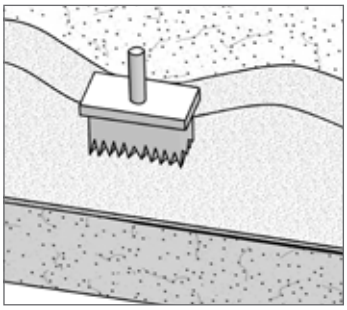
Krystol T1® & T2® Waterproofing System

Waterproofing with Surface-Application (Brush Method)

DESCRIPTION



Krystol T1 and T2 is a surface-applied crystalline waterproofing treatment for concrete structures that is used to protect against the ingress of water. It is a dry powder, that when mixed with water becomes a coating that is applied to the inner or outer sides of a concrete structure. Use these instructions in conjunction with the Krystol® Leak Repair System (Application Instruction 5.12 – Waterproofing Cracks, Holes and Joints.) to create fully tanked, waterproof concrete structures. For spray application, see the additional information in Application Instruction 2.12 – Waterproofing with Surface Application (Spray Method).

LIMITATIONS

The Krystol T1 and T2 Waterproofing System is an effective waterproofing system for rigid concrete structures only and may not be reliable for structures that experience constant or repeated movement. Consult a Kryton representative for project specific recommendations. Air and surface temperature at the time of application must be at least 4°C (40°F).

SAFETY PRECAUTIONS

Read the Safety Data Sheets (SDS) for these products. For professional use only. These products become extremely 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: SURFACE PREPARATION

1. Repair all defects, including cracks and honeycombs, before applying Krystol T1 and T2 using the following procedures:
   a. Cracks and joints: Application Instruction 5.12 — Waterproofing Cracks, Holes & Joints
   b. Pipe penetrations: Application Instruction 5.32 — Waterproofing Pipe Penetrations (Existing Construction).

IMPORTANT: All leaking defects must be repaired. However, even defects not currently leaking may leak in the future if not repaired before applying the surface coating. In most cases, all defects should be repaired whether they are currently leaking or not. Consult your Kryton representative for project specific recommendations.

2. Concrete surfaces must be clean and free of paint, sealers, form release agents, dirt, laitance or any other contaminates. Prepare the surface by sandblasting, high pressure water blasting (minimum 3,000 psi), scarifying, shot blasting or other method of mechanical surface preparation to remove loose concrete and surface contaminates. Concrete with some exposed aggregate is ideal. Wash and rinse the surface with a detergent or concrete degreaser if needed.
3. Even for uncontaminated surfaces, mechanical surface preparation will assist by opening up pores closed due to smooth trowelled surfaces, formwork etc. The freshly roughened surface will provide maximum adhesion and better penetration of the waterproofing chemicals.

Tip: Acid etching is not recommended. If acid etching must be used, all traces of acid must neutralized and rinsed away before applying the Krystol T1 and T2.

4. Surfaces to receive Krystol T1 and T2 must be brought to a saturated-surface-dry (SSD) condition. The concrete must be completely saturated with water to allow the Krystol chemicals to penetrate deeply and react. The outer surface, however, must be only slightly damp, so as not to dilute and weaken the bond. Thoroughly pre-soak the surface with water; then remove excess water with a sponge or vacuum just before applying Krystol T1.

Tip: High pressure water blasting is effective at cleaning and saturating the concrete in one step.

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STEP 2: APPLY KRYSTOL T1 (1ST COAT)

IMPORTANT: Ensure that Krystol T1 and T2 is only applied to a damp (SSD) surface. As you apply the Krystol T1 and T2 coatings, you may need to rewet the concrete ahead of you to maintain a damp (SSD) surface. Failure to bring the surface to an SSD condition will result in a weak bond between the Krystol coating and the concrete, and may lead to dusting, flaking and delamination of the Krystol treatment.

1. Mix Krystol T1 to a thick paste; approximately 3 parts powder to 1 part clean water. Mix only as much as can be placed in 30 minutes.
2. Ensure the surface is damp (SSD).
3. With a concrete brush, use an aggressive, circular scrubbing motion to apply the Krystol T1 coating over the concrete. Push the coating into any voids in the concrete surface to ensure a good bond. Apply at 0.8 kg/m^2 (1.5 lb./sq. yd.).

TIP: Make coverage estimation easy by laying pails of Krystol T1 in advance, one every 31 m^2 or 330 sq ft.

4. Cure and protect, as in Step 4 below.

STEP 3: APPLY KRYSTOL T2 (2ND COAT)

TIP: To ensure complete coverage with no missed or thin spots, we recommend that you always apply two coats. While it is permissible to use Krystol T1 for both coats, using Krystol T2 for the second coat will give a harder, more durable finish. Note that in certain cases it may be acceptable to use a single coat of Krystol T1 and eliminate the second coat. Consult your Kryton representative for project specific recommendations.

1. The second coat can be applied as soon as the Krystol T1 has set hard (usually 6-24 hours depending on conditions). Wash and rinse the hardened Krystol T1 to remove surface bloom before applying Krystol T2. Some exposed aggregate in the Krystol T1 coating is ideal.
2. Ensure the hardened Krystol T1surface is damp (SSD).
3. Install Krystol T2 by following the same procedure used to install Krystol T1.

STEP 4: CURING & PROTECTION

IMPORTANT: Krystol T1 and Krystol T2 must be kept damp and “wet cured” for at least 3 days to develop its full properties. Curing for several days or even weeks will be beneficial in most cases. Do not apply curing water if the coating is still soft to the touch; this will wash out the coating and produce poor results. Instead, use protective surface coverings to retain moisture during the initial hardening period.

1. Cover the freshly applied Krystol coating with tarps or plastic to prevent water loss due to evaporation. Wet curing should begin as soon as the Krystol coating has hardened enough not to be damaged by the application of curing water, usually 6-24 hours depending on conditions. Wet curing should also begin if the coating starts to dry out.
2. Do not allow water to pool on the surface during the first 24 hours or until the coating is hard. Once the coating has hardened, mist the surface with water as needed to keep the repair damp for 3 days. Curing water should be applied at least three times each day for three days. More frequent application may be needed in hot, dry weather.
3. Keep protective coverings in place during the curing period to retain moisture. As the coating gains strength, thoroughly soak the surface to keep the coating fully saturated
4. Protect the repair from frost, rain and traffic for at least 24 hours. Heavy traffic must be avoided during the curing period.

IMPORTANT: Krystol T1 and T2 may develop a surface bloom that may inhibit adhesion of following coats. Take care to clean and prepare the surface adequately. It strongly recommended to perform a test patch.

NOTES

- Roughen Krystol T1 and Krystol T2 coating to remove loose surface particles before applying any further coating or finish. Finishes containing Portland cement may be applied over Krystol T1 and T2 following the curing period. If paints and coatings are used, they must be suitable for use on new concrete. Apply paints and coatings according to the manufacturer’s instructions. Test coatings or other finishes for compatibility before completing the work.
- Each coat will be approximately 1 mm - 1.5 mm thick, and a two coat application will be 2 - 3 mm thick. Very rough surfaces may require more material.
- Wait at least 7 days before filling treated tanks and reservoirs. For reservoirs that will contain drinking water, cure longer if possible, and then rinse with fresh water several times. Initially, the drinking water may need pH adjustment using citric acid or similar water treatment chemicals.

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COVERAGE

Material	Coverage
Krystol T1 (1st Coat)	0.8 kg/m^2 (1.5 lb. /sq. yd.) =31 m^2 per 25 kg pail (330 sq. ft. per 55 lb. pail)
Krystol T2 (2nd Coat)	0.8 kg/m^2 (1.5 lb. /sq. yd.) =31 m^2 per 25 kg pail (330 sq. ft. per 55 lb. pail)

TOOLS & MATERIALS

- Krystol T1
- Krystol T2
- Clean water source
- Mixing bucket, drill and paddle
- Natural bristle concrete brush
- High pressure water blaster