

Topkrete PenetraCryst

Crystalline Waterproofing Admixture For Concrete

Description

Topkrete **PenetraCryst** is high-performance crystalline waterproofing admixture designed to enhance the durability and impermeability of concrete. When added to fresh concrete, PenetraCryst reacts with moisture and unhydrated cement particles to form insoluble, needle-like crystals that block capillaries and micro-cracks. This integral waterproofing mechanism provides permanent protection against water ingress, chemical attack, and chloride penetration.

PenetraCryst becomes an integral part of the concrete matrix and remains active for the life of the structure.

Application

Suitable for both above- and below-grade structures, including:

- Water tanks, reservoirs, STP/WWTP structures
- Basements, retaining walls, lift pits
- Tunnels, culverts, foundations
- Roof slabs, podium decks
- Marine structures and coastal concrete
- Precast elements and ready-mix applications

Features & Benefits

- Permanent integral waterproofing
- Self-sealing of hairline cracks up to 0.4mm
- Enhances concrete durability and service life
- Resistant to hydrostatic pressure (positive & negative)
- Improves chemical resistance (chlorides, sulphates, mild acids)
- Non-toxic suitable for potable water structure
- Compatible with most concrete mixed designs
- Easy dosing at batching plant or onsite

Performance Data

Test / Standard	Result
Water Penetration (EN 12390-8)	Reduction up to 70-90%
Compressive Strength	No adverse effect; may enhance long-term strength
Crack Sealing Ability	Up to 0.4mm
Permeability Reduction	Significant reduction under hydrostatic pressure
Chemical Resistance	Improved resistance to chlorides & sulphates

Dosage

- Typical dosage : 0.8 – 1.5% by weight of cement
- Standard recommendation: 1.0% for most waterproofing applications
- Higher dosage may be used for severe exposure conditions or high hydrostatic pressure.

Mixing

A. Ready Mix / Batching Plant

1. Add PenetraCryst directly into the mixer with aggregates.
2. Mix for minimum 60–90 seconds before adding water.
3. Ensure full dispersion for uniform performance.

B. On Site Mixing

1. Pre-blend PenetraCryst with a small amount of water to form a slurry.
2. Add slurry into the concrete mixer.
3. Mix for 3–5 minutes to ensure even distribution.

Concrete Placement & Curing

- Place and compact concrete as per standard practice
- Proper curing is essential to allow crystalline formation
- Avoid rapid drying; use curing compounds or wet curing.

Packaging

- 18 kg moisture-proof bags
- Custom packaging available upon request

Storage

Store in cool, dry area. Keep bags tightly sealed. Protect from moisture and humidity.

Safety & Handling

- Alkaline material; avoid contact with skin and eyes.
- Use gloves, goggles, and protective clothing.

Disclaimer

The information provided is based on current laboratory and field experience. Topkrete makes no warranty beyond the quality of the product itself. Site conditions may affect performance; users should conduct their own tests to confirm suitability

Safety Instruction

It is recommended to use protection glove and goggle and take precaution for handling the product.

Technical Support

Topkrete offers a technical support package to specifies, end-users and contractors, as well as on site technical assistance.

Additional Information

Topkrete manufacturers and offers a wide range of complementary products which includes waterstop, waterproofing, products, grouts, anchors, specialized flooring products. In addition, a wide range of products formulated for repair and refurbishment of spelled concrete are available.

Warranty

Topkrete Sdn Bhd warrants that the products manufactured by it shall be free from material defects and will conform to formulation standards and contain all components in their proper proportion. Should any of the products be proven defective, the liability to TOPKRETE SDN BHD shall be limited to replacement of the material proven to be defective, and TOPKRETE SDN BHD shall in no case be liable otherwise or for incidental or consequential damages. **TOPKRETE SDN BHD MAKES NO WARRANTY AS TO MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE AND THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES EXPRESSED OR IMPLIED.** User shall determine the suitability of the product for its intended use and assume all risks and liability in connection therewith.

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