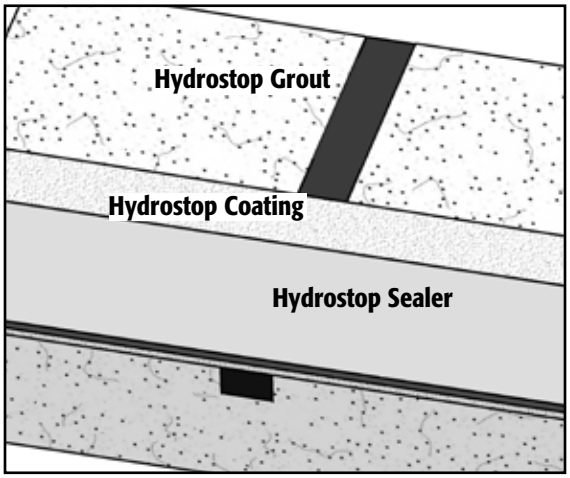
Instructions for Installing the Hydrostop Restore & Protect System™

SCOPE

Application Instruction 450 provides detailed instructions for installing the Hydrostop Restore & Protect System, a Kryton system designed to extend the lifespan of aging concrete infrastructure and buildings. The system is intended for above-grade concrete surfaces (i.e., concrete exposed to minimal hydrostatic pressure) and consists of three products:

1. **Hydrostop™ Grout**: A non-shrink, waterproof grout that contains Krystol® technology and is used to repair surface cracks in the concrete or mortar
2. **Hydrostop™ Coating**: A 2-part polymerized cementitious topping mortar applied as a slurry to the surface of the concrete and is used to provide a strong and durable barrier against water intrusion
3. **Hydrostop™ Sealer**: A clear, water-based sprayable liquid which activates a water repellent effect on the surface of Hydrostop Coating



SAFETY PRECAUTIONS

Cementitious compounds become caustic when mixed with water or perspiration and can cause serious chemical burns. Avoid contact with skin or eyes. Avoid breathing dust. Wear safety goggles, impervious gloves and long sleeves. See the Material Safety Data Sheets for more information.

STEP 1: SURFACE PREPARATION

1. The concrete surface must be clean and structurally sound. Remove any paint or sealer. Remove any grease or oil using an industrial chemical cleaner. Remove all dirt, organic growth and loose material. High pressure water blasting is the preferred cleaning method.

2. Prior to application of Hydrostop Grout or Hydrostop Coating, the surface must be brought to a saturated surface-dry (SSD) condition. An SSD condition is extremely important to your success. The concrete must contain appropriate moisture to allow the Hydrostop Grout or Hydrostop Coating to achieve their required adhesion and strength development. The concrete must be completely saturated with water. However the outer surface must be only slightly damp, so as not to dilute and weaken the bond of the application.

STEP 2: REPAIR DAMAGED AREAS AND CRACKS

1. Fix any defects in the substrate such as honeycombing, cracks, or holes using Hydrostop Grout.

2. Using a sharp 25 mm (1 inch) wide chisel, open all cracks to a minimum depth of 13 mm (½ inch). The resulting chase should be rectangle-shaped and 25 mm wide by 13 mm deep.

TIP: When chiseling, do not place the chisel inside the chase. Instead, place the chisel on the concrete surface above the crack about three-quarter inches ahead of the chase and direct chisel pressure back towards the chase so that the piece being removed falls into the chase. Chisel to the full depth each time. This method is proven to be most productive, requires the least effort and will result in a chase that is the proper rectangle shape.

TOOLS

- Clean water source
- Mixing bucket
- Electric drill with mixing paddle
- Electric chipping hammer with a 25 mm (1") square chisel bit
- Two-inch margin trowel
- Natural bristle concrete brush or broom

PRECAUTIONS

Failure to bring the surface to a proper SSD condition will result in shrinkage of Hydrostop Grout and potential crack formation. It will also produce a weak bond between Hydrostop Coating and the concrete and will result in dusting, flaking and delamination. Use a sprinkler or hose to continuously flood the surface for up to several hours as needed.

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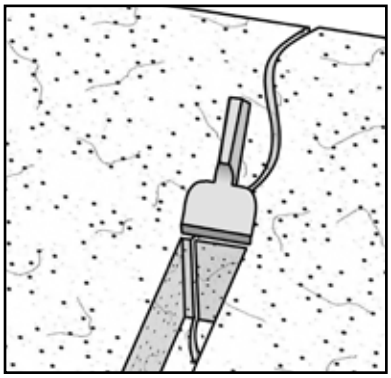
3. Use a vacuum if necessary to remove dust, debris or water. Wash chase with water so that it is clean. Bring the concrete to an SSD condition.

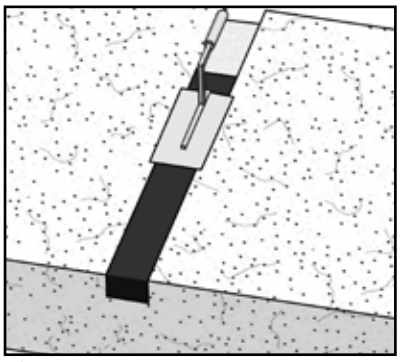
4. Mix Hydrostop Grout with cool, clean water in the ratio of one part water to approximately 4 parts Hydrostop Grout (mix in pea gravel for thicker repair sections). Mix only as much that can be placed in 15 minutes.

5. Fill the chase or defect with Hydrostop Grout and strike off with a trowel. Be sure not to leave any voids.

6. Protect the freshly installed grout from wind and direct sunlight. Cure the repair by keeping it damp for at least 24 hours. Mist the surface with water to maintain moisture levels as needed. Do not apply water to the surface until the grout has reached its initial set (about 2 hours).



Step 2
Chisel and prepare the crack



Step 2
Install Hydrostop Grout

STEP 3: APPLY HYDROSTOP COATING

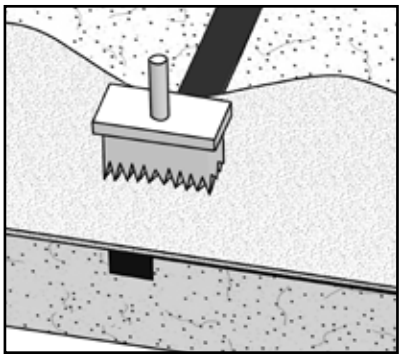
1. Hydrostop Coating comes supplied as a pre-measured kit. Shake Part B (liquid) and pour the entire contents into a suitable mixing container. Slowly add the entire contents of part A (powder) into the mixing bucket containing part B (liquid) while mixing with an electric drill and paddle. Mix thoroughly for several minutes to produce a thick slurry. The slurry will appear to stiffen or gel quickly when left to stand. Further mixing will restore fluidity. Ensure the concrete is in SSD condition and apply Hydrostop Coating to the concrete using a stiff bristle concrete brush or by spreading with a push broom.

2. Apply evenly at the rate of 1-2 kg/m^2 (1.8-3.7 lbs/sq yd) or about 16.5 m^2 (180 sq.ft.) of concrete surface per kit. Exact coverage will vary with the texture of the concrete being coated and the desired surface texture. Finish with either a concrete brush or a trowel, depending on desired surface texture. Do not apply thicker than 3 mm (1/8th inch).

TIP: Make coverage estimation easy by laying out your kits in advance, one every 16.5 m^2 (180 sq.ft.)

5. Note that Hydrostop Coating can be spray-applied using a suitable sprayer designed for mortar or ceiling texture. Follow all surface preparation and mixing instructions above.

6. Cure the application by keeping the coating damp for at least 24 hours. If the surface looks dry and feels set to the touch (typically 4 hours), mist the surface with water to restore moisture lost to evaporation as needed



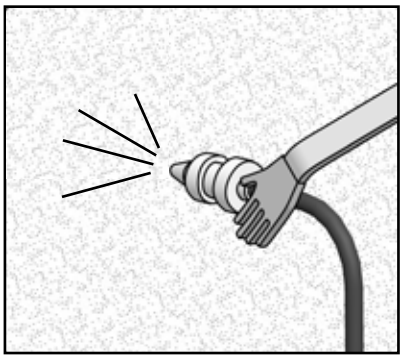
Step 3
Install Hydrostop Coating

TIP: Before leaving at the end of the day, spray the coating with water and then cover the application with tarps or plastic to prevent drying. The following morning, remove the curing protection and let the surface fully dry out before applying Hydrostop Sealer.

STEP 4: APPLY HYDROSTOP SEALER

1. Hydrostop Sealer comes ready to use as a sprayable liquid. No mixing is required. Apply using brush, roller or low pressure spray equipment such as a common garden sprayer.

2. Apply evenly in a single coat at the rate of 7.4 m^2/L (300 sq.ft./gal) or approximately 150 m^2 (1,500 sq.ft.) per pail. Do not allow the sealer to build up or pool on the surface. Use a towel or rag to blot away excess material before it dries – this is particularly important for horizontal surfaces.



Step 4
Install Hydrostop Sealer

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TIP: For spray applications, back rolling with a common paint roller will help ensure even coverage while removing excess sealer from the surface

3. Protect the surface from rain for 24 hours while water repellency develops.

SHELF LIFE

- Hydrostop Grout: a minimum shelf life of 24 months for sealed pails, and 4 months for open and properly re-sealed pails.
- Hydrostop Coating (A): a minimum shelf life of 24 months for sealed pails, and 4 months for open and properly re-sealed pails.
- Hydrostop Coating (B): a shelf life of 6 months for open and properly re-sealed jugs.
- Hydrostop Sealer: a shelf life of 12 months for open and properly re-sealed pails.

COVERAGE

Material	Coverage
Hydrostop Grout 18 kg (40 lbs) pail	= 40 m (130 ft.) of crack repair
Hydrostop Coating 16.5 kg (36 lbs) kit	= 16.5 m^2 (180 sq.ft.) of concrete surface
Hydrostop Sealer 18.9 L (5 gal) pail	= 150 m^2 (1500 sq. ft.) of Hydrostop Coating surface

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