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# CONCRETE WATERPROOFING DESIGN SPEC.

Plug-in Design Specification – New Concrete Joint  
Design  
Page 1 of 2



CONCRETE  
WATERPROOFING

QUESTIONS: 1-800-267-8280 or [www.kryton.com](http://www.kryton.com)

Plug-in Specification  
Section 03152  
OR  
Master Format 2004 Section 031513  
Waterstops  
Cementitious Reactive Waterstop System

SPECIFICATION

## Part 1 General

### 1.1 Work Included

Provide a two component high strength cementitious reactive waterstop system at all non-moving slab to slab or wall to wall construction joints as detailed and described herein.

### 1.2 Related Sections

A. Cast – in – place concrete

### 1.3 References

A. U.S. Army Corps of Engineers C48-92

### 1.4 Submittals

- A. 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.
- B. 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.
- C. 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.
- D. Training: Contractor shall advise manufacturer 2 weeks prior to placement of jointing materials to ensure manufacturer's representative can be available on site for application training.
- E. Shop Drawings: Show construction joint types, layout and location

### 1.5 Delivery, Storage and Handling

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

## Part 2 Products

### 2.1 Manufacturer

- A. Materials specified herein are products of Kryton International Inc., 8280 Ross St., Vancouver, BC, V5X 4C6

### 2.2 Materials

- A. System components include the K-322x Krystol Waterstop Grout and K-321 Krystol Waterstop Treatment.
- B. Krystol Waterstop Grout shall be non-shrink, non-toxic, fast setting (initial 25 minutes) and contain high growth organic chemicals and withstand 1250 vertical feet of head pressure when tested in accordance with USACE C48-92
- C. Krystol Waterstop Treatment 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.

## Part 3 Execution

### 3.1 Examination and Preparation

- A. Concrete surfaces to receive waterstop materials must be clean and free of contaminants or debris. Remove form oils, release agents curing agents or sealers from surfaces to be treated.
- B. Concrete must be sound. Remove loose rock pockets or honeycombing and repair with Krystol Waterstop Grout.
- C. **VERY IMPORTANT:** Surfaces to be treated must be brought to a saturated/surface-dry (SSD) condition. This means that the concrete pores are completely saturated with water but no free water remains at the surface. Pre-soak the surface with water then remove excess water with a towel just before applying the Krystol Waterstop Grout or Treatment.

### 3.2 Installation

- A. Apply KRYSTOL WATERSTOP TREATMENT to contact areas where two pours will meet
  - a. Ensure the area is pre-soaked with clean water to a saturated surface dry (SSD) condition. Leave no standing water.
  - b. Mix KRYSTOL WATERSTOP TREATMENT to a brushable, thick slurry consistency (5 parts powder to 2 parts clean water).
  - c. Apply slurry coat to the intended joint area on the existing concrete with a concrete brush in a circular, scrubbing motion so as to achieve maximum adhesion and penetration.
  - d. Apply KRYSTOL WATERSTOP TREATMENT at a spread rate of 1.0 kg per m<sup>2</sup> (10 lineal feet per kg (2.2 lbs) for a 12" wide slurry).
  - e. Protect the application from damage by rain, excessive wind and freezing.
- B. Form keyways to receive KRYSTOL WATERSTOP GROUT
  - a. Build keyways to intersect joints by attaching a tapered block out material to the forming materials.
  - b. The keyway can be pressed into the horizontal slab at the joint or attached to the vertical form prior to pouring the concrete.
  - c. Keyway form can be made from a dressed 2 by 2 with one side cut off at an angle to leave a piece 1.5" tapering to 1.25" (40mm x 40mm tapering to 30mm).
- C. Prepare keyways to receive KRYSTOL WATERSTOP GROUT
  - a. Remove forms from set concrete. Take special care to remove all the material from the tapered keyway. Ensure that the keyway is prepared by removing all form release agents, debris, surface contaminants and laitance.
  - b. Surfaces to be treated must be pre-soaked with clean water to a saturated surface dry (SSD) condition. Do not leave any standing water.
- D. Pack keyways with KRYSTOL WATERSTOP GROUT
  - a. Mix KIM WATERSTOP GROUT to a dry putty consistency (4 parts powder to 1 part clean water).
  - b. Pack the keyway with the dry putty mix.
  - c. Protect the application from rapidly drying out due to heat, damage by rain, excessive wind and freezing temperatures for 48 hours.

### 3.3 Inspection

- A. The installation shall be inspected in three stages:
  - a. Following the application of the KRYSTOL WATERSTOP TREATMENT, the joint should be inspected to ensure complete coverage of the area where the two pours will meet
  - b. Just prior to installation of the KRYSTOL WATERSTOP GROUT, the keyway should be inspected to ensure all wood, release agents and debris has been removed
  - c. Inspection of the Grout installation can take place anytime after installation