

CRYSTASEAL 1K

Single-Component Crystalline Waterproof Coating

ASTRAL

TRUBUILD™

TECHNICAL DATA SHEET VER NO. N.1

PRODUCT DESCRIPTIONS

Trubuild Crystaseal 1K is composed of high-quality cement, properly selected & graded inert aggregates, proprietary waterproofing active chemicals & additives. It is used as a chemically active waterproofing treatment for concrete. Trubuild Crystaseal 1K when mixed with water and applied as a brush coat to concrete, penetrates deeply into the capillaries of the concrete & protects it against the permeability of water.

FEATURES & ADVANTAGES



**CAN BE USED FOR
POSITIVE & NEGATIVE
SIDE APPLICATION**



**SELF-CURES AND
HEALS CRACKS
UP TO 0.5 mm**



**EXCELLENT
WATERPROOFING**



**WITHSTANDS UPTO
7 BAR HYDROSTATIC
PRESSURE**

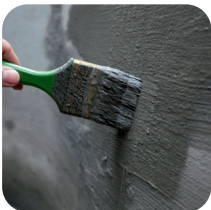


**MONOLITHIC
LAYER**



- Chemical Resistance - Resist chemical attack (intermittent contact) and provides a range of protection from freeze/ thaw cycles, aggressive subsoil waters, sea water, carbonates, chlorides, sulphates and nitrates.
- Application advantage - Does not require protective plaster, applicable over SSD & wet surface.
- Corrosion - Protects reinforcing steel against corrosion.
- Cracks - Seals hairline & shrinkage cracks up to 0.5 mm.
- Permeability - Resists permeation of water from positive & negative side of the concrete.
- Chemical activation - Its waterproofing capability increases with time. i.e., it remains permanently active.
- Abrasion - Does not get affected by surface wear or abrasion, once the penetration is complete.
- Hydrostatic pressure - Treated concrete withstands hydrostatic water pressure up to 7 bar.
- Ease of application - Easy in application, only to be mixed with water at the site.
- Protection - Protects concrete against contaminated water & corrosion.
- Monolithic - Forms a monolithic layer with the concrete & becomes an integral part of it.

AREAS OF APPLICATION



PACKAGING



- Waterproofing water tanks, fountains, artificial lakes and other RCC retaining structures, etc.
- Below-grade structures subjected to positive or negative water pressure.
- Waterproofing and protection of concrete foundations, retaining walls and foundation slabs.
- Tunnels, subways & stations, inspection pits & lift shafts
- Retaining walls & sea defence walls.
- Construction joints.
- Bridge decks, jetties.
- Parking structures.
- Swimming pool, wet areas.

METHOD OF APPLICATION

SURFACE PREPARATION

- Remove dirt, laitance, loose particles, paints, etc., by means of mechanical grinding, sand blasting, pressure water cleaning or suitable mechanical means.
- Remove all protrusions, chisel out honeycombed & damaged areas, repair the cracks and work back to sound concrete.
- It is extremely important to ensure that the surface should be sound, thoroughly prepared and vacuum cleaned, finished with sand paper to allow Trubuild Crystaseal 1K to penetrate effectively. This can be achieved by mechanical surface scarification, shot blasting, etc.
- Thoroughly rinse the surface with water several times to reach a "Saturated Surface Dry" (SSD) condition, where the surface should be damp without any standing water.

MIXING

Horizontal surface: Mix Trubuild Crystaseal 1K powder to water in ratio 3 parts powder: 1 part water, by volume for waterproofing purpose by using brush.

Vertical surface: Mix Trubuild Crystaseal 1K powder to water in ratio 5 parts powder: 2 parts water, by volume for waterproofing purpose by using brush.

Spray: Mix Trubuild Crystaseal 1K powder to water in ratio 5 parts powder: 2.75-3.25 parts water, by volume.

Always mix powder to water & stir it well to obtain a lump free mixture. Only mix quantities to be used within 20 minutes. Trubuild Crystaseal 1K mechanically with clean water to a thick consistency. Separate containers of same volume should be used to measure powder & water. Stir mixture frequently. If the mixture starts to set, do not add more water; simply re-stir to restore workability.

APPLICATION

- On existing or old substrates with dampness, ensure thorough surface preparation by mechanical means, to remove all laitance, etc., to expose the pores in concrete which will allow the penetration of the Trubuild Crystaseal 1K.
- All crevices and holes in concrete shall be filled with Trubuild Crystaseal 1K powder mixed with water in a ratio of 5 parts powder: 1 part water, by volume.
- Repair all the cracks & joints by making "V groove" by mechanical means and fill it with PMM made using Trubuild SBR-333/SBR PRO-334 and all the honeycomb seen in the concrete should be treated with injection grouting.
- Bring concrete substrate in an SSD condition, apply mix of Trubuild Crystaseal 1K, use an aggressive circular motion of the brush or wooden float with Trubuild Crystaseal 1K slurry.
- Apply the second coat while the first coat is still "green". Trubuild Crystaseal 1K treated area should be kept damp for a period of five days and must be protected against direct sunlight, wind and frost, by covering with polyethylene sheeting, damp burlap or similar. For full cure, give 28 days along with concrete. Dry shake/ broadcasting (horizontal surface).
- Specified amount of powder is sprinkled either on bottom or top of concrete prior to casting or after placing concrete (for details and application methods please contact the technical team).
- For vertical surfaces, apply two coats of Trubuild Crystaseal 1K at $0.7-0.8 \text{ kg/m}^2$ /coat applied by brush.

PRECAUTIONS & LIMITATIONS

- Application can be done under normal temperature conditions.
- Heavy traffic should be avoided until the surface is hardened for at least 5 days. Finishes containing portland cement may be applied over Trubuild Crystaseal 1K after 3 to 4 hours.
- Any paint or coating should be applied after 28 days only over Trubuild Crystaseal 1K application after thorough wire brushing, washing & removing any Trubuild Crystaseal 1K residual on surface.
- Not recommended over moving joints and structures subjected to movements.
- Do not apply on dry substrate.
- Water tanks, etc., can be carefully filled with water after 3 to 7 days. Do not fill large tanks faster than 6-5 feet per hour (2 m/24 hrs).
- Apply three coats for negative side waterproofing.

Note: Please contact your technical representative for alternative application methods that may be applicable in your project and help to increase production. For horizontal flatwork, apply Trubuild Crystaseal 1K at 1.1 kg/m^2 in one slurry coat to hardened concrete. Alternatively, Trubuild Crystaseal 1K can be dry sprinkled at 1 kg/m^2 and trowel applied to fresh concrete when it has reached initial set. For construction joints, apply Trubuild Crystaseal 1K at 1.6 kg/m^2 in slurry or dry powder consistency immediately prior to placing the next lift/ bay of concrete. For blinding concrete, apply Trubuild Crystaseal 1K at 1.4 kg/m^2 in slurry or dry powder consistency immediately prior to placing the overlying concrete slab.

TECHNICAL PROPERTIES

S.NO.	PROPERTIES	STANDARDS	RESULTS
01.	pH		Approx. 10-11
02	Appearance		Grey powder
03	Bulk Density, g/cc		1.3 to 1.55
04	Water Permeability Reduction	EN 12390 PART 8:2019	>90
05	Acute Toxicity	IS 6585:1971	100% survival

HANDLING PRECAUTIONS

Mandatory and recommended industrial hygiene procedures should be followed whenever our products are being handled and used. For additional information please read Material Safety Data Sheet.

STORAGE

Mandatory and recommended industrial hygiene procedures should be followed whenever our products are being handled and used. For additional information please read Material Safety Data Sheet.

Product should be stored in a dry place in their original, properly closed containers/ bags at temperatures between 2 - 40°C on pellets. Bag should be consumed once opened.

COVERAGE

1.4-1.6 kg/m²/2 coats

SHELF LIFE

12 months from the date of manufacturing.

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