



TECHNONICOL CA 112

SURFACE APPLIED CRYSTALLINE WATERPROOFING COATING

PRODUCT DESCRIPTION:

- TECHNONICOL CA 112 is a surface applied crystalline waterproofing treatment for concrete structures that is used to protect against the ingress of water. It is a dry powder which is formulated by proprietary blends of chemicals (mainly organic and inorganic salts), quartz, sand and cement and which when mixed with water becomes a coating that is applied to the inner or outer side of a concrete structure.
- TECHNONICOL CA 112 is an environmentally friendly and low VOC material. The active chemicals which react with moisture in fresh concrete and with by-product of cement hydration in the concrete or cement-based materials will cause a catalytic reaction that creates a non-soluble crystalline formation.
- When this process takes place, millions of needle-like crystals are formed and fill the capillary tracks, pores and microscopic voids within the concrete. Paths for harmful moisture and aggressive chemicals are blocked permanently.
- These crystals grow and migrate through the concrete to fill in hair-thin pores and microscopic voids up to 0.5mm that would otherwise serve as passages for harmful moisture.
- TECHNONICOL CA 112 technology enhances the natural hydration process in concrete, increasing compressive strength over time and dramatically reducing cracks caused by shrinkage.

ADVANTAGES:

- LOW VOC – TECHNONICOL CA 112 powder product contains low volatile organic compounds and are safe for use both outdoor and in confined indoor spaces.
- Environmentally friendly.
- Reaches well below the surface and is not affected by surface wear and abrasion.
- Permanent protection even if the surface is damaged.
- Can seal the capillaries and minor shrinkage cracks up to 0.5mm through crystal formation.
- Resists extreme hydrostatic pressure from either positive or negative surface of the concrete slab.
- Treatment may be applied to old and New concrete.
- Improves durability of the concrete.
- Non-toxic.
- Allows concrete to breathe.
- Exceeds requirement of ASTM C494-S (Specific performance admixture)

CONSUMPTION RATE- 1.4 KG/M²:

For Brush application: - Add 3 parts of powder to 1 part of clean water and mix thoroughly to produce a suitable brushing mixture. The mixture should be used within 30 minutes after then it starts to thicken do not add water once mixture starts to be hardened.

Consult with TECHNONICOL technical department for assistance in verifying appropriate dosage rate and further information regarding enhanced chemical resistance and optimum concrete performance for your project.

DOSAGE RATE:

0.8% to 1.0% by weight of cement. Consult with TECHNONICOL technical department for assistance in verifying appropriate dosage rate and further information regarding enhanced chemical resistance and optimum concrete performance for your project.

AREA OF APPLICATION:

TECHNONICOL CA 112 is used to waterproof areas as indicated below:

- Basement floors and retaining walls.
- Concrete flat roofs
- Water retaining structures.
- Lift pits
- Swimming pools
- Reservoirs
- Secondary contamination structures
- Tunnels and subway systems
- Precast, cast- in- place and shotcrete application.

MAIN CHARACTERISTICS. TECHNICAL AND PHYSICAL DATA:

Properties	Performance
Appearance	Grey (Powder)
Form	Portland cement, Silicate
Chloride Contents BS 507S	Nil
Potable Condition BS 6920 Part 1:2000	Complied
Density	2.0 g/cm ³ (bulk)
Can Seal Hairline Cracks	Up to 0.5mm
Shelf life	12months when unopened and undamaged
Packaging	25kg/pail
Application Temperature	8°C~40°C

CRYSTALLIZATION GROWTH:

- The crystallization process consists of two events: nucleation and crystal growth. Nucleation is the step where the solute molecules dispersed in the solvent start to gather to create clusters in the nanometre scale (elevating solute concrete in a small region) and become stable under the current operating conditions.
- These stable clusters constitute the nuclei. The clusters need to reach a critical size in order to become stable nuclei. Such critical size in order to become stable nuclei. Such critical size is dictated by the operating conditions (temperature, super saturation, irregularities, etc.). It is at this stage of nucleation that the atoms arrange in a defined and periodic manner to define the crystal structure – note that “crystal” structure is a special term that refers to the internal arrangement of the atoms.
- The crystal growth is the subsequent growth of the nuclei to achieve critical cluster size. Subsequently, nucleation and crystal growth continue to occur simultaneously in the presence supersaturation. Supersaturation is the driving force of the crystallization; hence the rate of nucleation and growth is driven by the existing supersaturation in the solution.

STORAGE:

Product must be stored dry at a minimum temperature of 45°F (7°C). Shelf life is one year when stored under proper conditions.

HEALTH & SAFETY

- As with all construction chemicals products caution should always be exercised.
- Protective clothing such as gloves and goggles shall be worn.
- Treat any splashes to the skin or eyes immediately with fresh water.
- Avoid contact with skin and eyes. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
- Keep out of reach of children.