

Cempatch FL90

Shrinkage compensated free flowing micro concrete



Description

Cempatch FL90 is a single component polymer modified repair system. Cempatch FL90 is composed of a blend of dry powders and selected aggregates which when mixed with water produce a shrinkage compensated, self compacting and free flowing micro-concrete suitable for large volume concrete repairs.

Applications

Repair of all types of structural concrete elements such as walls, columns, beams and floors.

Advantages

- ▲ High initial and ultimate strength development.
- ▲ Very high flow, suitable for repair of steel congested areas.
- ▲ Shrinkage controlled polymer modified cementitious repair eliminates cracking.
- ▲ Easy to apply, single component, requires only addition of water.
- ▲ Extremely low permeability, providing excellent protection to steel reinforcements and host concrete.
- ▲ Self compacting and self priming, with high bond strength.
- ▲ Suitable for internal and external applications.
- ▲ No independent primer is required.

Method of Use

Substrate Preparation

All damaged and weak concrete shall be cut back to reach sound concrete or to a minimum depth of application.

Corroded steel reinforcement should be grit blasted to remove all rust traces. Steel loss up to 25% of original section shall be compensated, where loss of section exceeds 25%, steel reinforcement shall be replaced.

Remove all concrete form around exposed steel reinforcements by 20 mm thickness. The perimeters of the repair area should be saw cut to a minimum depth of 10 mm. The prepared area should be cleaned thoroughly by brush and/or compressed air. A water tight formwork should be used to avoid material loss.

Technical Properties:

Colour:	Grey & white
Compressive strength: ASTM C109/109M-02	> 35 MPa @ 1 day > 55 MPa @ 3 days > 65 MPa @ 7 days > 75 MPa @ 28 days
Flexural strength: ASTM C348	≥ 11 MPa @ 28 days
Length change: ASTM C157	up to 0.01% @ 56 days
Working time:	20 - 25 min @ 25°C 12 - 17 min @ 35°C
Setting time: EN 196-3	Initial 6 - 7 hr @ 25°C Final 9 - 10 hr @ 25°C
Water penetration: DIN 1048	≤ 10 mm
Mixing ratio:	3 litre of water for 25 kg set
Minimum application temperature:	5°C

Notes: Cempatch FL90 is available in 3 ranges. Compressive strength and flexural strength @ 1 day are under restraint. Compressive strength and flexural strength @ 7 & 28 days are under wet cure.

Areas to be repaired with Cempatch FL90 should be soaked with clean water for several hours before applying the Cempatch system. All excess water should be removed.

Priming

All grit blasted steel reinforcements should be primed within 2 - 4 hours with one or two coats of zinc rich epoxy coating Repcoat ZR.

Provided that the substrate has been thoroughly soaked with clean water, and is damp on application of product a primer is not normally required.

Cempatch FL90

For concrete highly contaminated with soluble salts, it is recommended to use Quickmast 108, an epoxy bonding agent, which prevents migration of salts such as chloride ions and sulphate to the repair patch, as well as providing bond for Cempatch FL90 to host concrete.

Mixing

To ensure proper mixing, a mechanically powered mixer or drill fitted with suitable paddle should be used. 3 litre of clean water should be added to clean container. The powder part is then added slowly to the water while mixing continuously, then the aggregate part shall be added while mixing continuously with low speed mixer/drill (400 – 600 rpm). Mixing should be continued for 3 minutes until a uniform consistency is obtained.

Placing and Finishing

Cempatch FL90 should be poured in a single continuous operation, within 25 minutes of mixing. The mixed materials should be poured slowly to prevent air entrapment.

Curing

As Cempatch FL90 is a cementitious based material, it should be cured in a similar method to concrete. Curing can be conducted by using a good concrete curing compound such as Setseal A.

Cleaning

All tools shall be cleaned immediately after application using fresh water. Hardened materials must be cleaned mechanically.

Packaging

Cempatch FL90 is available in 25 kg set of 6.75 kg aggregate bag + 18.25 powder bag.

Thicknesses and Size Limitations

Cempatch FL90 can be applied in a single application for large repair voids at thicknesses up to 200 mm. For large areas, DCP Technical Office should be consulted.

Yield

Approximately 12 litre per 25 kg set. (83 sets/m³).

Storage

Cempatch FL90 has a shelf life of 12 months from date of manufacture if stored at temperatures between 2°C and 50°C in original unopened bags.

If these conditions are exceeded, DCP Technical Department should be contacted for advise.

Cautions

Health and Safety

Cempatch FL90 may cause irritation to skin or eyes. In case of accidental contact with eyes, immediately flush with plenty of water and seek medical advise.

For further information refer to the Material Safety Data Sheet.

Fire

Cempatch FL90 is nonflammable.

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Note:

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