MINOVA

MINING / CONSTRUCTION / ENERGY

CT-2

PCC/SPCC REPAIR MORTAR IN CT-95 CONCRETE REPAIR SYSTEM

CE identification according to EN 1504-3:2006 1488-CPR-0111/Z

DESCRIPTION

CT-2 dry-mix of a cement-based mortar modified with additives and polymers (PCC / SPCC), with high quality aggregate up to 2 mm and reinforced with PE fiber. It is one-component material, ready-to-use after mixing with batched water. CT-2 is a part of CT-95 Concrete Repair System.

APPLICATION AND USE

CT-2 mortar is used for repair and reconstruction of concrete and reinforced concrete for hand application with use of bonding grout CT-S or CT-A/S, or for in wet-spray process for large area repair. Suitable for concrete repair works: Principle 3 and 7, Methods 3.1, 3.3, 7.1, 7.2.

ADVANTAGES

- Perfect consistency and workability
- Excellent adhesion to concrete
- High ultimate compressive and flexural strength – conforms to the requirements of EN 1504-3 R4 classification
- Low modulus of elasticity
- Outstanding freeze-thaw resistance
- High water-tightness
- Permeable for vapour
- Improved resistance to sulphates XA3
- Approved for contact with potable water

TECHNICAL DATA

The data below are laboratory data. They may vary in practice due to surface properties of the substrate, humidity, pressure, and other factors.

PRODUCT CHARACTERISTICS

Parameter	Details
Compressive strength	@ 7 days ≥ 45 MPa @ 28 days ≥ 60 MPa
Flexural strength	@ 7 days ≥ 6.5 MPa @ 28 days ≥ 7.5 MPa
Bond strength by pull off[1]	@ 28 days ≥ 2.0 MPa
Freeze-thaw resistance	≥ 200 cycles
Resistance of capillary absorption	≤ 0.5% $\frac{kg}{m^2 * h^{0.5}}$
Thermal compatibility	≥ 2.0 MPa
Shrinkage	@ 56 days ≤ 0,62 ‰
Young modulus	≥ 20 GPa
Chloride ion content	≤ 0.05%
Resistance to carbonation	higher than control concrete MC (0.45)
Resistance to aggressive environment	XA3

1. with CT A/S bonding grout

COMPONENT CHARACTERISTICS

Parameters	Details
Colour / form	grey powder with aggregates < 2 mm
The thickness of one layer: minimum/ maximum thickness	5 mm / 30 mm
Amount of water per 25 kg bag	2.9 – 3.2 litres
Pot life at 20 °C	60 minutes
Output	19 kg/m² /10 mm
Ambient temperature and substrate during application	min.+5 °C; max +30 °C

APPLICATION METHOD

1. Application

Add one bag 25 kg of the CT-2 to 2,9 – 3,2 litres of tap water. Pour the powder to batched water. Mix at least for 5 minutes. Small quantities can be mixed in a suitably sized drum using a spiral paddle with a slow speed hand mixer (400 rpm). Greater quantities should be mixed using a forced-action mixer. Ready mortar is of even consistency. Do not subsequently re-temper with extra water.

Before application of CT-2, remove loose fragments of concrete, dust, greasy stains, formwork release agent etc. Use hydro-blasting cleaning for final surface treatment. Properly prepared surface should have at least 1,5 MPa pull-off strength. In order to improve adhesion to the substrate surface it is recommended to dump it with water prior to application. For the best results, wet the concrete surface 24 hours before performing the repair and shortly before the CT-S / CT-A/S placing on the matt dump surface.

Exposed reinforcement should be protected against corrosion with CT-A/S. For structural repair it is recommended to use bonding grout CT-A/S immediately before CT-2 application (wet to wet). Deeper cavities fill in subsequent layers. Place next layer on partly set prior one but not on hardened. If prior layer is dry, damp it with water and use bonding grout CT-S or CT-A/S. Even the repair with wooden, EPS trowel or sponge float. Don't spray with water the surface during evening – it may cause the lost strength of the surface.

2. Cleaning

Clean tools with water. When hardened clean mechanically.

3. Curing

CT-2 requires curing, particularly under strong drying conditions. CT-2 should be cured immediately after finishing in accordance with good concrete practice. Large areas should be cured as trowelling progresses (0.5m² at a time) without waiting for completion of the entire area. In very fast drying conditions, supplementary curing with polythene sheeting taped down at the edges should be used.

In cold conditions, the finished repair must be protected from freezing.

SAFETY INSTRUCTIONS AND LIMITATIONS

It is recommended that gloves, eye protection and a dust mask are used when handle CT-2. For more details refer to our Material Safety Data Sheet. The material should not be applied when the substrate and/or air temperature is 5°C and falling. At 5°C static temperature or at 5°C and rising, the application may proceed.

At ambient temperatures above 30°C, the material should be stored in the shade and cool water used for mixing.

PACKAGING AND TRANSPORTATION

25 kg valve sack, 40 bags per pallet. Other packing units available on request.

STORAGE AND SHELF LIFE

Shelf life 6 months when stored in dry and cool conditions.

DISPOSAL

Follow local regulations.

APPROVALS AND CERTIFICATES

- National Technical Assesment IBDiM-KOT-2018/0135
- Hygienic Certificate for contact with drinking water BK/W/0341/01/2019
- The product is labelled with CE mark acc. to EN 1504-3 Class R4 requirements. Factory Control Certificate 1488-CPR-0111/Z.
- Mining Certificate OBAC/0062/CB/18

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ADDITIONAL DOCUMENTATION

- CT-2 MSDS

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