



Krytol[®] Waterstop System

Waterproofing Unintended Cold Joints (Shotcrete)

DESCRIPTION

Follow these instructions to treat unintended cold joints that sometimes occur during Shotcrete work. These joints may develop along lift lines when using a “bench gunning” technique, especially in hot weather or when using highly accelerated shotcrete. They may also occur if there is an equipment breakdown or interruption of the shotcrete supply. These joints cause leaks if not addressed.

NOTE: Use this procedure as a last resort. Monitor shotcrete-hardening times and manage the shooting schedule to prevent unintended cold joints.

Drawings and Specifications:

For section drawings, CAD details and specification language related to this product, visit www.kryton.com/technical-info/ or contact your authorized Kryton representative.

LIMITATIONS

Not for use at expansion joints. The Krytol Waterstop System is effective for rigid structures only and may not reliably seal joints that experience variable loading or repeated movement. Air and surface temperatures at the time of application must be at least 4°C (40°F).

SAFETY PRECAUTIONS

Read and follow the Safety Data Sheets (SDS) for these products (available at www.Kryton.com). For professional use only. These products become highly caustic when mixed with water or perspiration. Avoid contact with skin or eyes. Avoid breathing dust. Wear long sleeves, safety goggles and impervious gloves.

STEP 1: MONITOR SHOTCRETE FOR EARLY HARDENING BETWEEN LIFTS

1. Inspect the shotcrete between lifts to see if it has set hard before shooting the next layer. Test with a suitable object such as a penetrometer, metal thermometer or even a pen.
2. If the test probe can penetrate the shotcrete and displace a portion of the cement paste and large aggregate, then the next layer can be placed provided that the existing shotcrete is firm enough to support the next layer.
3. If the shotcrete has hardened and the test probe cannot penetrate the shotcrete, apply Krytol Waterstop Treatment as described below before shooting the next layer.

STEP 2: SURFACE PREPARATION

1. Shotcrete surfaces must be sound, clean and free anything that may interfere with bonding. Remove rebound, overspray or laitance by an air/water blast.



STEP 3: APPLY KRYSTOL WATERSTOP TREATMENT

1. Bring the concrete to a saturated surface-dry (SSD) condition. This means the concrete is saturated with water, but no free water remains at the surface. Thoroughly soak the surface with water; then remove excess water with a sponge just before applying Krystol Waterstop Treatment.
2. Mix Krystol Waterstop Treatment to a thick but free flowing paste (approximately 3 parts powder to 1 part clean water by volume). The paste will seem very stiff at first, but will become thinner when fully mixed. Mix only as much as you can apply within 30 minutes.
NOTE: After mixing, the material may thicken in the pail. Do not add more water. Remixing will make the material easy to spread again.
3. Use a concrete brush to coat the entire joint. Ensure Treatment fills all surface voids and is at about 1 mm (40 mil) thick. Work around reinforcement; Treatment touching the rebar is not harmful and helps protect against corrosion, but avoid heavy build-up on the bar.

NOTE: If shotcrete work will resume the same day, place the next layer of shotcrete immediately while the Treatment is still plastic. If work will not resume until the next day, protect and cure the Treatment as described below.

IMPORTANT: Protect the joint from rain and rapid drying. Use plastic sheeting to protect from rain, sun and wind until the Treatment has hardened (approx. 2.5 hours at 20°C). Once hardened, protect from freezing and keep damp for 24 hours. Do not use curing compounds.

COVERAGE

Material	Coverage										
Krystol Waterstop Treatment (Applied at 1 kg/m ² (0.2 lb. /sq. ft.))	One 25 kg (55 lb. pail) will cover approximately 25 m ² (270 square feet), Approximate lineal coverage: <table border="1"><thead><tr><th>Joint Width:</th><th>Coverage per Pail</th></tr></thead><tbody><tr><td>150 mm (6 inches)</td><td>164 m (540 feet)</td></tr><tr><td>200 mm (8 inches)</td><td>125 m (405 feet)</td></tr><tr><td>250 mm (10 inches)</td><td>100 m (325 feet)</td></tr><tr><td>300 mm (12 inches)</td><td>82 m (270 feet)</td></tr></tbody></table>	Joint Width:	Coverage per Pail	150 mm (6 inches)	164 m (540 feet)	200 mm (8 inches)	125 m (405 feet)	250 mm (10 inches)	100 m (325 feet)	300 mm (12 inches)	82 m (270 feet)
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TOOLS & MATERIALS

- Clean water supply
- Mixing bucket, drill and mortar paddle
- Natural bristle concrete brush
- Water spray and towel/sponge
- High pressure water blaster