Code: E1322 2024/12 UK/EN

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

GREENBUILDING RATING
REF. GBR DATA REPORT 12.24
APPROVED

- ✓ Regional Mineral ≥ 60%
- × Recycled Regional Mineral ≥ 30%
- ✓ CO_2 Emission ≤ 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

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.
- Mechanized application: it is recommended to use a continuous cycle pump equipped with a stator suitable for the maximum grain size of the product (0.5 mm) or an indirect mixing pump.

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

Il packaging quando correttamente svuotato è riciclabile con la carta fino all'80% secondo il metodo ATICELCA® 501.

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/m³	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 bags	
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/m³	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/m² 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
HIGH-TECH			
Performance characteristic	**Test Method**	**Requirements of EN 1504-3 class R2**	**Performance**
Compressive strength after 28 days	EN 12190	≥ 15 N/mm²	> 15 N/mm²
Flexural tensile strength	EN 196-1	None	> 9 N/mm²
Adhesive bond after 28 days	EN 1542	≥ 0.8 N/mm²	> 2 N/mm²
Modulus of elasticity under compression	EN 13412	None	13 GPa
Modulus of elasticity under compression:	EN 13412	None	
- CC			9 GPa
- PCC			10 GPa
Thermal compatibility with freeze/thaw cycles with de-icing salts	EN 13687-1	bond strength after 50 cycles ≥ 0.8 N/mm²	> 2 N/mm²
Capillary absorption	EN 13057	None	< 0.5 $kg \cdot m^{-2} \cdot h^{-0,5}$
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**
Adhesion to masonry after 28 days	EN 1015-1	None	> 2 N/mm²

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 01772 456 831 – info@kerakoll.co.uk

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