Cempatch S

One component, high build, high strength, trowel-applied cementitious repair mortar

DESCRIPTION

Cempatch S is a one component polymer modified and fibre reinforced repair mortar. Cempatch S is a blend of dry powders, selected aggregates and fibres which when mixed with water produces a thixotropic mortar suitable for vertical and overhead application.

APPLICATIONS

- Repair of all types of structural concrete where high strength and extremely low shrinkage properties are required.
- For the repair of vertical and overhead elements.
- As a repair mortar for all structural elements in buildings, water retaining structures, industrial plants, bridges, etc.

ADVANTAGES

- Shrinkage controlled polymer modified cementitious repair mortar.
- Easy to apply, single component, requires only addition of water.
- Extremely low permeability to water, providing excellent protection to steel reinforcements and host concrete.
- Thixotropic properties allowing extra high build for vertical and overhead applications.
- Suitable for internal and external application.
- Water vapour permeable.
- Suitable for use in contact with potable water.
- Cost effective, hand applied no formwork is required.

STANDARDS

Cempatch S complies with the requirement of EN 1504-3 as structural repair mortar of Class R4 for repair principles 3.1, 4.4, 7.1, and 7.2.

METHOD OF USE

SUBSTRATE PREPARATION

All damaged and weak concrete should be cut back to reach sound concrete and/or to a minimum depth of at least 10 mm.

Corroded steel reinforcement should be grit blasted to remove all rust traces. In case of significant loss in the steel reinforcement cross section, the steel should be replaced. Remove all concrete form around exposed steel reinforcements by 10 mm thickness.

TECHNICAL PROPERTIES. W/P= 0.18:	
Fresh wet density:	2.1 ± 0.1 g/cm^3
Minimum application time:	5^{o}C
Flexural strength: BS EN 12190	≥ 6 N/mm^2 @ 28 days
VOC: ASTM D2369	≤ 5 g/ltr

Performance Characteristics	EN 1504-3 Requirement for Class R4	Measured Value
Compressive strength: BS EN 12190	≥ 45 N/mm^2	≥ 50 N/mm^2
Chloride content: BS EN 1015-17	≤ 0.05%	≤ 0.04%
Adhesive bond: BS EN 1542	≥ 2 N/mm^2	≥ 2.25 N/mm^2
Carbonation resist- ance: BS EN 13295	≤ control concrete MC (0.45)	Pass
Thermal compatibility freeze-thaw: BS EN 13587-1	≥ 2 N/mm^2	≥ 2 N/mm^2
Dangerous substance:	Complies with 5.4	

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

PRIMING

Reinforcing Steel Priming
If steel reinforcement is corroded, all corroded steel should be grit blasted and then primed within 2 - 4 hours with one or two coats of zinc rich epoxy coating Repcoat ZR.

Substrate Priming
Areas to be repaired with Cempatch S should be soaked with clean water before applying Cempatch Primer and repair mortar. All excess water should be removed prior to applying Cempatch Primer.

Use a stiff brush or spray gun to apply a thick coat of Cempatch Primer (As a bonding agent slurry) to presoaked surfaces. Application of Cempatch S repair mortar should take place while the bond coat is still wet (tacky).

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Cempatch S

MIXING

To ensure proper mixing, a mechanically powered mixer or drill fitted with suitable paddle should be used. 4.5 litre of clean water should be added to clean container. The 25 kg Cempatch S powder is then added slowly to the water while mixing continuously with low speed mixer/drill (400 - 600 rpm). Mixing time should be continued for 3 minutes until uniform consistency is obtained.

PLACING AND FINISHING

Cempatch S can be applied by trowel or hand. The mixed mortar should be applied using firm pressure to fully compact the mortar to ensure good adhesion with the steel reinforcements and the substrate. Finishing and leveling should be carried out initially by wooden or plastic float. Final finishing should be carried out using steel float.

CURING

As Cempatch S is a cementitious based material, it should be cured in a similar method to concrete. Curing can be conducted by using appropriate curing methods such as Setseal 6 curing membrane or polythene sheeting.

CLEANING

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

PACKAGING

Cempatch S is available in 25 kg bags.

THICKNESSES AND SIZE LIMITATIONS

Cempatch S can be applied in a single application for sections up to 50 mm thick in overhead applications and 75 mm thick in vertical applications.

Thickness should not be less than 10 mm deep in all applications. Cempatch S repair area should not exceed 2.5 m² in single application.

YIELD

Approximately 14 – 14.5 litre per 25 kg bag.

STORAGE

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

If these conditions are exceeded, contact DCP Technical Department for advice.

CAUTIONS

HEALTH AND SAFETY

Cempatch S may cause irritation to skin or eyes.
In case of accidental contact with eyes, immediately flush with plenty of water for at least 10 minutes and seek medical advice if necessary.

For further information, refer to the Material Safety Data Sheet.

FIRE

Cempatch S is nonflammable.
Repcoat ZR is flammable. Ensure adequate ventilation. Do not use near a naked flame and do not smoke during use.
Extinguish with CO_2 or foam. Do not use a water jet

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04-0010-B-2022