leakage through waterproofed concrete, when tested at 460 feet (140 m) water head, or 200 psi (14 bar) water pressure.

## PART 3 - EXECUTION

### 3.1 MANUFACTURER'S INSTRUCTIONS

- A. Assure that concrete mix design and proposed material are in compliance with manufacturer's recommendations.
- B. Assure that test batching and material testing if recommended by manufacturer has been carried out prior to starting concrete work.
- C. Comply with manufacturer's product data and installation instructions.

### 3.2 INSTALLATION

- A. Stir liquid crystalline waterproofing admixture in container provided prior to use, to assure that the mixture is homogeneous.
- B. Assure that the water/cement ratio (w/c) does not exceed 0.55 before liquid crystalline waterproofing admixture is added.
- B. At batching plant, if transportation of concrete mix to place of usage is no longer than 45 minutes:
  - 1. Mix concrete mix in batch mixer and add specified dosage of liquid crystalline waterproofing admixture to the batching water, or add last to the wet mix.
- C. Ready-mix truck at job site:
  - 1. Deliver mix with specified water content.
  - 2. Add specified dosage of liquid crystalline waterproofing admixture.
  - 3. Mix for 3 - 5 minutes.
- D. Install concrete as per project specifications, Division 03 Sections for concrete installation.

END OF SECTION

Project: ..... (06/05)