



Spray Application of Krystol T1/T2® Surface Treatment

SCOPE

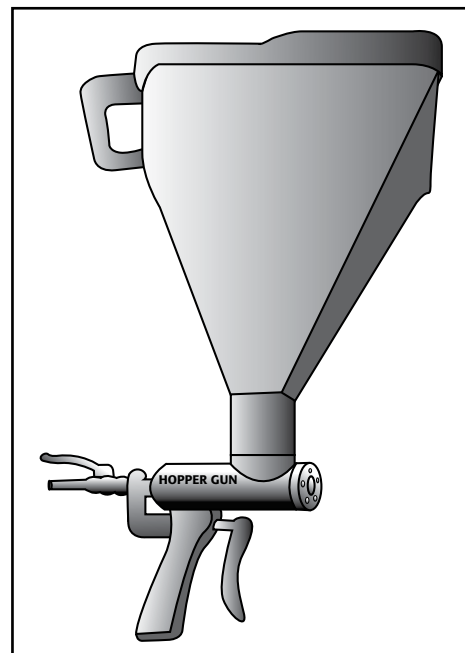
Application Instruction 402 provides detailed instructions about the equipment and procedures needed to successfully install the Krystol T1/T2 surface treatment using the spray application.

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 Sheet for more information.

EQUIPMENT

- All equipment must be suitable for pumping and spraying abrasive materials containing cement and fine aggregate. Spray equipment intended for smooth textured materials such as house paint are not adequate.
- For small jobs it is sufficient to use a spray nozzle attached directly to a gravity fed hopper and a source of compressed air. A gun and hopper typically used to install ceiling texture works well, such as the Diana Gun and Hopper manufactured by Goldblatt (www.goldblatttool.com). For larger jobs, greater application rates can be achieved using a mechanical pump and a larger hopper.
- **Pump:** Pump configuration will vary by manufacturer. Pumps that operate by piston, rotar/stator, or peristaltic principles are suitable. The following equipment suppliers are provided for reference:
 - Hy-Flex Corp <http://www.hyflexcorp.com>
 - Quikspray Inc. <http://www.quikspray.com>
 - Spray Forc <http://www.sprayforce.com>
- **Air Source:** Minimum recommended spray pressure is 30 psi, although a pressure of 75 psi or greater at the nozzle can be desirable. Air capacity will vary according to pump specifications; consult nozzle manufacturer for required output.
- **Hoses and Nozzle:** A 25 mm (1") material line is recommended. Spray nozzle should have a minimum diameter of 6 mm (1/4").



Equipment: Texture Gun and Hopper

STEP 1: SURFACE PREPARATION

Follow the instructions in Application Instruction 401:

1. Repair all existing defects, including cracks and honeycombs, following the procedures in Application Instructions 301 and 302.
2. The concrete surface must be clean and free of dirt, oil, or loose debris.
3. Pressure wash the surface to saturate the pores with water, and remove any remaining surface water to achieve a saturated surface dry (SSD) condition.

STEP 2: MIXING

1. Mix Krystol T1 or T2 powder to a thick slurry consistency – approximately 3 parts powder to 1 part clean water by volume.
2. Adjust the mix ratio if needed to achieve a slurry that can be pumped and sprayed efficiently without segregating in the hopper or sagging on vertical surfaces. If too much water is added, you may experience segregating and settling of the product and possibly caking in your equipment.
3. Only mix as much material as can be placed in 20 minutes. Once fully mixed, do not add additional water during spraying operations.
4. Mixed material left standing will quickly stiffen, but resumed mixing will restore flowability. Continuously stirring the product is recommended if possible.



STEP 3: APPLY FIRST COAT

1. Spray the Krystol T1 slurry in a uniform layer at a coverage rate of 0.8 kg/m² (1.5 lbs/yd²).
2. Keep the nozzle at 90° to the receiving surface, and apply the slurry using small, circular motions.
3. The ideal spraying distance from the wall is generally 30-100 cm (1-3 ft.), although this distance will vary depending on equipment.
4. Nozzle pressures of 30-75 psi are generally sufficient.
5. Ensure that the sprayed surface retains a rough texture if a second coat of material is required (see section on back brushing)
6. Do not spray in windy conditions: wind will disrupt the material stream and promote rapid drying of the applied material.

STEP 4: BACK BRUSHING

1. An ideal spray application will project material with sufficient force to compact the slurry onto the concrete surface, resulting in good adhesion. If compaction is too low, back brushing with a stiff bristle concrete brush will be required to ensure adequate contact with the concrete surface.
2. Back brushing may also be required if the first coat has a smooth textured surface which will not provide enough "tooth" for the second coat.
3. Always back brush applications on rough or uneven surfaces, or any application that does not appear uniform and well compacted after spraying.

STEP 5: APPLY SECOND COAT

1. The second coat should be applied after the first coat has hardened sufficiently not to be damaged during application, but within 48 hours. Typical recoat times are 6-24 hours.
2. Dampen surface thoroughly to achieve a saturated surface dry condition.
3. Apply the second coat (normally Krystol T2) following the instructions in step 3. Back brushing of the second coat is generally not needed unless a specific surface profile is desired.

Note that in certain cases it may be acceptable to complete the Krystol application in a single coat and eliminate the requirement for a second coat. Specific conditions apply and each project is evaluated on a case-by-case basis. Consult your Kryton representative.

CURING

- Krystol growth and migration only occurs in the presence of water. For this reason Krystol T1/T2 must be "wet (moist) cured" for at least 3 days (continued curing for several days or even weeks will be beneficial in most cases).
- During the curing period, treatment area must be protected from frost, rain and traffic at least 24 hours.
- Heavy traffic must be avoided during the curing period.
- Wait at least 7 days before filling treated tanks and reservoirs. For reservoirs that will contain drinking water, cure longer if possible then rinse with fresh water several times. Initially, the drinking water may need pH adjustment using citric acid or similar water treatment chemicals.
- Finishes containing Portland cement may be applied over KRYSTOL T1 & T2 following the curing period but other paint and coating finishes should not be applied before 28 days (follow coating manufacturer's instructions).