Technical Datasheet

MEGACRET-40 GEO

High-strength, eco-friendly cementitious repair geo-mortar

Description

High-strength, eco-friendly, fiber-reinforced, fast-setting, cementitious repair geo-mortar, enriched with natural binders and minimum synthetic polymers. It provides:

- Superior strength.
- Strong adhesion to the substrate.
- Excellent workability.
- Reduced water permeability.
- Volume stability.
- A very smooth finish. It is not necessary to apply another material (e.g. putty) to achieve a smooth result.
- Can be applied in thin (2 mm) or thicker layers (40 mm).
- Protection of the reinforcement against corrosion.

MEGACRET-40 GEO contains special additives that are able to penetrate deep into concrete and form a protective layer on the surface of the steel reinforcement. Moreover, they reduce the porosity of concrete, thus increasing its water impermeability and preventing the penetration of substances that could potentially corrode the steel reinforcement.
Certified according to EN 1504-3 and classified as a PCC R4 mortar for concrete repairs.
Certified according to EN 1504-7 and classified as a product for reinforcement corrosion protection. CE marked.

Fields of application

MEGACRET-40 GEO is suitable for highly demanding repairs in concrete element.
It is applied with a trowel or pneumatically with a gunite process to floors, walls or ceilings.

Technical data

Form:	powder
Color:	grey
Grain size:	up to 0.5 mm
Water demand:	4.80-5.00 l/25 kg bag
Bulk density of dry mortar:	1.40 ± 0.10 kg/l
Bulk density of fresh mortar:	2.00 ± 0.10 kg/l
Shear adhesion (coated steel to concrete): (EN 15184)	Pass *1
Corrosion protection: (EN 15183)	Pass *2
Compressive strength:	
• After 24 hours:	> 20.00 N/mm^2
• After 7 days:	> 35.00 N/mm^2
• After 28 days:	> 45.00 N/mm^2
Flexural strength:	
• After 24 hours:	> 5.00 N/mm^2
• After 7 days:	> 7.00 N/mm^2
• After 28 days:	> 8.00 N/mm^2
Elastic modulus:	>20.0 GPa
Chloride ion content:	0.00%
Adhesion:	≥ 2.00 N/mm^2
Thermal compatibility Part 1 (50 freeze-thaw cycles):	≥ 2.00 N/mm^2
Capillary water absorption:	0.35˙kg˙m^{-2}˙h$^{-0.5}$
Reaction to fire:	Euroclass A1
Pot life:	1 h at +20°C
Layer thickness (1 layer):	2-40 mm

**1: The test is considered passed if the bond stress determined with the coated bars in each case is at least 80% of the reference bond stress determined for the uncoated bars.*

**2: The test is considered passed if the coated zones of the steels are free of corrosion and if rust creep at the ground plate edge: < 1 mm.*

Directions for use

1. Substrate preparation
The substrate must be free of dust, grease or any foreign material. Before applying MEGACRET-40 GEO, the substrate has to be thoroughly dampened and then the excess of water should be left to evaporate or be removed with compressed air.

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2. Application
A 25 kg bag of MEGACRET-40 GEO is gradually added to 4.80-5.00 l of water under continuous stirring, until a homogenous, tight mass is formed, appropriate for repair works. Either a low speed mixer or a concrete mixer could be used for the mixing.
The material should be applied (pressed) to the desired thickness - up to 4 cm per layer - with a trowel or pneumatically with a gunite process.
When a second layer is required, the surface of the first layer should be roughened, to achieve better adhesion.
The final surface should be well protected from dehydration by being covered with wet cloth or polyethylene sheets, or repeatedly dampened for 48 hours.

Consumption

Approx. 17 kg/m^2/cm of layer thickness.

Packaging

MEGACRET-40 GEO is available in 25 kg bags.

Shelf life – Storage

12 months from production date, stored in its original, unopened packaging, in places protected from moisture and frost.

Remarks

- Application temperature must be between +5°C and +30°C.
- At low temperatures and in case early strength development is required, it is recommended to mix the material with lukewarm water.
- Not sulfate-resistant. Avoid contact with sea water.
- The product contains cement that reacts with water forming alkaline solutions, thus is classified as irritant.
- Consult the directions for safe use and precautions written on the packaging before use.

CE

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EN 1504-3

Concrete repair product for structural repair PCC mortar (based on hydraulic cement, polymer modified)

DoP No.: MEGACRET-40 GEO/1269-01

Compressive strength: class R4

Chloride ion content: ≤ 0.05%

Adhesive Bond: ≥ 2.0 MPa

Carbonation resistance: Pass

Elastic modulus: ≥ 20 GPa

Thermal compatibility part 1: ≥ 2.0 MPa

Capillary absorption: ≤ 0.5 kg·m^{-2}·h$^{-0.5}$

Dangerous substances: comply with 5.4

Reaction to fire: Euroclass A1

The technical information and instructions supplied in this datasheet are based on the knowledge and experience of the Department of Research and Development of our company and on results from long-term applications of the product in practice. The recommendations and suggestions referring to the use of the product are provided without guarantee, since site conditions during the applications are beyond the control of our company. Therefore the user is responsible for confirming that the chosen product is suitable for the envisaged application. The present edition of this technical datasheet automatically cancels any previous one concerning the same product. | Edition: 09.12.2024

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DoP No.: MEGACRET-40 GEO / 1305-01

EN 1504-7

Reinforcement corrosion protection product for uses other than low performance requirements

Shear adhesion: Pass

Corrosion protection: Pass

Dangerous substances: comply with 5.3

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