# Centrament Proof CP 10

Crystalline waterproofing admixture for concrete

BE SURE. BUILD SURE.

## PRODUCT PROPERTIES

- powdered admixture
- crystalline waterproofing effect
- interrupts capillaries and fills pores
- highly effective against pressurized water
- crack healing up to 0.4 mm
- improved protection against damages caused by frost and de-icing salts
- reduced carbonation and sulfation speed
- prolongs service life of concrete

## AREAS OF APPLICATION

- concrete with increased water impermeability requirements
- watertight concrete for underground constructions
- pipes, shafts, ducts, manholes and other sewerage components
- concrete exposed to pressurised water
- tanks, pools, basins and concrete containers
- concrete for constructions designed for long service life

## APPLICATION ADVICE

Centrament Proof CP 10 is a powdered admixture, that, when added to concrete, induces crystal-forming chemical reactions. The emerging crystals seal pores and capillaries, making concrete less permeable for water and corrosive substances. This is a highly desirable feature for concrete used in areas with long-term exposure to water.

During the concrete setting period, a large part of the mixing water dissipates due to diffusion and evaporation. This process creates an interconnected network of pores and capillaries which negatively influences the permeability and durability of concrete. Centrament Proof CP 10 contains specialized components that, in the environment created by hydrated Portland cement, form complexes of durable, non- soluble crystals. They grow and propagate into pores and capillaries, effectively sealing them and making it extremely difficult for water to penetrate, even under increased hydrostatic pressure. Crystalline structures formed by Centrament Proof CP 10 can even bridge over and close hairline cracks in the cement matrix (up to 400 micrometres). The acceleration of crack healing is achieved through the action of the active ingredients, which are activated on contact with water. This creates nanocrystals that increase the resistance of the concrete to permeability of pressurised water.

The denser the cement stone, the higher the resistance to a variety of moisture-related damages.

Frost and de-icing salts, soluble chlorides and sulphites, carbonation, and even biological degradation due to vegetation and microorganisms – all these require the presence of liquid water. By limiting its ability to enter the concrete, the risk of all such damages can be significantly reduced.

For the best possible waterproofing results, use Centrament Proof CP 10 in combination with a good waterreducing admixture, preferably a superplasticiser. The crystal-forming reactions utilize certain by-products of Portland cement hydration. For this reason, higher cement content will lead to more crystallisation and thus better waterproofing effect.

Combination with Centrament Proof HL 20 is possible for an added hydrophobic effect.

During mixing, it is recommendable to add Centrament Proof CP 10 in the early stages, preferably to the dry aggregate, and mix for at least 45 seconds before adding cement, water, and admixtures. This guarantees uniform distribution of the active components throughout the concrete mix. Please note the "General Information on the Use of Concrete Admixtures".

**MC Bauchemie (M) Sdn Bhd**
**Lot S113, 2nd Floor, Centrepoint, No.3 Lebuh Bandar Utana, Bandar Utama, 47800 Petaling Jaya, Selangor**
**Tel. +603 7728 1233 Fax: +603 7728 6833**
**www.mc-bauchemie.com.my**

**MC-Bauchemie Müller GmbH & Co. KG**
**Am Kruppwald 8· 46238 Bottrop**
**Tel. +49 (0) 2041-101 0· Fax: +49 (0) 2041-101 400**
**info@mc-bauchemie.de· www.mc-bauchemie.de**

## TECHNICAL VALUES & PRODUCT CHARACTERISTICS

| Characteristic | Unit | Value | Comments |
|---|---|---|---|
| Recommended dosage range | g | 5 - 15 | per kg cement |
| Chloride content (maximum) | % | 0.1 | mass fraction |
| Alkaline content | % | 10.0 | mass fraction |
| Water/cement ratio | w/c | ≤ 0.5 | recommended |
| Cement content | kg | ≥ 350 | recommended per 1m³ concrete |

| | |
|---|---|
| Type of admixture | Crystalline waterproofing admixture |
| Designation of admixture | Centrament Proof CP 10 |
| Colour shade | grey |
| Form | pulverous |
| Notified body | Karlsruher Institut für Technologie (KIT) Materialprüfungs- & Forschungsanstalt, MPA Karlsruhe, Notified Body number: 0754 |
| In-company production control | EN ISO 9001 |
| Storage | Can be stored in cool and dry conditions for at least 12 months in original unopened packs. |
| Delivery form | 20 kg bags, 3kg water dissolvable bags (7 bags/pail) |



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