

# MasterCrete CI 5200

Cementitious fast-setting, polymer modified, fibre reinforced, light weight repair mortar with active corrosion inhibition

## Material Description

**MasterCrete CI 5200** is a universal, polymer modified, fast setting, repair, re-profiling and levelling mortar containing active corrosion inhibition. **MasterCrete CI 5200** contains special cements, graded sands, selected polymers and fibres to reduce shrinkage and improve physical and application properties. When mixed with water, it forms a mortar with an exceptionally wide range of applications.

MasterCrete CI 5200 is tested and classified as an R2 abd R3 repair mortar in accordance with EN 1504-3 .

## Areas of Application

- Repair of concrete elements like balconies edges, building facades, parapet walls, precast panels, beam edges and stair nosing's.
- Can be applied as a smoothing or levelling coat at 3mm thickness on large vertical and overhead areas to achieve a more aesthetic finish e.g. prior to painting.
- Can be applied in environments where active corrosion inhibition is necessary.

## Characteristics and Benefits

- Shrinkage compensation systems and fibre reinforcement - minimise crack tendency
- Smooth, creamy, non-slump mortar - easy to create profiles and corners without formwork
- Excellent high build capacity - can be easily be hand or trowel applied in thicknesses from 3mm to 80 - 100 mm in vertical applications or 70 – 80 mm overhead in one layer
- Multi-use - fairing coat and patch repair mortar in one with active corrosion inhibition
- Fast setting - can be over-coated in only 4 hours
- Good strength development - exceeding requirement of Class R2 of EN 1504 part 3
- Low modulus of elasticity - copes with thermal movement of structures
- Low chromate (Cr[VI] < 2 ppm ) - low risk of skin irritation
- Chloride-free - does not add to chloride load of structure

## Properties

### Technical Properties

Technical Characteristics	Test Method	Test results
Bond Strength-MPa	AS 1012.24	> 1.5
Compressive Strength-MPa	AS 1478.2 App. A	1day: 12 7days: 30 28days:40
Modulus of Elasticity-GPa	AS1012.17	28days: 18
Carbonation Resistant	EN 13295	5.8 mm (0.82 SD)
Capillary absorption kg/m <sup>2</sup> h <sup>0.5</sup>	EN 13057	≤ 0.5
Chloride Content	AS1012.20	0.016%
Fresh Wet Density -kg/m <sup>3</sup>	AS1012.5	1815
Indirect Tensile Strength -MPa	AS1012.18	28days: 3.4
Flexural Strength -MPa	ASTM C348	28days: 5.1
Setting time-min	AS1012.18	Initial: 160 Final:206
Sulphate content	AS1012.20.1	1.1%
Chloride Diffusion-m <sup>2</sup> /sec	Nordtest NT Build 443	5.29E-12
Electrical Resistivity -KΩ·cm	AASHTO T358	28days:12.6

All data provided in technical characteristics table verified through testing conducted by NATA-accredited independent laboratories, in full accordance with the specified test methods.

### General Properties

Appearance	Grey powder
Water added per bag	3.5 to 4 litres per 20kg
Colour	Grey
Storage temperature	5-35°C
Temperature for application (substrate and material)	+5°C to +35°C

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## Application

For detailed application methodology, please refer to "Cementitious concrete repair MasterCrete repair mortars" application guide.

## Surface Preparation

Concrete must be fully cured, clean and sound to ensure good adhesion. All traces of loose concrete or mortar, dust, grease oil, etc. must be removed. Damaged or contaminated concrete should be removed to obtain a keyed surface. Non-impact/ vibrating cleaning methods, e.g. grit or high water pressure blasting are recommended. Aggregate should be clearly visible on the surface of the concrete structure after surface preparation. A CSP 5 or greater profile is recommended. Cut the edges of the repair vertically to a minimum depth of 3 mm. If reinforcing steel is visible, clean to a minimum grade of SA 2 according to ISO 8501-1 / ISO 12944-4. For extra protection, or when the steel is left exposed before repair work is completed, apply MasterCrete PRI 5000 active protection cement based primer.

## Mixing

Only full bags are mixed. Damaged or opened sacks should not be used. Mix MasterCrete CI 5200 with a helical paddle attached to a slow speed (300-600 rpm) mixer or in a forced action pan mixer for 3 minutes until a lump free, plastic consistency is achieved. Only use clean water. Mixing water needed: 3.5 to 4.0 litres per 20kg bag depending upon consistency required. Allow the mortar to rest for 2 - 3 minutes and then remix briefly, adjusting the consistency as required. NB: Never exceed the maximum water demand.

## Priming

The prepared substrate should be pre-soaked, preferably for 24 hours, but at least 2 hours before applying MasterCrete CI 5200. The surface must be saturated surface dry, but without standing water.

For improved build thicknesses or when working on large areas, apply bond or contact layer of the MasterCrete CI 5200 mortar. Alternatively a bonding coat of MasterCrete PRI 5000 can be applied.

Mortar application - The minimum temperatures must be maintained during application and for at least 12 hours thereafter for optimum curing of the product.

## Application

MasterCrete CI 5200 can be hand or trowel applied. Apply mixed product directly to the prepared damp substrate, or wet on wet onto the primed surface. A thin scratch coat or contact layer (a slurry coat of the MasterCrete CI 5200) before building up to the required thickness, wet on wet, will improve the wet adhesion and cohesion of the mortar. Apply to the desired layer thickness of 3 to max. 100 mm. Smoothing with a trowel and finishing by float or sponge can be done as soon as the mortar has begun to stiffen, typically after approximately 45 - 60 minutes at 20°C. In these environmental conditions, MasterCrete CI 5200 can be over-coated, after approximately 4 hours, with MasterProtect anti-carbonation coatings as required. NB: At lower temperatures and/or higher humidity these times will be extended.

## Estimating Data

One 20kg bag mixed with 3.8L of water will yield approximately 13 litres of mortar.

MasterCrete CI 5200				
L	Thickness in mm /m <sup>2</sup>	m <sup>3</sup>	bags /m <sup>3</sup>	m <sup>2</sup> /mm thickness
13	13mm	(0.013)	77	13 m <sup>2</sup>

## Packaging

MasterCrete CI 5200 is available in 20kg bags.

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## Storage & Shelf Life

Store in cool and dry warehouse conditions. Shelf life in these conditions is 12 months in unopened original bags.

## Precautions

For the full health and safety hazard information and how to safely handle and use this product, make sure that you obtain a copy of the Safety Data Sheet (SDS) from our office or website.

## Disclaimer

MasterCrete-CI5200-ANZ-V3-I 125

### STATEMENT OF RESPONSIBILITY

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