

# Rendercem® CI

Single component, polymer modified, fiber re-inforced, migrating corrosion inhibiting cementitious patch repair mortar



## Description

Rendercem® CI is supplied as a ready to use blend of dry powders, which requires only the addition of clean water to produce a highly consistent, repair mortar suitable for structural concrete and masonry repairs. Rendercem® CI may be hand applied or sprayed with suitable equipment. This product contains migrating corrosion inhibitors which will protect steel from corroding without changes in physical and mechanical properties. As it contains synthetic fibers (>0.08% with micro diameters and 6mm length) it provides high elastic modulus.

## Features & Benefits

- Cost Effective - shrinkage control enables repairs to be completed right at the first time.
- Enhanced durability - Works in tandem with extremely low permeability to prolong effective working life.
- Compatibility - aligns performance with the host concrete
- User friendly - specifically developed to provide an easy to apply product, suitable for local conditions.

## Primary Application

Rendercem® CI is suitable for hand and spray application for repairs where high load bearing is required. Typical applications would include, but not be limited to, the following:

- The thixotropic qualities of the product give excellent adhesion, make it easy to spread on vertical surfaces, the lower parts of beams, shelves or slab. Often it can be applied to structures which are subject to dynamic stress from traffic.
- For very thick layers and large areas it is advisable to use a contrasting steel net supported on steel slump prefixed into the support.
- Has excellent waterproofing properties, but is permeable to water vapour.
- General concrete and masonry repairs.
- Voids greater than 40mm deep.
- Exceptionally strong adhesion to the support and maximum durability due to resistance to carbonation and chloride attack.
- Larger scale repairs can be carried out without the need of formwork.
- Rendercem® CI guarantees optimal protection of the steel reinforcements in concrete against corrosion.

## Technical properties

The following are the typical Test results by the w/p ratio of 0.16 at 27°C

### Compressive Strength

Age (days)	7 days	28 days
Compressive strength (MPa)	55	75

Tensile Strength : 6.0MPa @ 28 days

Flexural Strength : 12.7MPa @ 28 days

Permeability : < 5mm

### Drying Shrinkage

Age (days)	7 days	28 days
Drying Shrinkage (microns)	<300	<500

Water Absorption : <2%

Rapid chloride permeability : <500columbs

Young's Modulus : 22.5MPa

Adhesion Bond : 5.5MPa

Resistance to CO<sub>2</sub> penetration : 1.2mm

## Design Criteria

**Dimensional Stability Technology** is a major step forward in the general compatibility of repair mortar system with the host concrete, and the control of shrinkage in particular. Attention to the basic design criteria given below should ensure that the full benefits of this technology are gained.

(I) Recommended Limits for a single application are :

- Minimum applied thickness : 10mm
- Overhead sections : up to 50mm thick
- Vertical sections : up to 75mm thick
- Small pockets or horizontal : up to 100mm thick
- Maximum area of application at a stretch - 3 X 3m(9m<sup>2</sup>)

(II) In situation where a substrate/repair barrier is required, or enhanced bond strength/working time is required, or where the substrate is likely to be permanently wet or damp (e.g seawalls, quays etc) Talrak Polybond™ EP epoxy bonding agent should be used.

(III) Water Addition = 0.4 liters per 25kg bag under no circumstances should part bags be used or additional water be added. Either of these two actions will adversely affect material performance.

## Specification Clause

The reinstatement mortar for spalled cover concrete due to corrosion of rebars caused by chloride attack, shall be pre-batched, pre-packed polymer modified cementitious, structural grade repair mortar Rendercem® CI which can be applied by trowel to the required thickness at single/multiple layers as per manufacturers specification.

## Limitations

- Rendercem® CI should not be used when the ambient temperature is below 5°C and falling.
- Rendercem® CI should not be exposed to running water either during application or prior to final set.

## Estimating

## Packaging

Rendercem® CI is supplied in 25kg bag.

## Yield

One bag of Rendercem® CI will yield 13 liters of mixed material.

## Storage

Rendercem® CI has a shelf life of 6 months if kept in dry store in original, unopened bag. If stored at high temperature and/or high humidity conditions the shelf life may be reduced.

## Precautions

## Health & Safety Instructions

Contact with the skin should be avoided as certain sensitive skins may be affected. In such cases if contact with the resin occurs, the skin should be washed immediately with soap and water-not solvent. Gloves and goggles should be used when handling these products. Eye contamination must be immediately washed with plenty of water and medical treatment sought.



**Talrak Construction Chemicals Pvt. Ltd.**

**An ISO 9001:2015 Certified Company**

### Works:

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## Important note :

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Ref : TCC/TDS/RE14 - RI