

Geolite Magma 20

Mineral geo-mortar with geo-binder base for monolithic grouting in reinforced concrete.

Geolite Magma 20 is a pourable geo-mortar for passivating, repairing and consolidating structures in reinforced concrete with a swelling effect, for anchoring and fixing metal elements. Specific for operations at low temperatures and when quick use is needed.



Rating 4

1. Pourable for grouting, class R4
2. Rapid setting 20 min
3. Thicknesses from 10 to 100 mm
4. Based on geo-binder
5. For naturally stable, monolithic repairs
6. Modular setting times

- ✓ Regional Mineral $\geq 60\%$
- × Recycled Regional Mineral $\geq 30\%$
- ✓ CO₂ Emission ≤ 250 g/kg
- ✓ VOC Low Emission
- ✓ Recyclable

Areas of application

→ Use

Passivation, restoration and monolithic consolidation of reinforced concrete structures and infrastructures which must be ready for use quickly even at low temperatures, such as industrial and airport flooring, pavements, drains.

Fastening and structural anchoring of sub-plates, tie-rods, plates, machinery, pre-fabricated structures, road traps, manholes, fences, road signs and protective barriers.

Instructions for use

→ Preparation of substrates

Before applying Geolite Magma 20 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 Geolite Base on a dry substrate in order to ensure regular absorption and promote the natural crystallisation of the geomortar.

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 Geolite Magma 20 by mixing 25 kg of powder with the amount of water indicated on the packaging (we advise using the whole bag). The mixture can be prepared in a cement mixer (bearing in mind the fact that the mortar hardens quickly), or in a bucket using a mortar mixer or a drill-type mixing device with a low-rev agitator until the mixture is smooth and has no lumps.

→ Application

- For repair and/or reinforcement involving the use of Geolite Magma 20, apply the mortar by pouring it on the extrados of horizontal surfaces or in sealed and formworks treated with parting compound that assists air escape, using the correct application techniques. Application thicknesses of Geolite Magma 20 shall not be less than 10 mm. For applications involving a thickness of 60-100 mm (according to the type of work to be carried out and the size of the operation), to contain hydration heat, mix up a fine grain concrete, adding Kerabuild Ghiaia in a ratio of 25-30% by weight of the Geolite Magma 20 (25-30 kg of Kerabuild Ghiaia for every 100 kg of Geolite Magma 20), so that the grain size curve is optimised according to the application thickness.

- For grouting of bars, fill the hole previously made with Geolite Magma 20 by extruding the material with a special gun and insert the bar with a rotating movement.

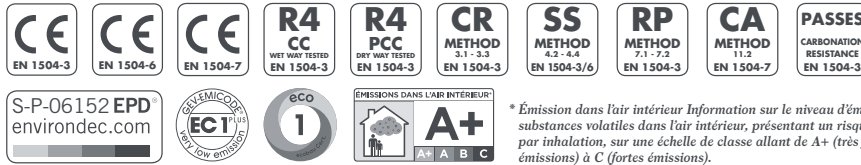
Geolite Magma 20 must be integrated with the structure to be restored by incorporating the existing reinforcing rods, after freeing them from the concrete, or by inserting additional reinforcement in the form of rods or electro-welded mesh.

Allow the surfaces to cure for at least 24 hrs. Geolite Magma 20 can be applied at room temperatures of -10 °C in the presence of substrates with a minimum temperature of $+5$ °C; it is advisable to store the product in a heated room. If no special precautions are taken, it is recommended to use Magma 20 at temperatures $\geq +5$ °C.

→ Cleaning

Residual traces of Geolite Magma 20 can be removed from tools and machines using water before the product hardens.

Certificates and marks



* 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

Localised or generalised centimetre-thick monolithic repair and consolidation of damaged or deteriorated sections of reinforced concrete and simultaneous treatment of reinforcing bars, reconstruction of concrete floors, fastening and anchoring of metal elements, road traps, manholes and street furniture with rapid return to normal use even at low temperatures by casting, after adequate preparation and wetting of the substrates until fully saturated, of a certified, mineral, pourable, rapid-setting (20 min.) geo-mortar with a geo-binder base, extremely low petrochemical polymer content, free from organic fibres, specific for the passivation, repair and guaranteed, long-lasting, monolithic strengthening of concrete structures and anchoring of metal elements, such as Geolite Magma by Kerakoll Spa, GreenBuilding Rating 4, CE-marked and compliant with the performance requirements of Standards EN 1504-7 for the passivation of reinforcing bars, EN 1504-3, Class R4 for volumetric reconstruction and consolidation and EN 1504-6 for the anchoring with swelling effect; according to Principles 3, 4, 7 and 11 as defined by Standard EN 1504-9.

Technical Data compliant with Kerakoll Quality Standard

Appearance	Powder	
Apparent volumetric mass	≈ 1360 kg/m ³	UEAtc
Aggregate mineral content	silicate - carbonate	
Grading	0-2.5 mm	EN 12192-1
Shelf life	≈ 6 months from production in the original sealed packaging, protect from humidity	
Pack	25 kg bags	
Mixing water	≈ 3.5 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	≈ 2220 kg/m ³	
pH of the mixture	≥ 12.5	
Pot life	≈ 30 min. (at +5 °C) / ≈ 25 min. (at +10 °C) / ≈ 15 min. (at +21 °C)	
Start/End of setting	≈ 20-30 min. (≈ 35 – 40 min. at +5 °C)	
Temperature range for application	from +5 °C to +40 °C	
Embedded bar adhesive tension	> 25 MPa	RILEM-CEB-FIP-RC6-78
Minimum thickness	10 mm	
Maximum thickness	60-100 mm (according to the type of work and the size of the operation)	
Coverage	for thicker layers, mix Geolite Magma 20 with Kerabuild Ghiaia ≈ 19.5 kg/m ² 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.

	Test Method	Requirements of standard EN 1504-6	Performance Geolite Magma 20
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	
Aggregate performance characteristic	Test Method	Requirements of standard UNI 8520-22	Aggregate performance Geolite Magma 20
Alkali-aggregates reaction	UNI 11504	reactivity class	NR (non-reactive)

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 +40 °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



The Rating classifications refer to the GreenBuilding Rating Manual 2013. This information was last updated in May 2022 (ref. GBR Data Report – 05.22); please note that additions and/or amendments may be made over time by KERAKOLL SpA; for the latest version, see 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 yards 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.