

Crystalline Waterproofing Coating

DESCRIPTION

TIKI AQUASEAL CWP is a unique waterproofing coating based on crystallization principle. It offers permanent solution to stop water ingress in to the concrete structure through pores and capillaries.

When applied on to the cementitious surface, it penetrates into the concrete and seals the capillaries and shrinkage cracks effectively. It is ideal for waterproofing both from positive and negative side of the concrete structure.

It can be applied on fresh or existing concrete to provide a permanent in-depth water proofing solution.

The state-of-heart crystalline technology works within the concrete matrix by chemical reaction of different components present in the waterproofing coating in presence of moisture and free lime forming insoluble crystallization products in the capillaries and shrinkage cracks, thereby blocking the passage of water.

The ability of **TIKI AQUASEAL CWP** to permanently generate crystallization reaction in concrete matrix makes it ideal choice for construction projects. Should water or moisture become present at a future date, the process of re-activation of crystallization reaction initiates and stops further water ingress in to the structure.

The unique technology of **TIKI AQUASEAL CWP** allows the transmission of water vapour, maintaining the natural breathability of concrete thereby eliminating the water pressure build-up.

Treatment with **TIKI AQUASEAL CWP** improves the waterproofing properties of concrete considerably.

ADVANTAGES

- Effective against high hydrostatic pressure.
- Reliably self-seals hairline cracks up to 0.4mm.
- Suitable for application from the positive or negative side of the water pressure.
- Becomes monolithic and integral to the concrete - cannot be damaged or deteriorate.
- Permanent waterproofing, reactivates in presence of moisture.
- Protects against chlorides and corrosion of reinforcing steel, increasing life of concrete.
- Can be applied to concrete during early stages of strength development (green concrete).
- Easy to apply – cost effective installation.
- Increases durability of the concrete.
- It does not require special protection during backfilling, placement of reinforcement or other procedures necessary to protect surface type waterproofing systems.

USES

- Concrete basements, walls, slabs and footings.
- Marine structures.
- Elevator pits and equipment pits.
- Parking structures.
- Swimming pools and water features.
- Water towers, reservoirs and storage tanks.
- Tunnels, concrete pipes and underground vaults.
- Bridge decks, elevated slabs and ramps.
- Rooftops and roof deck.
- Sewage and water treatment plants.

APPLICATION INSTRUCTIONS

SURFACE PREPARATION

The surface should be structurally sound and free from dirt, soil, oil release agent, laitance and any other foreign materials, which may impair the bond, penetration and/ or overall performance of **TIKI AQUASEAL CWP**.

PRIOR TO APPLICATION

- 1) Extremely smooth concrete surface must be water blasted, sand blasted or acid etched to make sure the concrete surface has open capillary system. The surface to be treated should never have shiny appearance and should have open pores to enable the penetration of active chemicals in to the concrete.
- 2) Visible static cracks exceeding 0.25mm in size should be opened out to a depth of 20 mm to 25 mm in 'V' shape and repaired with repair mortar **TIKI CRM**.
- 3) All honeycombed pocket, bug holes, construction joints should be opened out to sound concrete and repaired with repair mortar **TIKI CRM**.
- 4) Dry surfaces should be made damp by sprinkling water prior to application of **TIKI AQUASEAL CWP** system. Moisture must be present in the concrete strata to ensure maximum chemical penetration. Surfaces should be damp when coating is applied.
- 5) If running water is present, then use instant setting plugging mortar or hydrophobic PU foam injection grout **DANOINJECT PUF**.

APPLICATION

MIX RATIO

Maintain water/powder ratio between 0.28 to 0.30.
For 25 Kg.Bags: 7 to 7.5 litres of water is required.

MIX PREPARATION

Add gradually **TIKI AQUASEAL CWP** powder in water until a homogeneous lump free mix is obtained.

Prepare only as much as that can be applied within a 1/2 hour period.

The prepared mix is applied to damp concrete surfaces using soft bristle brush or masonry type brush with artificial fibres. Stir the prepared mix frequently during application.

Apply **TIKI AQUASEAL CWP** in minimum two coats. Care has to be taken during application to ensure that thickness of coating in single application does not exceed 1mm. The second coat should be applied when first coat is dry to the touch. Light spray of water may be required between the coats in hot / dry climates.

COVERAGE

The coverage of **TIKI AQUASEAL CWP** varies with the surface porosity and environmental condition.

On Horizontal surface, it is applied @0.7 to 0.75 Kg./m² in each coat,giving total consumption of 1.4 to 1.5 Kg./m² in two coats.

On Vertical surface, it is applied @0.6 to 0.7 Kg./m² in each coat,giving total consumption of 1.2 to 1.4 Kg./m² in two coats.

CURING

Except for extremely hot weather and very low humidity, curing of the **TIKI AQUASEAL CWP** system is not required. In these extreme conditions curing must begin as soon as the applied coating has hardened sufficiently so as not to be damaged by a light spraying which may be required more frequently and for around 7 days.

TEST RESULTS

A laboratory trial has been conducted to assess the effect of **TIKI AQUASEAL CWP** on concrete.

A) Compressive Strength :

The **TIKI AQUASEAL CWP** coated concrete cubes and uncoated concrete cubes (control) were tested for compressive strength with the following results:

Concrete Cubes	14 days old	28 days old
TIKI AQUASEAL CWP treated	24 N/sqm.	28 N/sq.m.
Control (untreated)	22 N/sqm.	26 N/sq.m.

B) Water Permeability :

Both the **TIKI AQUASEAL CWP** coated concrete cubes and uncoated concrete cubes (control) were subjected to water permeability test with following results:

Specimen Details	Water Permeability
Control concrete (Uncoated), 28 days old.	1.8 X 10 ⁻¹¹ cm/sec
TIKI AQUASEAL CWP coated concrete (14 days old)	2.1 X 10 ⁻¹³ cm/sec
TIKI AQUASEAL CWP coated concrete (28 days old)	21.9 X 10 ⁻¹⁴ cm/sec

Specimen Details	Water Pressure Resistance
TIKI AQUASEAL CWP coated concrete (28 days old)	70 m of water head pressure

TIKI AQUASEAL CWP substantially reduces the water permeability of the concrete, improving the waterproofing properties of the concrete considerably.

CLEANING

Immediately after application, use water for cleaning application tools.

SUPPLY

TIKI AQUASEAL CWP is supplied in 25 Kg. pack size.

STORAGE

TIKI AQUASEAL CWP must be stored above 5°C. Store under the shed & protect from extremes of temperature, heat, direct sunlight. The shelf life is 12 months in sealed unopened container.

SAFETY PRECAUTIONS

As with all chemical products, care should be taken during use and storage. Avoid contact with skin, eyes, mouth and food. For further detail, refer to Material Safety Data Sheet

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TIKITAR DANOSA (INDIA) PRIVATE LIMITED

Tiki Tar Estate, Village Road, Bhandup (W), Mumbai - 400 078,
Maharashtra, India. T: +91 22 4126 6699
E: info@tikidan.in | W: www.tikidan.in

