

# Cempatch S

One component high build high strength 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.
- ▲ Cempatch S complies with the requirements of BS 6920 for the suitability of the product for use in contact with water intended for human consumption.

## 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.

## Technical Properties:

Colour:	Grey & white
Fresh wet density:	$2.1 \pm 0.1 \text{ g/cm}^3$
Minimum application temperature:	5°C
Compressive strength: ASTM C109/109M	$\geq 60 \text{ MPa @ 28 days}$
Flexural strength: ASTM C348	$\geq 6.0 \text{ MPa @ 28 days}$
Tensile strength: ASTM C307	$\geq 3.0 \text{ MPa @ 28 days}$
Change in length: ASTM C157	Up to 0.1% @ 56 days
VOC: ASTM D2369	$\leq 5 \text{ g/ltr}$

Performance Characteristics:	EN 1504-3 Requirement for Class R4	Measured Value
Compressive strength: EN 12190	$\geq 45 \text{ MPa}$	$\geq 55 \text{ MPa}$
Chloride content: EN 1015-17	$\leq 0.05\%$	0.01%
Adhesive bond: EN 1542	$\geq 2 \text{ MPa}$	$\geq 2.25 \text{ MPa}$
Carbonation resistance: EN 13295	$\leq$ control concrete MC (0,45)	Passes
Thermal compatibility freeze-thaw: EN 13587-1	$\geq 2 \text{ MPa}$	$\geq 2 \text{ MPa}$
Dangerous substance:		Complies with 5.4

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 from around exposed steel reinforcements by 10 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.



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## 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. Areas to be repaired with Cempatch S should be soaked with clean water before applying the repair mortar. All excess water should be removed prior to applying 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 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 Setseal A or by wet hessian sheets covered with polyethylene sheets.

## 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 m<sup>2</sup> in single application.

## Yield

Approximately 13.5 - 14 litre per 25 kg bag. (76 bags/m<sup>3</sup>).

## Storage

Cempatch S 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 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 advise if necessary.

For further information refer to the Material Safety Data Sheet.

## Fire

Cempatch S is nonflammable.

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- ▲ Building products.
- ▲ Structural strengthening.

### Note:

We endeavour to ensure that any information, advice or recommendation we may give in product literature is accurate and correct. However, because we have no control over where and how products are applied, we cannot accept any liability arising from the use of the products.

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