

Cementitious crystalline waterproof coating for concrete

Product Description

TAL CRYSTALCOAT is a one component, crystalline cementitious material that penetrates new and old concrete to resist hydrostatic pressure.

Composition

TAL CRYSTALCOAT consist of active, non soluble, non toxic, waterproof chemicals contained in a cementitious carrier that crystallizes in the presence of water and free lime in the concrete.

Advantages

- Penetrates concrete, seals capillaries and hairline cracks
- Withstands positive and negative hydrostatic pressure
- Suitable for use with potable water
- Easy to apply
- Can be used on damp concrete
- Crystals continue to grow until cracks are sealed
- Chloride free
- Allows concrete to breath
- No odor

Uses

- Concrete and block substrates
- Above or below ground structures
- Potable water tanks
- Wastewater structures
- Basements
- Elevator pits
- Tunnels
- Interior and exterior waterproofing

Specification Compliance

BS 6920
NSF/ANSI 61

Laboratory Test Data

Property	Typical Results
Permeability CRD-C48-92	No leakage up to 460 feet (140m) head
Initial surface absorption (BS 1881)	Nil at 30 min
Permeability (BS EN 12390)	Nil at 50m head

Application Properties

Pot life:	30 minutes at 24°C
Setting time:	45 minutes at 24°C

Volatile Organic Content

VOC = 0 g/L

Color

Grey and white.

Coverage

0.75kg per m² per coat.

Packaging

25kg bags.

Shelf Life

12 months when stored between 5°C - 35°C under shade in a dry environment.

Installation Guidelines

TAL provides detailed method statements on all its products for use in various applications. These must be referred to prior to starting work. The information below is a summary intended for guidance only.

Surface Preparation

The substrate must be structurally sound. Loose or unsound concrete should be removed and made good. Surfaces must be entirely free of oil, grease, paint, corrosion deposits, dust, laitance or other surface deposits. The surface should be prepared by light grit blasting, high pressure water blasting or acid etching (15% muriatic acid) to produce a lightly exposed aggregate surface. If acid etching must be used, follow recommendations and procedures in ASTM D4260 and ASTM D4262. Surfaces must be damp prior to the application of TAL CRYSTALCOAT.

Rout out construction joints, cold joint edges and non leaking cracks greater than 0.4mm wide to a minimum 25 by 25mm in sound concrete. Routing should create a "U" shape. Saturate routed area with water and make good with a repair mortar such as TAL CRYSTALPATCH, TAL STRONGPATCH or TAL ULTRAPATCH. Rout leaking cracks to 25mm wide by 35 to 50mm deep in sound concrete. Saturate routed area with water and stop water by using TAL WaterPlug. Then make good with TAL CRYSTALPATCH, TAL STRONGPATCH or TAL ULTRAPATCH.

Mixing

Use 7.0 to 7.5 liters of water per bag. Mix only as much material as can be used in 30 minutes. TAL CRYSTALCOAT should be mechanically mixed with clean cool water to a consistency of thick oil paint completely free of lumps. Separate containers (equal volume) should be used for measuring the powder and water. If "false setting" occurs after mixing do not add water, just stir again to restore workability.

Application

Slurry Coat

TAL CRYSTALCOAT may be applied as a slurry coat using a brush (synthetic bristle), broom or plaster spray at a rate of 0.75kg/m² per coat. Work slurry well into openings, rough surfaces, joints and routed out areas. Apply second coat (when required) after first coat has reached initial set, usually within 1 hour. If the first coat has dried out, moisten surface before applying second coat.

Dry Shake

TAL CRYSTALCOAT can be applied as a dry shake direct from the bag on freshly poured concrete. Wearing rubber gloves, distribute the powder evenly by hand over freshly poured concrete at 1.2 to 1.5kg/m² before the final floating operation. Two applications are recommended to obtain stated physical properties. Distribute the powder at one-half at a right angle to the first application. Spread as close to the surface as possible to prevent material from blowing away. For large areas, a rotary type spreader may be used. Float slab and trowel to final finish.

Curing

TAL CRYSTALCOAT must remain moist to allow the crystals to form. All TAL CRYSTALCOAT applications must be kept moist for a minimum of 48 hours. After initial setting, moist cure TAL CRYSTALCOAT using water spray. Fog spray the treated surface 3 to 4 times daily for a minimum of 48 hours (up to 14 days will give the best performance). In warmer climates, more frequent spraying may be required. Protect freshly applied TAL CRYSTALCOAT from extreme weather conditions, such as rain, strong winds, high temperatures and freezing for a period of not less than 48 hours after application.

Clean Up

Before setting, TAL CRYSTALCOAT may be cleaned from tools and other surfaces with water. Cured material must be removed mechanically.

Limitations

Add only clean potable water to TAL CRYSTALCOAT. Topcoats cannot be applied over TAL CRYSTALCOAT. Do not apply at temperatures below 4°C. Full activation and effectiveness may take 2 to 3 weeks after application. Protect surfaces from foot traffic for 48 hours or heavy traffic for 7 days.

