

FLOWABLE, THIXOTROPIC REPAIR MORTAR DESIGNED FOR USE WITH PREPLACED AGGREGATE CONCRETE

PRODUCT DESCRIPTION

CEMPAC® 565 thixotropic injection mortar is a specially formulated, dry mixed mortar based on low alkali Portland cement and polymers to produce high strength and low shrinkage. CEMPAC® 565 has a very slow thermal reaction. CEMPAC® 565 contains polymers to improve the bond to existing roughened concrete structures. CEMPAC® 565 **thixotropic properties** are specially designed for injection into formwork. When the mortar is kept in motion (being pumped), it continues to flow. From the moment pumping is stopped, the mortar becomes stiff and remains stable in position. CEMPAC® 565 will re-liquefy (during normal working time) when pressure is reapplied through pumping. CEMPAC® 565 complies with ACI 304.1 R-92 for use in Preplaced Aggregate (PA) construction



APPLICATIONS

- Cementitious mortar for Preplaced Aggregate (PA) concrete
- Repair and/or strengthening of (damaged) concrete constructions
- Injection in closed and under (sea)water formwork
- Can be used for large volume constructions, even at high ambient temperatures due to the low hydration reaction
- Concrete overlays

PRODUCT HIGHLIGHTS

- Larger placements resulting in fewer cold joints
- Wider inlet pipe spacing
- Very low form pressure due to thixotropic properties

TECHNICAL DATA

Water requirement: 19.5%. 50% RH and temperature 68° F (20° C) during process of hardening

Flexural Strength (EN 196-1)	≥ 1015 PSI (7 MPa) 28 days
Compressive Strength (EN 12190 & EN 196-1)	≥ 5,800 PSI (40 N/mm ²) 7 days, ≥ 7,250 PSI (50 N/mm ²) 28 days, ≥ 8,700 PSI (60 N/mm ²) 90 days
Tensile bond strength (EN 1542)	≥ 290 PSI (2 N/mm ²)
VOC-value	No ammonia nor formaldehyde
Grain size (EN 12192-1)	max. 0.04 in. (1.0 mm)
Free shrinkage (EN 12617-4)	< 0.4% (measured at 50% RH after 28 days)
pH-value	Approx. 11.5
Flow ring test [ring Ø 1.97 in (50 mm) x 0.9 in (23 mm)] (SS 923519)	5.1 – 5.3 in (130 - 135 mm)
Density dry powder	Approx. 106 lb/ft ³ (1.7 g/cm ³)
Wet density	> 131 lb/ft ³ (2.1 g/cm ³)
Water stability	Water stable (expansion under water < free shrinkage)

MIXING AND PLACEMENT DATA

Water requirements	19.5% = 1.288 gallons (4.875 liter) per 55 lb (25 kg) bag
Min. ground temperature	43 °F (+6 °C)
Working time	30 - 50 minutes, depending of ambient temperature
Setting time	45 min. - 2 h for initial set, depending of temperature 5 – 7 days until removal of the formwork, depending of the temperature
Shelf life	6 months when properly stored in dry conditions

SURFACE PREPARATION

The concrete must be prepared according to ACI 304.1 R-11. The concrete surface must be structurally sound, fully cured and free from any surface contamination. All dust, old coatings, grease, oil or any other weak material should be removed mechanically, e.g. by enclosed shot blasting, scrubbling, scarification, flame gunning, demolition, etc.

MIXING

Mix CEMPAC® 565 by using an automatic, high capacity, continuous mixer pump (without mortar hopper). For larger volumes, the capacity should be > 6 ton/h. Use only clean, potable water with a max. temperature of 68 °F (20°C). Mix 1.288 gallons (4.875 liters) per 55 lb. (25 kg) bag. This provides an easily injected material with a high strength and a low shrinkage. Continuously check the fluidity by means of the flow ring test. The mixed material should be pumped within 25 minutes. During summer time, if temperature is rising, the overall working time may be about 30 – 40 min. Never add any kind of other materials in the mixture.

EXECUTION

Never apply at ambient temperatures below 41 °F (+5 °C). Follow the placement instructions described in ACI 304.1 R-11. Pre-wet the coarse aggregate (particle size preferably 3/4 to 1-1/2 in (19 – 37.5 mm) after placement into the formwork by completely filling with water to

Before starting the injection, drain this water and immediately start the injection from the bottom of the form. The horizontal distance between the injection nipples must be less than 13 ft. (4 m) and vertically no more than 6.5 ft. (2 m). The pump should have a capacity to fill the volume between the nipples within 20 minutes. The coarse aggregate used to fill the formwork needs to be pre tested in order to find out if it is open enough CEMPAC® 565 can properly be injected

Formwork must be tight and can resist the weight of the injected concrete. The mortar is fluid with a density of approximately 17.5 lb/gal. (2.1 kg/l). It is a good practice to keep the length of the delivery line from the grout pump to the insert area as short as practicable. Never add extra water if the binding has already started, this reduces the strength and increases the shrinkage of the material.

CLEAN UP

Clean tools and equipment promptly with clean water. Cured material must be removed mechanically.

HEALTH AND SAFETY



Contains cement. Moist cement is corrosive. Protect eyes and prevent prolonged skin contact. Keep out of reach of children. Refer to the Health and Safety data sheet for further information

GENERAL

The general information provided in the present technical description, application guidelines and other recommendations, is based on research and experience. However, the client is obliged to determine himself whether the products are suitable for use. The characteristics given here are average values, obtained at 68 °F (20 °C) and 50 % RH, and were drawn up according to the current state of technology. All verbal and written advices in accordance with our terms and conditions are not binding.

As of publication, the present technical descriptions will replace all previous ones.

Take into account different local conditions such as ventilation, floor temperature, humidity. High humidity and low temperatures slow down the constriction and the curing.

For the most recent versions of our technical datasheets consult our website www.cemart.eu.