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# KRYSTOL WATERSTOP SYSTEM™

WALL-WALL (EXTERNAL METHOD)

## TECHNICAL BULLETIN #104

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



CONCRETE  
WATERPROOFING

### SCOPE

Technical Bulletin #104 details the procedures to be followed to properly install the **Krytol Waterstop System™** using the External Method of application to concrete construction joints. The Krytol Waterstop System is installed in place of other less reliable joint systems and allows for flexible scheduling and easy inspection.

### WHERE TO USE

Follow these instructions at construction joint locations such as slab-to-slab and wall-to-wall joints. For slab-to-wall intersections, it is recommended that Technical Bulletin 103 be followed. These joint designs are for non-moving joints only. For moving joints, use an engineered expansion joint.

### SAFETY PRECAUTIONS

For professional use only. These products contain cement powder and will become caustic when mixed with water or perspiration. Avoid contact with skin and eyes. Wear protective clothing including goggles, impervious gloves and long sleeves. See the material safety data sheets for these products.

### MATERIALS AND COVERAGE

- Krytol Waterstop Grout™ (EXTERNAL): 6.6 lbs/yard (3.33 kg/m) = 25ft (7.5m) per 55lbs (25kg) pail
- Krytol Waterstop Treatment™: 0.5 lbs/yard (0.25 kg/m) = 330ft (100m) per 55lbs (25kg) pail
- Clean water supply

### TOOLS

- Mixing bucket, drill and paddle
- Natural bristle concrete brush
- Margin trowel
- Watering can and towel

### SURFACE PREPARATION

1. Concrete surfaces to receive waterstop materials must be sound, clean and free of contaminants and debris. Remove any form oils, release agents, sealers or hardeners.
2. VERY IMPORTANT: Surfaces to be treated must be brought to a saturated/surface-dry (SSD) condition. This means that the pores of the concrete 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 Krytol Waterstop Grout or Treatment.

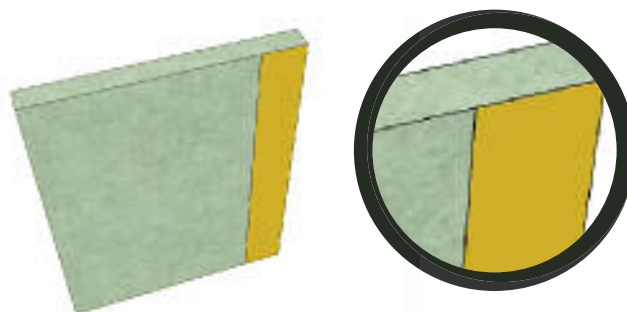
**The Kryton Group of Companies.**

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### STEP 1: APPLY TREATMENT TO CONTACT AREA WHERE TWO POURS WILL MEET

1. Ensure the area is pre-soaked with clean water to a saturated surface dry (SSD) condition. Leave no standing water.
2. Mix TREATMENT to a thick slurry consistency (5 parts powder to 2 parts clean water by volume).
3. Apply TREATMENT coat to the intended joint area of the existing concrete using a concrete brush. Employ a circular, scrubbing motion so as to achieve maximum adhesion and penetration.
4. Apply TREATMENT at a spread rate of 5 square feet per pound (1kg/square meter). Be sure to cover the entire contact area of the joint.
5. Protect the application from damage by rain, rapid drying or freezing for at least 48 hours or until concrete is poured over it.

**FIGURE 1: Apply treatment at construction joints prior to pouring next subsequent concrete pour**



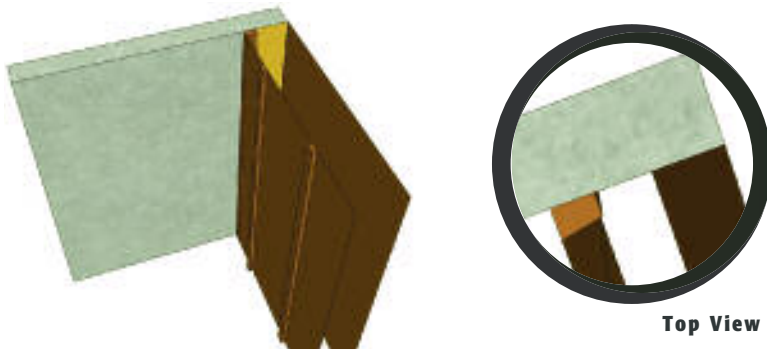
**Krytol Waterstop Treatment**

TECHNICAL BULLETIN

## STEP 2: CREATE A KEYWAY

1. A suitable keyway form can easily be made from a dressed 2 by 2 by trimming one edge off at an angle to leave a narrow edge of about 1.25" (40mm x 40mm tapering to 30mm).
2. Do not use any form release agent on the keyway form.
3. Attach the keyway form to the edge of the concrete form (see diagram).
4. Floor-Floor: the keyway can be pressed into the horizontal concrete at the joint during the placement of the concrete.

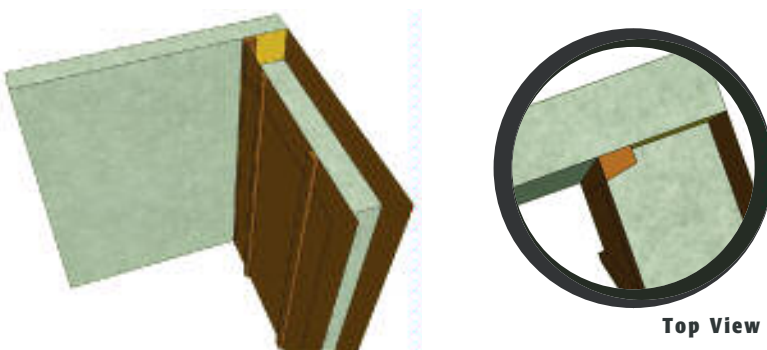
**FIGURE 2: Form Keyways**



## STEP 3: PREPARE THE KEYWAY

1. Remove forms from set concrete. Take special care to ensure there is no wood left in the keyway.
2. Ensure that the keyway is clean. Remove any form release agents, dirt or debris.
3. Surfaces to be treated must be pre-soaked with clean water to a saturated surface-dry (SSD) condition. Do not leave any standing water.

**FIGURE 3: Pour KIM Concrete**

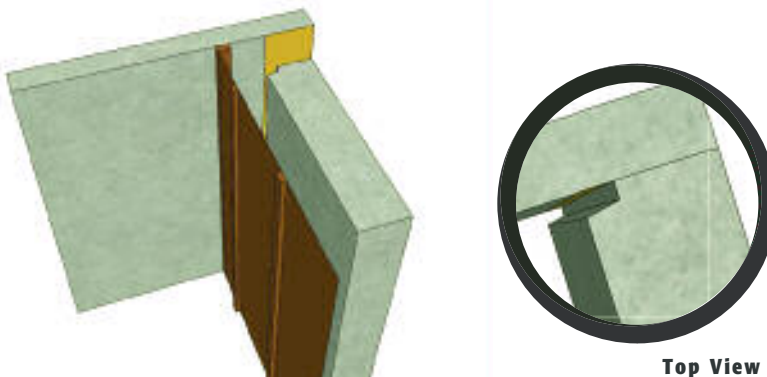


## STEP 4: FILL THE KEYWAY

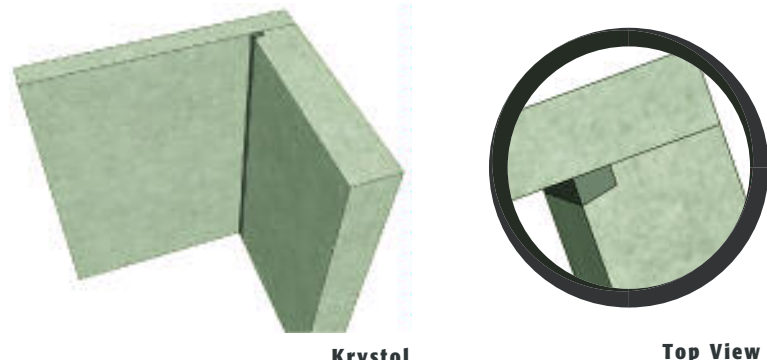
NOTE: It is recommended that filling the keyway be delayed up to 28 days to allow initial concrete shrinkage to take place first.

1. Mix Krystol Waterstop Grout to a stiff putty consistency using the following procedure. Begin by mixing 3 parts powder with 1 part water until smooth. Then add an additional part of powder (for a total of 4 to 1) and continue mixing to obtain a sag free paste. The mixture will appear dry at first, but with vigorous mixing the Krystol chemicals will dissolve and the mix will become smooth and spreadable.
2. Mix only small amounts at a time. Note that material left standing will quickly stiffen, but vigorous mixing will restore flowability. Do not add water to material once it has begun to set. Over-watering may result in shrinkage cracking.
3. Do not apply over standing water. Do not apply to dry concrete. Surface must be SSD.
4. Tightly pack the Krystol Waterstop Grout mix into the keyway.
5. Protect the application from damage by rain, rapid drying or freezing for at least 24 hours.

**FIGURE 4: Remove Forms and Keyway**



**FIGURE 5: Fill Keyway**



**Krystol  
Waterstop  
Grout**

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