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CONCRETE WATERPROOFING DESIGN SPEC.

Plug-in Design Specification for New Concrete
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QUESTIONS: 1-800-267-8280 or www.kryton.com



**CONCRETE
WATERPROOFING**

SPECIFICATION

1.0 General

1.1 WORK INCLUDED

1.1.1 Provide a concrete admixture that when added to the plastic mix will permanently waterproof, water reduce and air entrain the hardened concrete by way of chemically promoting the total hydration through a catalyst form of water bearing crystals.

1.1.2 Provide all written materials, concrete mix design and site services necessary to complete the installation as herein specified.

1.1.3 The concrete waterproofing admixture shall be tested in accordance with the general recommendations of the latest proposed drafts of the National Standards of Canada, CAN/CSA A266.1-M (ASTM C494 Type D), water-reducing, set retarding and strength-increasing admixtures for concrete.

1.2 RELATED SECTIONS

1.2.1 Section 00000 - Cast-in-Place Concrete.

1.3 QUALIFICATIONS

1.3.1 Provide KIM (Krystol Internal Membrane) waterproofing admixture as manufactured by Kryton International Inc., 8280 Ross Street, Vancouver, BC, Canada, V5X 4C6. Tel: (604) 324-8280 or approved equivalent.

1.3.2 The addition of KIM to the pre-approved mix design shall be by a concrete ready-mix supplier approved by the manufacturer or by a non-approved ready-mix supplier or contractor under direct supervision of a Kryton Representative or an independent materials engineering company.

1.4 SUBMITTALS

1.4.1 Certificates of Conformance or Compliance: before delivery of the materials a copy of the manufacturer's certificates, attesting that materials meet the requirements specified, shall be submitted to and approved by the contracting officer.

1.4.2 Descriptive Product Literature: Manufacturer's descriptive product literature shall be submitted and shall consist of detail specifications, available performance test data and instructions for additive addition.

1.4.3 Certified Laboratory Test Reports: Before delivery of materials copies of the reports of all tests specified herein or in reference publications shall be submitted to and approved by the contracting officer. Test reports shall be accompanied by certificates from the manufacturer certifying that the previously tested material is of the same type, quality, manufacturer and make as that proposed for this project.

1.4.4 Longevity: Product must have a history of over ten years of successful use and must be accompanied by a list of job sites of a similar nature.

1.4.5 Site Meetings: A site meeting shall be held 2 weeks prior to the placement of any KIM concrete. Attendees shall include the Kryton manufacturer's representative, general contractor, concrete ready mix supplier, placing and finishing contractor and concrete consultant (architect, engineer or building envelope consultant).

1.5 DELIVERY AND STORAGE

1.5.1 Deliver materials in unbroken original packages bearing the manufacturer's name and brand designation, batch number and date of manufacture. Store in a dry storage area to avoid contact with moisture.

2.0 Products

2.1 CONCRETE WATERPROOFING SYSTEM

2.1.1 System Components: The system shall consist of the waterproofing chemical admixture, KIM and the cementitious waterproofing waterstop system for construction joints, KIM WATERSTOP as per Krystol Specification #103, #104, #204A which consists of the cementitious waterproofing compound, KIM WATERSTOP SLURRY and the construction joint waterstop cap material, KIM WATERSTOP GROUT.

2.1.2 Cementitious admixture shall consist of cement, quartz silica and other chemicals, which promote the complete crystal hydration growth of the concrete. The admixture shall be free of oils, stearates, chlorides and sodium based products. Manufacturer must certify, in writing, the absence of these materials.

2.1.3 Waterstop slurry shall consist of a cementitious powder containing high-growth organic producing chemicals with the ability to grow and penetrate to a minimum depth of four inches in both directions from the coated surface.

2.1.4 Grouting mortar for the cold joint or cracks shall be compatible with the cementitious crystal producing chemicals and contain no chlorides or artificial accelerators. Grouting material shall be non-shrink, non-toxic, fast setting (initial 25 minutes) and contain high growth organic chemicals.

3.0 Execution

3.1 GENERAL

3.1.1 Safety precautions shall conform to the manufacturer's MSDS printed literature and the current WCB regulations.

3.1.2 Construction joints (cold joints and slab joints) shall be brush coated with the KIM WATERSTOP SLURRY at a rate of 1 kg per square metre in such a manner as to produce an even film of uniform thickness. Edges, corners and crevices shall receive an adequate thickness of KIM WATERSTOP SLURRY coating.

3.1.3 Construction joint design (Krystol Waterstop System): Construction joints will be treated with a coat of KIM WATERSTOP SLURRY at the specified rate. Krystol Waterstop block out shall be installed using wood spacers to the required size of 45mm x 45mm (tapering to 35 mm). At the time that the forms are removed, the block out strip will be removed and filled with a dry mix of KIM WATERSTOP GROUT.

3.1.4 Control joints: Control joints shall be filled with a dry mix of KIM WATERSTOP GROUT after sufficient concrete shrinkage and cracking has occurred or 28 days.

3.1.5 Admixture: Concrete shall be designed in accordance with the standard recommended practices for selecting proportions for concrete, ACI - 221, KIM shall be added to the pre-approved plastic mix design at a rate of two percent of the cementitious content up to a maximum of 8 kilograms per metre at the ready-mix plant or added at the job site. KIM admixture shall be in addition to the total weight of the cementitious content. KIM shall be mixed for a minimum of ten minutes. KIM shall be strictly added as per manufacturer's written instructions.

end of section