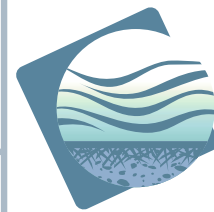




At the Lab. In the Field.
By Your Side.

KRYSTOL WATERSTOP SYSTEM™ (INTERNAL METHOD)



TECHNICAL BULLETIN #103

Page 1 of 2

QUESTIONS: 1-800-267-8280 or www.kryton.com

CONCRETE
WATERPROOFING

SCOPE

Technical Bulletin #103 details the procedures to be followed to properly install the **Krytol Waterstop System™** using the Internal Method of application to concrete construction joints. The Krytol Waterstop System is installed in place of other less reliable joint systems. It can easily be installed by the concrete placers after finishing the slab or by the forming contractor before installing the forms.

WHERE TO USE

Follow these instructions at construction joint locations such as slab to wall intersections. This joint design is 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™ (INTERNAL): 50 feet (15m) per pail
- Krytol Waterstop Treatment™: 330 feet (100m) per pail
- Clean water supply

TOOLS

- Mixing bucket, drill and mortar mixing paddle
- Natural bristle concrete brush
- 2" (50mm) margin trowel
- Triangle shaper tool
- Watering can and towel

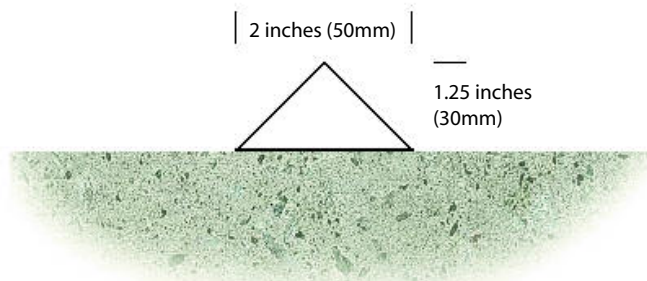
SURFACE PREPARATION

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.

KRYSTOL WATERSTOP GROUT™ INSTALLATION

1. Mix Krytol Waterstop Grout to a stiff putty consistency using the following procedure. Begin by mixing 4 parts powder with 2 parts water until smooth. Then add an additional 3 parts powder (for a total of 7 to 2) and continue mixing to obtain a sag free paste. The mixture will appear dry at first, but with vigorous mixing the Krytol 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. For vertical joints see the next section for instructions specific to vertical joints.
5. Apply the Grout to the center of the joint area in a triangular strip. If reinforcing bars are present, apply the strip as close to the center of the joint as possible ensuring a minimum 2 inches of cover remains between the Grout strip and the edge of the pour.
6. Place the Grout with the 2" margin trowel then use the Kryton triangle shaper or similar tool to form a continuous strip of peaked material. The triangular shaped strip will have straight angled sides and should measure 2 inches across by at least 1.25 inches high (50mm by 30mm) as shown in Figure 1 below.
7. Protect the Grout application from damage, rain, freezing or rapid drying for 12 hours or until it is covered by the Krytol Waterstop Treatment.
8. Apply Krytol Waterstop Treatment anytime after the Grout has hardened (See Treatment application section on next page).

Figure 1. Grout Strip Dimensions:



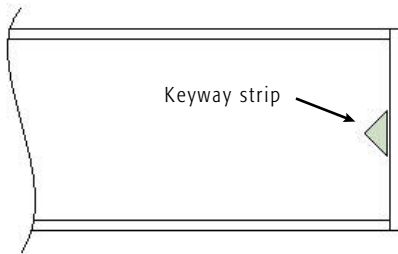
TECHNICAL BULLETIN

VERTICAL JOINT INSTRUCTIONS

Vertical joints work much better if a keyway is pre-formed into the concrete.

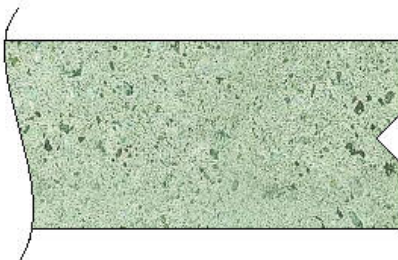
1. Use 2-inch cant strip as a keyway form. Alternatively, make your own cant strip by cutting a standard dressed 2x2 at a 45-degree angle to create two triangular strips.
2. Attach a strip to the inside of the concrete form at the intended joint location. The widest face goes against the form. The strip is placed vertically at or near the center of the wall and must extend fully from top to bottom. (See Figure 2)

Figure 2. Wall Form as seen from above



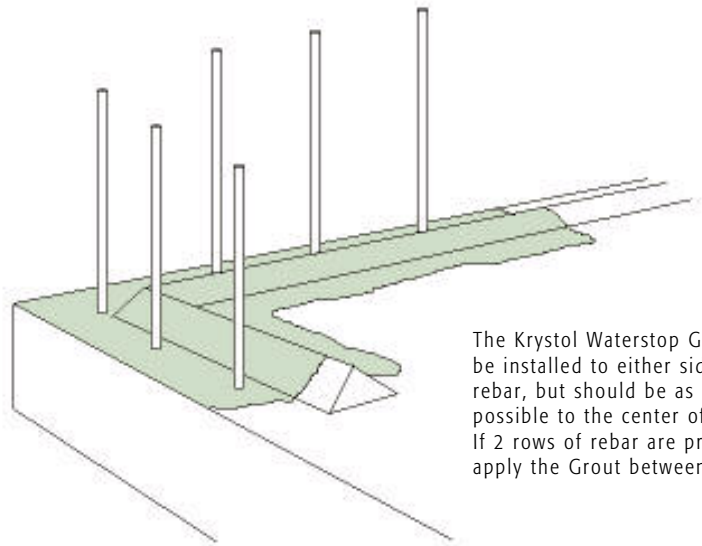
3. Later when the forms are stripped, a triangular keyway will be left behind (Figure 3). Fill this keyway flush to the surface with Krystol Waterstop Grout. Follow the surface preparation and mixing instructions from the previous section.
4. Apply Krystol Waterstop Treatment anytime after the Grout has hardened (See Treatment application section next).

Figure 3. Concrete wall section ready for Grout and Treatment



KRYSTOL WATERSTOP TREATMENT™ APPLICATION

1. Wait until the Grout application has hardened. Do not apply over standing water. Do not apply to dry concrete. Surface must be SSD.
2. Mix Krystol Waterstop Treatment to a thick slurry consistency (5 parts powder to 2 parts clean water by volume).
3. Apply the mixed Treatment to the contact area of the intended joint using a stiff-bristled concrete brush. Employ a circular, scrubbing motion so as to achieve good contact 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. Forms may be closed immediately after inspection. Protect the Treatment application from damage, rain, freezing or direct sunlight for 12 hours or until the concrete is poured over it.
6. Concrete may be poured over the joint anytime after the Treatment has hardened - even several days later.



The Krystol Waterstop Grout may be installed to either side of the rebar, but should be as close as possible to the center of the wall. If 2 rows of rebar are present, apply the Grout between them.

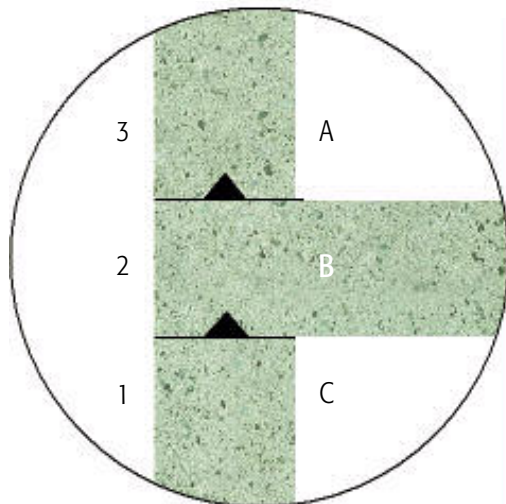


Figure 4.
This is a diagram of two horizontal joints viewed from the side
- concrete sections are placed in sequence 1, 2, 3.
OR
This is a diagram of two vertical joints viewed from above
- concrete sections are placed in sequence A, B, C.