

HYDRAULIC BINDER FOR STRUCTURAL CONCRETE REPAIR WITH “TWO STAGE” CONCRETE

PRODUCT DESCRIPTION

CEMPAC® 565 is a specially formulated, pre-mixed dry mortar based on low alkaline Portland cement and polymers with high strength and low shrinkage. CEMPAC® 565 has very low thermal reaction. CEMPAC® 565 contains a small but important amount of polymers, which increase the adhesion to the substrate. Thanks to the special composition, CEMPAC® 565 has thixotropic properties: as long as the mortar is pumped/kept in motion, it continues flowing. As soon as the pumping stops, the mortar remains stable in place. CEMPAC® 565 is specially designed to be injected into a closed formwork (mould). The aggregate with which the mould is filled first must be tested in order to determine if there is sufficient space to be injected with CEMPAC® 565. An aggregate having a grain size of e.g. 25-32 mm is recommended. In this case, there is sufficient space for the injection mortar to flow between the stones.



APPLICATIONS

- Injection into damaged concrete structures
- Injection into closed formwork, also under (salt) water
- Because of the very slow thermal reaction, this mortar can be applied in very large, massive structures, even at higher temperatures
- Casting against existing structures as repairing or reinforcing the existing structure
- Concrete overlays
- As hydraulic binder in “Two Stage” concrete structures (Preplaced Aggregate Concrete)

TECHNICAL DATA

Water content 19,5%. 50% RH at a temperature of 20°C during hardening process

Flexural strength	≥ 7 N/mm ² after 28 days
Compressive strength	≥ 40 N/mm ² after 7 days, ≥ 50 N/mm ² after 28 days, ≥ 60 N/mm ² after 90 days
Adhesion to underfloor	≥ 2 N/mm ²
Volatile organic compound value	free of ammonia and formaldehyde
Grain size	max. 1,0 mm
Free shrinkage	< 0,4‰ (measured at 50% RH, after 28 days)
pH value	approximately 11,5
Fluidity (flow ring test SS 923519 (diam. 50x23 mm))	130-135 mm
Dry powder density	approximately 1,7 g/cm ³
Wet volume weight	> 2,1 g/cm ³
Water stability	water-stable (expansion under water < free shrinkage)

TECHNICAL INFORMATION

Water addition	19,5% (4,875 litre/25 kg bag)
Minimum substrate temperature	+6 °C
Open time	30 – 50 minutes, depending on the ambient temperature.
Hardening time	45 min. – 2 hours for initial set, depending on the temperature 5 – 7 days before removing the formwork, depending on the temperature.
Storage	Six months in dry conditions

SUBSTRATE PREPARATION

CEMPAC® 565 must be applied onto a well-prepared, hard, solid surface, free of contamination. Dust, cement residues, greases, or other soft materials (such as asphalt) must be removed. Ways of doing this include shot-blasting, sand-blasting, flame blasting or scarification.

MIXING

It is strongly recommended to mix CEMPAC® 565 with a high-capacity automatic continuous mixing pump (without mortar hopper). For larger volumes, the desired capacity is > 6 tonnes/hour. Use only pure potable water having a max. temperature of 20°C: 4,875 litres per 25 kg bag. This assures an easy to pour mortar having great strength and low shrinkage. Always check the water supply at the construction site by means of a flow ring test. Use the mixed material within 25 minutes. At high ambient temperatures the open time is around 30-40 minutes. Add no other products.

PERFORMANCE

Do not work at temperatures below +5°C. Pre-wet the coarse aggregate (particle size preferably 25 - 32 mm) after placement into the formwork by completely filling with water to saturate. Before starting the injection under pressure, drain this water and immediately start the injection from the bottom of the formwork. The horizontal distance between the injection nipple then must amount to 4 metres. The distance between vertical injection nipples is less than 2 metres. The mixing pump must have complete capacity in order to be able to fill the volume between the injection nipples within 20 minutes.

It is extremely important that the formwork is tight and that it can withstand the weight of the injected material. The mortar is very fluid with a density of around 2,1 kg/litre. It is very important not to pump in too large volumes with not too great distance between the injection nipples so that there is time before the bonding has started. Do not add extra water after the hardening has started: this reduces the strength and increases the shrinkage of the material.

CLEANING

All tools must be cleaned immediately with water.

HEALTH AND SAFETY

Contains cement. Wet cement is corrosive. Protect your eyes and avoid prolonged contact with the skin. Keep out of reach of children. For further information, consult the CEMPAC® 565 safety sheet.



Transport: not a classified product.

IN GENERAL

The general information provided in this technical description, application advice, and other recommendations are based on research and experience. Users themselves must determine whether the products are suited for their specific application. The specified properties refer to average values, obtained at 20°C and 50% RH and prepared according to the current state of the art. Written and oral recommendations in accordance with our general delivery terms are entirely free of obligation.

These technical descriptions supersede all previous ones.

Please take account of different local conditions, such as ventilation, floor temperature, air humidity,...

High air humidity and low temperatures delay the bonding and hardening; high temperatures accelerate them.

Consult our website www.cemart.eu in order to download the most recent version of the technical information sheet.