

MasterEmaco[®] N102 CI (formerly known as Emaco R1 (MCI))

Cementitious trowel applied lightweight polymer modified repair mortar with active corrosion inhibition

DESCRIPTION

MasterEmaco N102 CI is a non-structural, single component, polymer modified, repair and re-profiling mortar. **MasterEmaco N102 CI** when mixed with water is a mortar that contains special cements, graded sands, selected polymers to allow the mortar to be hand or trowel applied in thicknesses from 5 up to 100 mm.

RECOMMENDED USES

- **MasterEmaco N102 CI** is used for the non-structural repair of concrete elements like balconies edges, building facades, parapet walls, precast panels, and beam edges.
- **MasterEmaco N102 CI** is ideal for general, non-structural patch repairs where high build properties allowing up to 100 mm thickness in one layer are required.
- **MasterEmaco N102 CI** can be applied as a smoothing or levelling coat at only 5 mm thick on large vertical and overhead areas to achieve a more aesthetic finish e.g. prior to painting.
- **MasterEmaco N102 CI** contains active corrosion inhibitors making it suitable for aggressive environments.
- **MasterEmaco N102 CI** has active corrosion inhibition to prevent incipient anodes forming and to preserve the reinforcing steel in the immediate area of the patch.

FEATURES AND BENEFITS

- **Shrinkage compensation and corrosion inhibition** - To minimise crack tendency and extend life of repair.
- **Smooth, creamy, non-slump mortar** - Easy to create profiles and corners without formwork
- **High build capacity** - Can be applied 80 - 100 mm in vertical applications or up to 70 – 80 mm overhead in one layer
- **Multi-use** - Reprofiling and patch repair mortar in one
- **Good strength development** - Exceeding requirement of Class N102 CI of EN1504 part 3
- **Low modulus of elasticity** - Able to cope with the thermal movement of the structure
- **Low chromate (Cr[VI] < 2 ppm)** - Reduces risk of skin allergies

- **Chloride-free** - Does not increase chloride load on structure.

PROPERTIES

Appearance	Grey powder
Layer thickness	Min. 5mm Max. 100mm (vertical & horizontal), 80mm (overhead)
Density	Approx. 1.5 g/cm ³
Temperature for application (substrate and material)	Between +5°C and +35°C

Compressive strength - after 7 days - after 28 days AS 1478.2 Appendix A (Restrained)	≥ 20 MPa ≥ 25 MPa
Electrical resistivity (ASTM C305)	14100 ohms @ 28 days
Elastic Modulus (AS 1012 pt 17)	10 GPa
VOC Content (SCAQMD 304-91)	6g/L

Hardening times are measured at 21°C ± 2°C and 60% ± 10% relative humidity. Higher temperatures will reduce these times and lower temperatures will extend them. Technical data shown are statistical results and do not correspond to guaranteed minima. Tolerances are those described in appropriate performance standards

APPLICATION

Surface preparation - Concrete must be fully cured, clean and sound to ensure good adhesion. All loose traces of 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. Cut the edges of the repair vertically to a minimum depth of 5 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 **MasterEmaco N 5000 CI** active protection cement based primer.



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Priming - The prepared substrate should be pre-soaked, preferably for 24 hours, but at least 2 hours before applying **MasterEmaco N102 CI**. The surface must be mat-damp, but without standing water.

For improved build thicknesses or when working on large areas, apply bond or contact layer of the **MasterEmaco N102 CI** mortar. Alternatively a bonding coat of **MasterEmaco N 5000 CI** can be applied. Always apply **MasterEmaco N102 CI** mortar wet-in-wet onto the bond or contact layer.

Mixing – Use only full bags and damaged or opened sacks should not be used. Mix **MasterEmaco N102 CI** with a suitable paddle attached to a powerful, slow speed electric drill for 3 minutes until a lump free, plastic consistency is achieved. Only use clean water. Mixing water needed: 3.8 to 4.0 litres per 20kg bag depending upon consistency required. (Use stiffer consistency for overhead and vertical patching application and softer more creamy consistency for use as a levelling coat at 5mm thick). 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.

Mortar application - The minimum temperatures must be maintained during application and for at least 12 hours thereafter for optimum curing of the product. The surface must be mat-damp, but without standing water. **MasterEmaco N102 CI** 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 scrape coat or contact layer 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 5 to max. 100 mm.

Smoothing with a trowel or 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, **MasterEmaco N102 CI** can be over-coated, after 7 days, with **MasterProtect** Coatings as required.

NB: At lower temperatures and/or higher humidity these times will be extended

CURING

MasterEmaco N102 CI has been formulated to withstand too rapid water loss under normal conditions. In high temperatures with low humidity and windy conditions, repairs should be cured by application of a suitable BASF curing compound or cover with plastic sheeting in order to avoid plastic shrinkage cracking

ESTIMATING DATA

One 20 Kg bag mixed has a volume of approximately 13L

PACKAGING

MasterEmaco N102 CI is available in 20kg bags.

SHELF LIFE

MasterEmaco N102 CI has a shelf life of 12 months. Store inside and protect from contact with water.

PRECAUTIONS

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

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STATEMENT OF RESPONSIBILITY

The technical information and application advice given in this BASF publication are based on the present state of our best scientific and practical knowledge. As the information herein is of a general nature, no assumption can be made as to a product's suitability for a particular use or application and no warranty as to its accuracy, reliability or completeness either expressed or implied is given other than those required by law. The user is responsible for checking the suitability of products for their intended use.

NOTE

Field service where provided does not constitute supervisory responsibility. Suggestions made by BASF either orally or in writing may be followed, modified or rejected by the owner, engineer or contractor since they, and not BASF, are responsible for carrying out procedures appropriate to a specific application.

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