



## STERLING TechnoSeal® CrystalCoat IC

Surface Applied Crystalline Waterproofing Slurry System  
 For Concrete Watertight Structure For Both Positive And Negative Side

### Description:

TechnoSeal® CrystalCoat IC is a surface-applied integral crystalline waterproofing material which waterproofs and protects concrete in-depth. When applied to the surface of concrete or mortar insoluble crystals are formed and developed in the water bearing capillaries, effectively blocking the passage of water and ensuring permanent water tightness throughout the life of the structure. In the presence of moisture, the active chemicals in TechnoSeal® CrystalCoat IC penetrates concrete & react chemically with free lime to produce water-insoluble nano-crystals.

The formation and development of insoluble crystals into water bearing capillaries & interstices effectively blocks further passage of water. TechnoSeal® CrystalCoat IC in the presence of water continues producing crystals and lasting imperviousness to water.

### Application:

- Concrete foundations, walls & slabs on grade.
- Marine structures.
- Elevator pits & equipment pits.
- Parking structures.
- Swimming pools & water features.
- Water towers, reservoirs & storage tanks.
- Tunnels, pipes & underground vaults.
- Water treatment reservoirs.
- Bridge decks, elevated slabs & ramps.
- And protecting against water ingress in: Basements, Tunnels, Foundations, Retaining walls, Lift shafts, Construction joints, Bridge decks & Jetties

### Features:

- Provides excellent waterproofing properties by becoming an integral part of the structure to which it is applied. Active ingredients will not delaminate, peel off or wear away.
- Protects concrete & reinforcement against corrosive waterborne substances & does not require protection during backfilling, placement of steel or wire mesh, and other common procedures.
- Crystalline action reactivated by contact with water providing long-term additional protection.
- Effective against both positive and negative water pressure.
- Non-toxic or tainting, Seals hairline and shrinkage cracks of up to 1/64" (0.4 mm) rather than merely masking or bridging them.
- Easy to apply, labor-cost effective.
- Penetrates deeply and seals concrete's capillary tracts and shrinkage cracks

### Typical Properties at 25°C:

Appearance	Cement grey powder
Density	1.2 kg/L
pH (when mixed with water)	13
Permeability	No measurable leakage up to 460 feet (140 m) head pressure or 200 psi (14 bar), positive or negative water pressure side
Powder: Water mixing ratio by weight	23%
Powder: water mixing ratio by volume	28%
VOC	0 g/L
Compressive Strength (ASTM C109 Modified)	28 days > 55 MPa
Pot Life	30 minutes, of mixed material 25°C.
Coverage	1.0 to 1.2 Kg/m <sup>2</sup>
Modulus of Rupture OR Flexural strength (ASTM C348)	28 days >6 MPa
All data are average values obtained under laboratory conditions. In practical use temperature, humidity and absorbance of the substrate may influence the above given values.	

### Direction of use:

#### Surface Preparation

All concrete to be treated with TechnoSeal® CrystalCoat IC must be clean and have an "open" capillary surface. Remove laitance, dirt, grease, etc. by means of high pressure water jetting, wet sandblasting or wire brushing. Faulty concrete in the form of cracks, honeycombing, etc. must be chased out, treated with TechnoSeal® CrystalCoat IC and filled flush with TechnoSeal®CrystalMortar. Surfaces must be carefully pre-watered prior to the TechnoSeal® CrystalCoat IC application. The concrete surface must be damp but with no wet sheen on the surface.

Active leaks must be treated and fully stopped with TechFin®FastPlug. Leaking cracks need to be sealed with a TechnoPur® InjectoSeal range of PU Injection material. Fill all blowholes, honeycombs or other surface defects with TechnoSeal® CrystalMortar. Before the application of TechnoSeal®CrystalCoat IC, dampen the substrate with clean water to a saturated surface dry (SSD) condition. All surfaces to be patched, repaired or sealed with TechnoSeal® CrystalMortar must be clean and sound. Cracks should be routed out to a U-shaped configuration, approximately 20mm (3/4") wide and a minimum of 20mm (3/4") deep or to a reversed Π-shaped configuration 25x25x30 mm (1"x1"x1.2") in size.

Tie holes should be roughened prior to filling. Spalled and honeycombed areas must be thoroughly cleaned and chiseled back to sound concrete prior to repair. Remove all dirt, cement laitance, form release agents, curing compounds, paints, coatings, etc. by means of wet or dry sandblasting, high pressure water jet or other suitable mechanical means. Surfaces must be well moistened to a dull dampness at the time of application. The concrete should be damp with no standing water wet sheen on the surface prior to TechnoSeal® CrystalMortar application. Crystal Mortar has set (approximately 1-2 hours). If this is not practical, leave surface rough for subsequent surface treatment to bond.

## Mixing:

Add the appropriate amount of potable water into a clean mixing bucket. Gradually add TechnoSeal® CrystalCoat IC powder 1/3 at a time while mixing continuously using either a forced action mixer; or a heavy duty, slow-speed drill fitted with an electric drill in slow circular motions. Adjust water using small quantities until proper consistency is achieved to assure complete mixing until a workable creamy consistency is reached for brush coating. Mix only as much material that can be used within 20 minutes and stir mixture frequently. If the mixture starts to set, do not add more water; simply re-stir to restore workability

Approximate mixing ratio is 72 parts TechnoSeal® CrystalCoat IC powder to 28 part water (by volume). For tie rod holes and pointing applications, add only a small amount of water to obtain "semi dry earth" mixed consistency that can enable holding a shape when squeezed in hand but easily crumbled when pressed between fingers.

Mixing ratios:	
Application Method	5 Part TechnoSeal® CrystalCoat IC powder to 2 parts of water
Brush	
Spray	5 Part TechnoSeal® CrystalCoat IC powder to (2 .75-3.25 ) parts of water

## Application:

### For Cracks & Strip Seal

After proper surface preparation and routing to appropriate configuration, prime the areas to be patched or repaired with a slurry coat of TechnoSeal® CrystalCoat IC and 10mm (2/5") around the area while primer slurry in tacky or green stage, fill cavity flush to surface with TechnoSeal®CrystalMortar in mortar consistency.

### For Spalled and honeycombed areas

Prepare the surface and chisel back up to sound concrete. Apply a coat of TechnoSeal® CrystalCoat IC slurry as a primer coat in the prepared sound concrete surface need to be repaired while still in green "tacky" stage apply TechnoSeal®CrystalMortar in layers of 13mm (1/2") thick until required thickness is obtained.

Each layer should be allowed to set long enough that it will leave only a slight indent approximately 1.6mm (1/16") when pressed with a finger. Where possible, the surface of the repair should be packed and hold tightly using a block of wood.

### For Tie holes and pointing applications

Prepare the surface and chisel back up to sound concrete. Apply a coat of TechnoSeal® CrystalCoat IC slurry as a primer coat in the prepared sound concrete surface need to be repaired while still in green "tacky" stage apply TechnoSeal®CrystalMortar in "dry earth" consistency. TechnoSeal®CrystalMortar should be tightly rodded into tie holes or packed and hold tightly using a block of wood.

Note: For all applications, TechnoSeal® CrystalCoat IC should be applied as a surface treatment as soon as TechnoSeal®

## For Waterproofing Brush Application

Mix TechnoSeal® CrystalCoat IC with 22-23% potable water, i.e. 6.60-6.90 L water per 30 kg bag. Fill the complete mixing water into a suitable bucket and mix the powder with a slow speed drill (300-600 rpm) into the water until a lump-free mix with a creamy consistency of an oil paint is achieved. With hard water (high Calcium content) a slight false setting within the first 2 min. after mixing is possible. In such case, re-mix for another 30 seconds. Do not add water!

The product is workable for 30-45 min. at 23 °C. Apply the first coat with a masons brush in crossing application to the pre-dampened substrate at the specified rate. To ensure complete coverage with no missed or thin spots, we recommend that you always apply two coats. The second coat can be applied as soon as the TechnoSeal® CrystalCoat IC has set hard (from 6 to 24 hours depending on conditions).

## For Waterproofing Spray Application

Use suitable spray machines which can easily pump and spray the liquid and paste-like products. Prepare the product as described for the brush application. The water addition may be reduced slightly to get a more thixotropic mix. Fill the product into the feed hopper of the spray machine and spray continuously. If less water is used the whole specified amount of TechnoSeal® CrystalCoat IC may be applied in one lift. Otherwise spray in two layers with a wait time of approx. 30 min. between coats. Long spray interruption may result in clogging of the spray hose.

The product may cure a lot faster if the hose is exposed to direct sunlight. Always empty and flush the machine after spraying or before long spray interruption. TechnoSeal® CrystalCoat IC is a fast curing material and may be hard to remove if left in the machine.

## Dry powder consistency (for horizontal surface only)

TechnoSeal® CrystalCoat IC can be applied in powder form onto fresh concrete before finishing the surface. The specified amount of TechnoSeal® CrystalCoat IC is distributed in powder form uniformly through a sieve or a semi-mechanical barrow spreader and troweled into the freshly placed concrete once this has reached initial set and then finished with a helicopter trowel. Make sure that the trowel forces sufficient moisture to the surface to completely wet and embed the powdered TechnoSeal®CrystalCoat IC.

## Curing and Protection:

Curing TechnoSeal® CrystalCoat IC system application must be kept moist for a minimum of 48 hours. After initial set, moist curing, using continuous water spray is recommended. Treated surfaces shall be fog sprayed 3 to 4 times daily for the 48 hour period. For warmer climates, more frequent spraying may be required. It is important to keep the TechnoSeal® CrystalCoat IC system moist to allow the crystal formation to occur.

The surfaces shall be protected from foot traffic for 48 hours or heavy traffic for 7 days. Freshly applied TechnoSeal® CrystalCoat IC system must be protected from extreme weather conditions such as rain, strong winds, high temperatures and freezing for a period of not less than 48 hours after application.

A minimum of 7 days of air curing shall be allowed prior to immersing the surface in water. Back filling can be carried out after proper curing. Protection boards are generally not required. Backfill material shall be moist and not contain rocks or larger aggregate.

# STERLING TECHNOTRADE INDIA PRIVATE LIMITED

## The Specialist Construction Chemical Company®

Head Office: 109-111-112, 1st Floor, Vijaya Building, No. 17, Barakhamba Road, Connaught Place, New Delhi- 110001

Manufacturing Unit: Plot No-J-3, UPSIDC Site C, Surajpur Industrial Area, Greater Noida, Uttar Pradesh 201306

WEB: sterlingtechnotrade.com | EMAIL: support@sterlingtechnotrade.com | TEL: 01145084212

## Special considerations:

Do not apply TechnoSeal® CrystalCoat IC at temperatures below 4°C, to a frozen substrate or if temperatures will drop below freezing during the curing period (approximately 24 hours). TechnoSeal® CrystalCoat IC cannot be used as an additive to concrete or plasters. TechnoSeal® Admix should be considered for these applications. TechnoSeal® CrystalCoat IC should not be confused with a coating or membrane. TechnoSeal® CrystalCoat IC is not a decorative material. Do not use solvent based curing compounds.

## Storage:

TechnoSeal® CrystalCoat IC must be stored dry at a temperature of 10°C- 32°C Shelf life is one year from the date of manufacturing when stored under proper conditions.

## Packaging:

TechnoSeal® CrystalCoat IC is supplied in 30 Kg HDPE bag packing.

## Health and Safety instructions:

TechnoSeal® CrystalCoat IC is non-toxic but contains cement, which is alkaline. May irritate eyes and skin and may cause skin sensitization. Gloves and goggles should be worn. Any splashes to the skin or eyes should be washed off with clean water. In the event of prolonged irritation, medical advice should be sought. Should use a dust mask while handling the powder. Protect yourself and others on the jobsite. Consider property in proximity of the application area to prevent loss or damage.

Protect your jobsite from unauthorized persons. Store all materials and equipment safely and out of reach of children and animals. Observe container labels, SDS, applicable laws and regulations and all instructions before using the product and equipment. In case one of the components comes in contact with the skin, wash thoroughly with soap and water. Provide adequate ventilation in volume and pattern in working area.

## Additional information:

Techno Builders Solutions® By Sterling Technotrade India Pvt.Ltd -The Specialist Construction Chemicals Company® range of associated products includes high performance Concrete Admixtures, Adhesives, Protective Coatings, Concrete Repairs, Industrial Flooring, Grouts & Anchors, Joint Sealants, Surface Treatments, Curing Compounds, Repair Mortars, Release agents, Grinding Aids & Waterproofing chemicals.

\*Separate datasheet are available on these products.

**DISCLAIMER:** The product information & application details given by the company & its agents has been provided in good faith & meant to serve only as a general guideline during usage. Users are advised to carry out tests & take trials to ensure on the suitability of products meeting their requirement prior to full scale usage of our products. Since the correct identification of the problems, quality of other materials used and the on-site workmanship are factors beyond our control, there are no expressed or implied guarantee / warranty as to the results obtained. The company does not assume any liability or consequential damage for unsatisfactory results, arising from the use of our products.

EDITION: 08/2019/001

IDENTIFICATION NO: PD-337

Please note that this datasheet supersedes all previous versions.