

# Krystol T1® Concrete Waterproofing

## DESCRIPTION

Krystol T1 is a surface applied crystalline slurry treatment that transforms new or existing concrete into a permanent waterproof barrier.

Krystol T1 lowers the permeability of the concrete to protect against the ingress of water and waterborne chemicals. Since it becomes integral to the concrete, it can be applied to either the positive (wet) or negative (dry) side of the water pressure which allows reliable hydrostatic waterproofing protection and remediation for even the most difficult applications.

### Drawings and Specifications:

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

## LIMITATIONS

The Krystol T1 Concrete Waterproofing is an effective waterproofing system for rigid concrete structures only and may not be reliable for structures with unstable, moving cracks or joints. 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

Read the Safety Data Sheets (SDS) for this product. For professional use only. This product becomes caustic when mixed with water or perspiration. Avoid contact with skin or eyes. Avoid breathing dust. Wear long sleeves, safety goggles, impervious gloves and appropriate dust mask.

## STEP 1: SURFACE PREPARATION

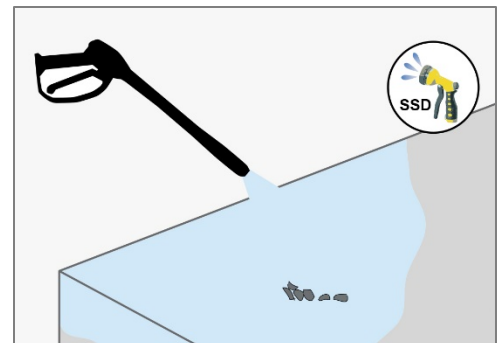
1. Stop all leaks and repair all concrete defects such as cracks, faulty construction joints, pipe penetrations and honeycombing using the following repair procedures:
  - a. Repair Application Instruction 5.12 - Waterproofing Cracks, Holes & Joints
  - b. Repair Application Instruction 5.21 - Patching and Parging Defective Concrete and Masonry
  - c. Repair Application Instruction 5.32 - Waterproofing Pipe Penetrations

Prepare the surface by high pressure water blasting (minimum 3,000 psi), scarifying, shot blasting or sandblasting. Concrete surfaces must be clean and free of paint, sealers, form release agents, dirt, laitance or any other contaminants. The concrete must be open-pore and absorptive such that water placed on the surface will soak in.

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

2. Surfaces to receive Krystol T1 must be brought to a saturated-surface-dry (SSD) condition. The concrete must be completely saturated with water, but all surface water must be removed before applying Krystol T1. Thoroughly 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.



# APPLICATION INSTRUCTION

## Surface-Applied Concrete Waterproofing

# 2.11



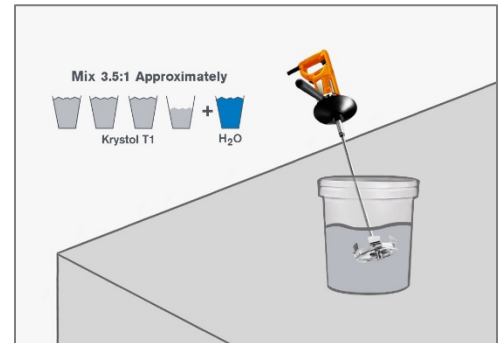
### STEP 2: MIXING

Krystol T1 can be applied by a concrete brush, broom, texture sprayer or a grout pump/sprayer in either one or two coats. Mix ratios may slightly vary dependent on application method.

Start by mixing approximately 3.5 parts of powder with 1 part clean water by volume and mix until smooth. Adjust as needed based on ambient temperatures to produce a thick, low-sag but spreadable coating. Krystol T1 will thicken in the pail when at rest. Stir as needed to maintain workability (do not add more water). Do not mix more material than can be applied in 20 minutes.

**IMPORTANT:** Use only as much water as needed to allow you to spray or brush the product evenly. Using too much water will result in low build thickness and make the product weak.

**TIP:** Krystol T1 will compact in the pail during shipping. Roll the sealed pail on its side to loosen the powder before opening the lid.



### STEP 3: APPLICATION

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

1. Brush or spray Krystol T1 evenly over the concrete at a rate of 1.2 – 1.6 kg/m<sup>2</sup> (2.2 – 3 lb/yd<sup>2</sup>) which can be applied in one or two coats.

#### **APPROXIMATE COVERAGE PER 25 KG (55 LB) PAIL**

One coat application			Two coat application (per coat)			
1.2 kg/m <sup>2</sup> (2.2 lb/yd <sup>2</sup> )	=	20 m <sup>2</sup> (225 ft <sup>2</sup> )	=	0.6 kg/m <sup>2</sup> (1.1 lb/yd <sup>2</sup> )	=	N/A
1.3 kg/m <sup>2</sup> (2.4 lb/yd <sup>2</sup> )	=	19 m <sup>2</sup> (210 ft <sup>2</sup> )	=	0.65 kg/m <sup>2</sup> (1.2 lb/yd <sup>2</sup> )	=	N/A
1.5 kg/m <sup>2</sup> (2.8 lb/yd <sup>2</sup> )	=	N/A	=	0.75kg/m <sup>2</sup> (1.4 lb/yd <sup>2</sup> )	=	34 m <sup>2</sup> (360 ft <sup>2</sup> )
1.6 kg/m <sup>2</sup> (3 lb/yd <sup>2</sup> )	=	N/A	=	0.8 kg/m <sup>2</sup> (1.5 lb/yd <sup>2</sup> )	=	32 m <sup>2</sup> (330 ft <sup>2</sup> )

**IMPORTANT:** Set pails out over the work area in advance to help determine and track coverage.

2. With a concrete brush, scrub and brush the coating to low spots and ensure a good bond.
3. Finish with a lighter pressure to level high spots to ensure a uniform build with no thin spots.
4. If using two coats it is preferable to apply the second coat within 48 hours after the first coat has set hard (usually 6-24 hours depending on temperature). Wash and rinse the hardened Krystol T1 to remove surface bloom before applying the second coat. This may expose some of the aggregate in the first coat. Ensure the hardened Krystol T1 is in an SSD condition.



**NOTE:** For a smoother, stucco like finish, allow the applied product to set for 5-10 minutes, then smooth the surface with one or two light passes with a trowel.

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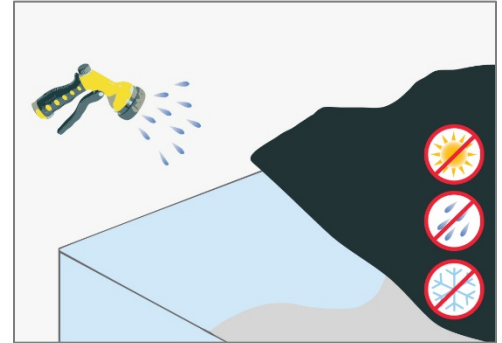


### STEP 4: WATER CURE & PROTECT

Protect the freshly applied Krystol coating with tarps or plastic to prevent water loss due to evaporation while it hardens. Wet curing should begin as soon as the Krystol coating has hardened and will not be damaged by the curing water, usually 6-24 hours depending on temperature. Keep protective coverings in place during the curing period to retain moisture. Apply more curing water if the coating dries out during the curing period. Backfilling may be done after the coating has set hard. If backfilling within 3 days, use damp backfill material.

Wet cure for a minimum of 3 days, after Krystol T1 has hardened, before water testing 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.

**IMPORTANT:** Freshly applied Krystol T1 must be protected from early drying, rain, frost and traffic. Once hardened it must be kept damp and wet cured for at least 3 days to develop its full properties. Longer curing periods are beneficial.



### APPLICATION OF PAINTS, COATINGS, GROUTS AND MORTARS OVER KRYSTOL T1

Krystol T1 may develop a surface bloom that may inhibit adhesion of some coatings and finishes. Take care to clean and prepare the surface adequately. Wash and rinse the hardened Krystol T1 to remove surface bloom before applying paints or cementitious products. Roughen Krystol T1 coating to remove loose surface particles.

Paints and coatings must be suitable for use on (new) concrete. Always apply according to the paint manufacturer's instructions, including any recommended primers.

Cementitious products, such as grouts, mortars and plasters can be applied within 48 hours after the Krystol T1 has set hard (6-24 hours depending on conditions) and has developed enough bond strength to support these products. If installing after this time frame use a polymer bonding agent.

**IMPORTANT:** Always apply a test patch to determine compatibility.