

TRI-COAT CM 50

Polymer modified cementations water-proofing coating.

Description

TRI-COAT CM 50 is a two-component, cement-based, rigid water-proofing coating composed of:

*Component A: a specially blended portland cement, selected graded fillers, and active chemical additives.

*Component B: a liquid polymer dispersion that enhances adhesion and workability while reducing water absorption.

When mixed, it forms a dense, durable, and breathable waterproof barrier suitable for concrete and masonry structures.

It is non-toxic and suitable for contact with potable (drinking) water.



Standard compliance

The product is certified by National Organization for Potable water & Sanitary Drainage.

The product is certified by National Research Center.

- ASTM C307
- ASTM C580
- ASTM C321
- BS 6920

Typical uses

TRI-COAT CM 50 is recommended for:

- Potable water tanks and reservoirs (internal water tanks for drinking water).
- Swimming pools (substrate waterproofing before tiling).
- Concrete planting pots and planter boxes.
- Balconies, kitchens, and bathrooms (under-tile waterproofing).
- Basements and lift pits (elevator shafts).
- Retaining walls and foundations (positive side).
- Concrete roofs and terraces.
- Water treatment plants, tunnels, and irrigation channels.

Advantages

- Strong adhesion to concrete .
- Excellent resistance to positive water pressure (suitable for tanks, reservoirs & basements).
- Rigid, dense surface that minimizes water permeability.
- Breathable – allows water vapour diffusion, preventing trapped moisture.
- Potable water safe – certified and suitable for drinking water applications.
- Easy to apply by brush, roller, or spray – no heavy machinery required.
- Can be tiled directly without primer – ideal for pools, bathrooms, and kitchens.
- Cementitious finish – compatible with concrete and inorganic substrates.
- Resistant to chlorides, de-icing salts, mild acids, and alkalis.
- High durability under long-term weathering and immersion conditions.

Important Clarification

The above advantages apply mainly to rigid concrete structures with minimal movement. If structural movement or cracking greater than 0.5 mm is expected, use an elastic or crack-bridging waterproofing system (flexible grade) **TRI-SEAL 307 OR TRI-SEAL 307 Elastic** .

Technical properties @°25c

| | |
|--------------------------------|-------------------------------------|
| Color | Grey - white other color on request |
| Density | 2 ± 0.1 kg / L |
| Compressive Strength ASTM C307 | 3.84 N/mm ² |
| Flexure Strength ASTM C580 | 11.99 N/mm ² |
| Bonding Strength ASTM C321 | 1.77 N/mm ² |
| Chemical resistance | |
| CL | No effect |
| NaOH 40 gm / L | No effect |
| NaOH (SO4)212 H2O @ 23 °C | No effect |
| NaOH (SO4)212 H2O @ 60 °C | No effect |

Recommended water-proofing systems .

| | | |
|--------------------------|-----------------|--|
| Waterproofing system I | TRI- COAT CM 50 | Waterproofing Coat 1 |
| | TRI- COAT CM 50 | Waterproofing Coat 2 |
| Waterproofing system II | TRI- COAT CM 50 | Waterproofing Coat 1 |
| | TRI- COAT CM 50 | Waterproofing Coat 2 |
| | ACRYPROOF | Finish Coat |
| Waterproofing system III | TRI- COAT CM 50 | Waterproofing Coat 1 |
| | TRI- FLEZ 70 | non-woven needle punched polypropylene |
| | TRI- COAT CM 50 | Waterproofing Coat 2 |
| Waterproofing system IV | TRI- COAT CM 50 | Waterproofing Coat 1 |
| | TRI- FLEZ 70 | non-woven needle punched polypropylene |
| | TRI- COAT CM 50 | Waterproofing Coat 2 |
| | ACRYPROOF | Waterproofing Coat 1 |
| | TRI- FLEZ 70 | non-woven needle punched polypropylene |
| | ACRYPROOF | Waterproofing Coat 2 |

Directions for use

Surface preparation

All concrete or masonry surfaces must be structurally sound, clean, and free from any contaminants such as oil, grease, loose particles, laitance, dust, mold release agents, or curing compounds. Surface preparation should be carried out by light grit blasting, high-pressure water jetting, or mechanical wire brushing to achieve an open-textured, sound substrate. Before application, the prepared surface must be pre-soaked with clean water until uniformly saturated. Ensure the substrate remains damp (SSD – Saturated Surface Dry) with no standing water prior to coating.



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Mixing

- Pour Component B (liquid polymer) into a clean container and gradually add Component A (powder) while continuously mixing using a low-speed (400–600 rpm) mechanical mixer until a smooth, homogeneous, lump-free slurry is obtained.
- For small quantities, manual mixing may be carried out using a trowel or hand paddle.
- Avoid excessive mixing speed to prevent air entrapment.
- Recommended mixing ratio : 5 kg liquid : 25 kg powder (as supplied).
- Mixed material should be used within 45 minutes under standard conditions (25°C, 50% RH).

Application

- While the substrate is in SSD condition (Saturated Surface Dry), apply the first coat of **TRI-COAT CM 50** evenly using a stiff brush, roller, or trowel, ensuring full coverage of all surface pores.
- Allow the first coat to harden for approximately 4–6 hours, depending on temperature and humidity.
- Apply the second coat as soon as the first coat has sufficiently hardened, to ensure proper adhesion between layers.
- For slurry consistency, use a hard-bristle brush or broom.
- When applied as a trowel-able mortar, use a notched trowel to achieve the required thickness and uniform texture.
- After completing the second coat, the surface may be finished with a soft, dry sponge to obtain a smooth appearance.
- If a third coat or protective plaster layer is required, lightly scratch the surface of the second coat while still green using the edge of a trowel to provide a mechanical key for subsequent bonding.
- In case a plaster or protective mortar layer is required over the waterproofing coating, light sand broadcasting shall be carried out onto the final coat while it is still fresh to enhance mechanical bonding.
- This ensures proper adhesion between **TRI-COAT CM 50** and the subsequent plaster/render layer.
- The cured coating shall exhibit excellent positive and negative water pressure resistance, ensuring watertight protection under hydrostatic conditions from both sides of the structure.

Typical performance values:

-Positive water pressure resistance: up 2 bar.

-Negative water pressure resistance: up to 1bar .

(depending on coating thickness and proper surface preparation)

Curing

- After application, the coating must be protected from rapid drying caused by high temperature, wind, or direct sunlight.
- Premature drying may lead to surface cracking or reduced adhesion.
- Curing should be carried out by maintaining a damp environment for at least 24 hours, either by light water misting or covering with polyethylene sheets to retain surface moisture.
- Avoid direct water pressure or flooding during this period.

Protection

- Once cured, the coating shall be protected against mechanical impact, abrasion, or long-term exposure to UV radiation.
- If the system will remain externally exposed (e.g. roofs, balconies, open tanks), apply a protective screed, UV-resistant coating, or tile finish to prevent carbonation and spalling risks over time.
- Before back filling or applying tile adhesive, ensure a minimum of 3 days curing and check the integrity of the waterproof layer.

Execution Note:

- Proper substrate preparation is essential to achieve strong adhesion and watertight performance. Weak, dusty, or contaminated surfaces may lead to localized detachment or leakage failure.

Coverage

- 30 kg / 8-10 m² - for 2 mm D.F.T

Package

- **TRI-COAT CM 50** Package = 30Kg consists of (Powder =25Kg + liquid = 5Kg).

Shelf life

- 12 months in good storage conditions .

Storage conditions

- Store the material in a cool, dry and covered place.
- Temperature should not exceed 35 oC.
- Do not expose the pails to direct sunlight and keep away from all sources of heat.

Cleaning

- All tools should be cleaned with water immediately after use.
- Hardened material can be removed mechanically.

Technical support

- For any technical support, please contact TRI-CHEM technical office or representatives.

Sustainability and environmental accountability

- TRI-CHEM's Environmental sustainability is the accountability to conserve natural resources and protect global ecosystems to support health and well-being for this a more positive approach is that accountability guides the actions of power-holders towards more socially and environmentally sustainable results.

Health and safety responsibility

- Workplace health and safety is all about sensibly managing risks to protect TRI-CHEM's workers and business.
- ISO 45001 is a systematic health and safety management is characterized by strong leadership involving managers, workers, suppliers, contractors and customers and also health and safety management is an essential part of the movement towards sustainable development.
- Spillages should be washed down immediately.
- PPE in accordance with the health and safety rules should be used during the materials application.
- For irritant effects of the non-cured material, avoid contact with skin and eyes during storage and application.

Institutional Excellence and quality performance

- Institutional excellence in TRI-CHEM refers to achieving high levels of performance, quality and effectiveness in all aspects of TRI-CHEM company's work, it involves a systematic and continuous effort to improve an organization's performance by applying best practices, innovative approaches and evidence-based strategies, institutional excellence spans various areas, such as training ,research, innovation, community engagement, governance, management

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and sustainability, and involves setting high standards, measuring performance against these standards and continuously improving performance to meet or exceed these standards, excellence in TRI-CHEM also includes a culture of continuous improvement and learning, where everyone in the organization is committed to achieving the organization's goals, working together to find solutions to challenges and opportunities, and requires a collaborative approach that includes all stakeholders.

- All products originating from TRI-CHEM facility are manufactured under a quality management system independently certified to conform the requirements of the quality standards (ISO 9001:2015).

Disclaimer

- While TRI-CHEM guarantees its products against defective materials, the use and application of these products are made without guarantee since the conditions of their application are beyond its control.
- TRI-CHEM is recommended to verify with TRI-CHEM that the product is suitable for the intended use, and that this data sheet version is the latest one.
- Any specification, recommendation or information mentioned in this product data sheet is (to TRI-CHEM's best knowledge) true and reliable.
- However, because TRI-CHEM has no influence on the application method of these products and the care taken, the company cannot accept any liability arising from the use of its products. TRI-CHEM's warranty is therefore limited to the quality of the materials supplied which are guaranteed against defective materials.
- TRI-CHEM may modify it without prior notice and technical characteristics are listed for guidance only.



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