



Technical Data Sheet

BETOCRETE C-21

Crystalline waterproofing admixture of the 3rd generation

Fields of Application:

BETOCRETE C-21 is the first crystalline waterproofer of the 3rd generation.

BETOCRETE C-21 is particularly suited for constructional precast elements and for ready-mixed concrete. In particular, the use for concrete structures must be highlighted that are - partly or constantly - exposed to or flooded by water.

Properties and mode of action:

BETOCRETE C-21 is an anorganic, liquid admixture for waterproofing, respectively increase of impermeability of concrete constructions.

BETOCRETE C-21 is a liquid admixture that does not tend to lump during the batching process and is added either in the ready-mix plant or on site.

The action of BETOCRETE C-21 is twofold: An immediate reduction of water penetration by a chemical reaction in the concrete on the one side and the formation of pore closing crystals, known already from BETOCRETE C-16 and C-17 (BV) on the other side.

These active processes of the admixture are permanent and not reversible.

The tendency to continuously form crystals in the concrete matrix allows self-healing of static cracks.

- Liquid, therefore easier and safer batching – no danger of lumps!
- Resists extremely high hydrostatic pressure; on positive (active) and negative side.
- Self-healing of static cracks up to 0.4 mm possible
- Becomes an integral and permanent part of the concrete
- Concrete remains open for steam diffusion
- Maximum w/c ratio: 0.55
- No adverse effects with other admixtures or workability properties
- Permanently active

Technical Data:

Colour:	white
Form:	liquid
Density (20°C.):	1.05 g/cm ³
pH-value:	approx. 11.5
Processing temp.:	+ 8°C - + 30 °C.
Storage :	Do not store below + 8°C, protect from dirt
Shelf-life:	12 months in originally closed containers
Packaging:	1.100 kg IBCs 25 kg cans

Dosage Range:

2.0 to 3.0 % by weight of cement; at least 7 kg per m³ of concrete.

Dosage in ready-mix factory:

BETOCRETE C-21 can be dosed together with the gauging water or to the ready mix as the last component.

Dosage in truck mixer on the job site:

2-3% of BETOCRETE C-21 is dosed into the mixer drum and then thoroughly mixed for 3-5 minutes. Pour without delay.

Instructions for Use:

BETOCRETE C-21 is added together with the gauging water or to the ready mix as the last component. A sufficient final batching time must be safe-guarded in each case.

The water-cement ratio shall not exceed 0.55.

The addition of a concrete retarder may be necessary when using Portland Cement Type II or III. Suitability tests have to be carried out before usage.

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Special Advice:

- Concrete modified with BETOCRETE C-21 may tend to effloresce depending on the mix design.
- Suitability tests accord. to valid standards and norms have to be carried out prior to application.
- The use of cements Type II and Type III may sometimes lead to a limited effectiveness of BETOCRETE C-21. This is also valid for latent hydraulic or pozzolanic concrete additives.
- Aggregates must have a continuous sieve-line.
- It is recommended to perform compatibility tests with other admixtures as required.
- The given parameters for crack width control by the planner or (structural) engineer must be followed at all circumstances. Variations must be verified with suitable methods!
- Concrete, modified with BETOCRETE C-21 must be produced, placed and finished according to valid norms.
- BETOCRETE C-21 is non-corrosive and has no adverse effects on the re-inforcement.
- It is rarely possible that BETOCRETE C-21 influences the setting of the concrete. Our product RUXOLITH T5 (VZ) has proven as the most effective retarder.

Certificates:

Certification according to DIN EN 934-2:T.9 under preparation.

Health & Safety:

Please adhere to valid European Materials Safety Data Sheet (MSDS)!