

# Metric R2 Fix

High ductility, fibre-reinforced thixotropic mortar for concrete and masonry reconstruction.

Metric R2 Fix is a class R2 mortar for repairing concrete structures and anti-cracking interventions.



1. Thixotropic, class R2
2. Thicknesses from 2 to 40 mm in a single coat
3. For non-structural repairs of concrete
4. For repair of brick, stone and concrete structures
5. Applicable with a machine

## Rating 4



- ✓ Regional Mineral  $\geq 60\%$
- × Recycled Regional Mineral  $\geq 30\%$
- ✓ CO<sub>2</sub> Emission  $\leq 250$  g/kg
- ✓ VOC Low Emission
- ✓ Recyclable

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## Areas of application

### → Intended use:

- Non-structural repair of weakened masonry and concrete parts.
- Smoothing and filling of surface defects such as construction joints, honeycombs, holes.

Repair of damaged masonry facings and stringcourses.

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## Instructions for use

### → Preparation of substrates

- Before applying Metric R2 Fix it is necessary to:
- restore the concrete substrate and roughen it by mechanical scarification, sandblasting or hydro-demolition to a depth of at least 1-2 mm, thoroughly removing all weakened concrete;
  - clean the treated substrate using compressed air or a high pressure washer;
  - saturate with water until the substrate is saturated yet with no excess water on the surface.

Check that the resistance class of the supporting concrete is suitable.

For application on masonry, clean the support thoroughly and saturate using water.

In case of thick patched layers and on large surface areas, provide a reinforcing welded mesh anchored to the substrate.

### → Preparation

Prepare Metric R2 Fix by mixing the powder using the amount of water indicated on the packaging (we advise using the whole bag).

The mixture can be prepared in:

- a suitable mixing pump;
- a mortar mixer or drill-type mixing device with a low-rev agitator.

### → Application

- In localised and/or generalised non-structural repair work in which Metric R2 Fix is applied in thicknesses from 2 mm to 40 mm (maximum

per layer), apply the mortar by hand using a trowel or a mortar spray machine. Float with a sponge float as soon as the mortar achieves the right consistency; timing can vary, depending on temperature and thickness.

- For the repair of clay brick, stone and concrete structures as well as stringcourses, apply the first coat of mortar ensuring that enough material is applied to the adequately prepared substrate in order to incorporate the sheet and to level any irregularities. Apply Geo Grid 120, Geosteel Grid or Rinforzo ARV 100, using a suitable flat spreader to press down hard enough to ensure the correct impregnation and eliminate any air bubbles. Apply the second coat until the sheet is completely covered.
- Mechanical application: it is recommended to use a piston plastering machine or an endless screw plastering machine (such as Turbosol, Putzmeister, PFT, Bunker, Imer) or a three-phase continuous pump mixer (such as PFT G4) equipped with the following accessories: mixer, stator/rotor D 6-3 (flow rate 22 l/min), Ø 25 mm flexible hose, 10-15 m long and spray gun.

Allow the surfaces to cure for at least 24 hrs.

### → Cleaning

Residual traces of Metric R2 Fix can be removed from tools and machines using water before the product hardens.

## Certificates and marks



When properly emptied, the packaging is recyclable as paper (up to 80 per cent) according to the ATICELCA® 501 method.



\* Émission dans l'air intérieur Information sur le niveau d'émission de substances volatiles dans l'air intérieur, présentant un risque de toxicité par inhalation, sur une échelle de classe allant de A+ (très faibles émissions) à C (fortes émissions).

## Abstract

Supply and laying of a high ductility, fibre-reinforced, thixotropic mortar, such as Metric R2 Fix by Kerakoll, for the reconstruction of damaged or deteriorated sections of concrete and masonry, to be applied with a trowel or by machine, after adequate preparation and wetting of the substrates until fully saturated. GreenBuilding Rating 4, CE-marked and compliant with the performance requirements of Standard EN 1504-3, Class R2, type CC and PCC according to Principles as defined by Standard EN 1504-9.

### Technical Data compliant with Kerakoll Quality Standard

Appearance	Powder	
Apparent volumetric mass	≈ 1340 kg/m <sup>3</sup>	UEAtc
Aggregate mineral content	silicate - carbonate	
Grading	0 – 0.5 mm	EN 12192-1
Shelf life	≈ 12 months from production in the original sealed packaging, protect from humidity	
Pack	25 kg bag	
Mixing water	≈ 4.5 l / 1 x 25 kg bag	
Flow of the mixture	≈ 170 – 180 mm	EN 13395-1
Density of the mixture	≈ 1750 kg/m <sup>3</sup>	UNI 7121
pH of the mixture	≥ 12.5	
Start/End of setting	≥ 2 hrs	
Temperature range for application	from +5 °C to +35 °C	
Minimum thickness	2 mm	
Maximum thickness per layer	40 mm	
Coverage	≈ 15 kg/m <sup>2</sup> per cm of thickness	

Values taken at +21 °C, 60% R.H. and no ventilation. Data may vary depending on specific conditions at the building site.

**Performance****VOC Indoor Air Quality (IAQ) - Volatile organic compound emissions**

Conformity	EC 1 plus GEV-Emicode	GEV certified 17757/11.01.02
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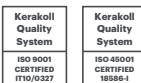
**HIGH-TECH**

Performance characteristic	Test Method	Requirements of EN 1504-3 class R2	Metric R2 Fix performance in CC and PCC conditions
Compressive strength	EN 12190	≥ 15 MPa (28 days)	> 15 MPa
Flexural tensile strength	EN 196-1	None	> 9 MPa
Adhesive bond	EN 1542	≥ 0.8 MPa (28 days)	> 2 MPa
Modulus of elasticity under compression	EN 13412	None	9 GPa in CC 10 GPa in PCC
Thermal compatibility with freeze/thaw cycles with de-icing salts	EN 13687-1	≥ 0.8 MPa	> 2 MPa
Capillary absorption	EN 13057	None	< 0.5 kg·m <sup>-2</sup> ·h <sup>-0.5</sup>
Chloride ion content (determined on the product in powder form)	EN 1015-17	≤ 0.05%	< 0.05%
Reaction to fire	EN 13501-1	Euroclass	A1
	Test Method	Requirements of EN 1015-1	Performance Metric R2 Fix
Adhesion on clay brick	EN 1015-1	None	> 2 MPa (28 days)

Values taken at +21 °C, 60% R.H. and no ventilation. Data may vary depending on specific conditions at the building site.

## Warning

- Product for professional use
- abide by any standards and national regulations
- store the product away from any sources of humidity and out of direct sunlight
- use at temperatures between +5 °C and +35 °C
- do not add binders or additives to the mixture
- do not apply to dirty, loose and flaking surfaces
- do not apply on gypsum, metal or wood
- following application, protect from direct sunlight and wind
- allow the product to cure during the first 24 hours
- if necessary, ask for the safety data sheet
- for any other issues, contact the Kerakoll Worldwide Global Service +39 0536 811 516 - [globalservice@kerakoll.com](mailto:globalservice@kerakoll.com)



The Rating classifications refer to the GreenBuilding Rating Manual 2012. This information was last updated in October 2023 (ref. GBR Data Report - 10.23); please note that additions and/or amendments to this information may be made over time by KERAKOLL Spa; for the latest version, see [www.kerakoll.com](http://www.kerakoll.com). KERAKOLL Spa shall therefore be liable for the validity, accuracy and updating of information provided only when taken directly from its institutional website. The technical data sheet given here is based on our technical and practical knowledge. As it is not possible for us to directly check the conditions in your building site and the execution of the work, this information represents general indications that do not bind Kerakoll in any way. Therefore, it is advisable to perform a preliminary test to verify the suitability of the product for your purposes.