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SCHOMBURG

Technical Data Sheet

BETOCRETE®-C21

Art.-No. 4 06171

Crystalline waterproofing admixture of the 3rd generation

CE

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EN 934-2
BETRODRETE-C17
Plasticizer for concrete
CT-C25-F4

Chloride content	max. 0,10 M.%
Alkali content	max. 8,5 M.%
Corrosion behaviour	Contains components only from EN 934-1:2008, Annex A.1
Compressive strength	Fulfilled
Reduced water demand	Fulfilled
Air content	Fulfilled
Dangerous substances	NPD

NPD = „No Performance Determined"

BETOCRETE-C21 (waterproofer) is the first 3rd generation crystalline waterproofing agent. BETOCRETE-C21 is suitable for structural pre-cast segments, which are also produced on site e.g. tunnels, foundations, parking garages, Reservoirs, water and sewerage treatment plants, swimming pools, subterranean channels etc. It is to be explicitly highlighted that the use of BETOCRETE-C21 is for all types of concrete elements in contact with the ground, where water flows around them or flooded areas.

Properties and mode of action:

BETOCRETE C-21 is an inorganic liquid additive for waterproofing / increasing the water impermeability of concrete units.
BETOCRETE C-21 is fluid and therefore does not tend to cause clumping during the mixing process. The dosage is carried out as with every conventional concrete additive using suitable dosing equipment.
BETOCRETE C-21 initially has a chemical effect and reduces the water absorption of the hardened cement paste. As needed the latent crystalline effect available, already known from the products BETOCRETE-C16 and BETOCRETE-C17 (BV), is implemented (e.g. with existing water-bearing cracks).

The active mechanisms of the concrete additive are permanently available and the products formed during reactions are non-reversible. The affinity for crystal formation permits the healing of static cracks.

- Liquid, therefore considerably easier and safer to mix – no risk of clumping.
- Withstands extremely high levels of hydrostatic pressure; from the positive (active) or negative side.
- Closure of retrospectively formed cracks up to 0.4 mm is possible.
- Becomes an integral and permanent component of the concrete.
- The concrete remains vapour permeable.
- Max. water-cement factor: 0.55
- Permanently active.
- Unused product does not crystallise out at temperatures below +8° C.
- Meets the requirements for a waterproofiung agent acc. EN934-2 Table 9.
- Immediate hydrophobic effect.
- Reduced tendency for discoloration.
- Water absorption reduced against control.

Technical Data:

Colour:	white
Form:	liquid
Density (20°C.):	1.05 g/cm³
pH-value:	approx. 11.5
Processing temp.:	+ 8°C - + 30 °C.
Storage:	frost free, 12 months in the original unopened packaging at +20°C, use opened packaging promptly
Packaging:	1.040 kg container 220 kg drum 25 kg drum
Water hazard class (WGK):	1 (self assessment)

BETOCRETE®-C21

Dosage Range:
2.0 to 3.0 % by weight of cement; at least 7 kg per m^3 of concrete.

Instructions for Use:
BETOCRETE-C21 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.

Dosage in ready-mix factory:
BETOCRETE-C21 can be dosed together with the gauging water or to the ready mix.

Dosage in truck mixer:
The entire amount of of BETOCRETE-C21 (2-3 %) is dosed into the mixer drum and then thoroughly mixed for at least 3-5 minutes. The water-cement ratio shall not exceed 0.55. The addition of a concrete retarder may be necessaary when using Portland Cement Type II or III. Suitability tests have to be carried out before usage.

Special Advice:
- Concrete modified with BETOCRETE C-21 can, dependent on composition, show a tendency to effloresce.
- Before using BETOCRETE C-21 carry out a trial.
- When using CEM II and CEM III grades the permanent function of BETOCRETE C-21 can be constrained. This is also true of latent hydraulic or pozzolanic concrete additives.
- Aggregates must be composed of a steadily rising particle size distribution.
- If additional concrete additives are to be used, then appropriate trials are to be carried out.
- The crack width restrictions specified by the planner/ engineer/structural engineer must be adhered to in all circumstances. Other interpretations are to be proven by appropriate verification and qualification.
- Concrete with BETOCRETE C-21 must be produced, installed and post-treated in compliance with current valid standards.
- BETOCRETE C-21 does not contain materials which cause corrosion.
- In rare cases BETOCRETE C-21 can influence the setting process of the concrete. System compatible products REMITARD 20 (BV) and RUXOLITH T5 (VZ) are available to control the concrete.

Quality inspection:
- As a waterproof material for concrete to EN 934-2:T9
- Only contains substances given in EN 934-1:2008, annex A1

Please observe a valid EU health & safety data sheet.