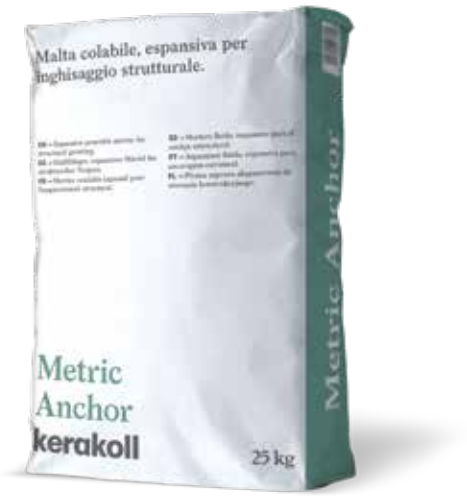
Code: E1312 2026/04 EN

Metric Anchor

Expansive pourable mortar for structural grouting.

Metric Anchor is a class R4 expansive mortar with high mechanical resistance for anchoring and fixing metal elements, and for repairing and consolidating reinforced concrete structures.



1. **Pourable, class R4**
2. **Expansive**
3. **Thicknesses from 10 to 100 mm in a single coat**
4. **For precision anchoring**
5. **Extremely fluid**
6. **Applicable with a machine**

kerakoll

Areas of application

→ Use
Repair and structural consolidation of weakened reinforced concrete and prestressed reinforced concrete elements of any nature and size:
- by the formwork casting of concrete for vertical structures and at the soffit of horizontal elements;
- by pouring onto the top surface of horizontal elements or by bonded section underpinning in general.

Filling of rigid joints.
Precision fastening and structural anchoring of sub-plates, tie-rods, bars, plates, machinery on reinforced concrete.
Fastening and grouting of pre-fabricated structures.

Instructions for use

→ Preparation of substrates
Before applying Metric Anchor it is necessary to:
- thoroughly remove all weakened concrete until a solid, resistant substrate is obtained; roughen it by mechanical scarification or hydro-demolition to a depth of ≥ 5 mm, equivalent to level 9 of the Test kit for preparation of reinforced concrete and masonry substrates;
- remove the rust from the reinforcing bars, which must be cleaned by brushing (manual or mechanical) or sandblasting;
- 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. Alternatively, on horizontal concrete surfaces, apply Primer Uni on a dry substrate in order to ensure regular absorption and promote better mortar adhesion.

Check that the resistance class of the supporting concrete is suitable.
In case of thick patched layers and on large surface areas, provide a reinforcing welded mesh anchored to the substrate.

→ Preparation
Prepare Metric Anchor by mixing the powder with the amount of water indicated on the packaging (we advise using the whole bag).
The mixture can be prepared in:
- a mixer, mixing until a smooth, lump-free mortar is obtained;
- a suitable mixing pump;
- a mortar mixer or drill-type mixing device with a low-rev agitator.

→ Application
- For grouting of bars, fill the hole previously made with Metric Anchor and insert the bar with a rotating movement.
- For under-slab filling and grouting of machinery, pour continuously on one side only to facilitate the escape of air, ensuring the correct filling of the space between the substrate and the metal element.
- Do not subject the casting to vibration. To facilitate the passage of mortar in difficult situations use wooden elements or steel reinforcing rods.
- Mechanized application: it is recommended to use a continuous cycle pump equipped with a stator suitable for the maximum grain size of the product (2.5 mm) and the scale of the operation, or an indirect mixing pump.

Allow to cure during the first 24 hrs.

→ Cleaning
Residual traces of Metric Anchor 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 expansive pourable mortar with high immediate mechanical resistance, such as Metric Anchor by Kerakoll, for fastening and anchoring of metal elements such as tie-rods, plates, underpinning, machinery and pre-fabricated structures, by hand or machine casting, after adequate preparation and wetting of the substrates until fully saturated. CE-marked and compliant with the performance requirements of Standard EN 1504-3, Class R4, type CC and PCC, for volumetric reconstruction and of Standard EN 1504-6 for anchoring; according to Principles as defined by Standard EN 1504-9.

Technical Data compliant with Kerakoll Quality Standard		
Appearance	powder	
Apparent volumetric mass	≈ 1380 kg/m³	UEAtc
Aggregate mineral content	silicate - carbonate	
Grading	0 – 2.5 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 l / 1 x 25 kg bag	
Flow of the mixture	270 – 290 mm with no shaker table vibration	EN 13395-1
Density of the mixture	≈ 2290 kg/m³	
pH of the mixture	≥ 12.5	
Pot life	≥ 1 hr	
Temperature range for application	from +5 °C to +35 °C	
Minimum thickness	10 mm	
Maximum thickness per layer	60 – 100 mm (according to the type of work and the size of the operation)	
	For thicker layers, mix with Ghiaia 3.6 gravel	
Coverage	≈ 20 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 17140/11.01.02
HIGH-TECH			
Performance characteristic	**Test Method**	**Requirements of EN 1504-3 class R4**	**Performance**
Compressive strength (N/mm²)	EN 12190		
24 hrs			> 60
7 days			> 70
28 days		≥ 45	> 80
Flexural tensile strength (N/mm²)	EN 196-1	None	
24 hrs			> 8
7 days			> 10
28 days			> 11
Adhesive bond after 28 days	EN 1542	≥ 2 N/mm²	> 2 N/mm²
Resistance to carbonation	EN 13295	d_k ≤ reference concrete [MC (0.45)]	value exceeded
Modulus of elasticity under compression:	EN 13412	≥ 20 GPa (28 days)	
- CC			28 GPa
- PCC			26 GPa
Contrasted expansion to air:	UNI 8147 metodo B	None	
- 24 hrs			≥ 0,04%
Thermal compatibility with freeze/ thaw cycles with de-icing salts	EN 13687-1	bond strength after 50 cycles ≥ 2 N/mm²	> 2 N/mm²
Capillary absorption:	EN 13057		≤ 0.5 kg·m^{-2}·h$^{-0.5}$
- CC			≤ 0.1 kg·m^{-2}·h$^{-0.5}$
- PCC			< 0.5 kg·m-²·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 standard EN 1504-6**	**Performance**
Pull-out strength of steel rebars (movement in mm in relation to a 75 kN load)	EN 1881	≤ 0.6 mm	< 0.6 mm
Chloride ion content (determined on the product in powder form)	EN 1015-17	≤ 0.05%	< 0.05%
Hazardous substances		compliant with point 5.4	

Performance			
	Test Method	**Requirements of standard**	**Performance**
Embedded bar adhesive tension	RILEM-CEB-FIPRC6-78	None	> 25 N/mm²
Crack Bridging properties	O-Ring test	None	no cracks
Bleeding	UNI 8998	None	none
Resistance to severe chemical attacks (group 3: unused heating oil, diesel oil and oils for engine and gear)	EN 13529	analysis of damage and bond strength ≥ 2 N/mm²	no deterioration and bond strengths > 2 N/mm²
Water-resistance	EN 12390-8	None	< 2 mm
Aggregate performance characteristic	**Test Method**	**Requirements of standard UNI 8520-22**	**Aggregate performance**
Alkali-aggregates reaction	UNI 11504	reactivity class	NR (non-reactive)

Warning

→ Abide by any standards and national regulations
→ 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

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