MARMOLINE
ADVANCED BUILDING MATERIALS

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THIXOCRETE R4

EN 1504-3 R4

Thixotropic mortar for structural concrete repairs

DESCRIPTION

Single component, cementitious, high strength, shrinkage compensated, fibre reinforced, thixotropic mortar. Suitable for concrete repairs with layer thicknesses 10-40 mm.

The product is also accompanied by an Environmental Product Declaration (EPD) regarding the environmental impact during its life cycle (EPD registration number: S-P-09972).

CHARACTERISTICS/ADVANTAGES

- High strength (class R4)
- It contains pure quartz aggregates
- Shrinkage compensating
- Impermeable
- Formulation rich in cement, which allows easy placing and finishing
- Sprayable

FIELDS OF APPLICATION

- repairs of damaged structural concrete elements (beams, columns)
- repair of concrete cavities, due to poor casting and weak vibration
- repairs of concrete precast elements

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PRODUCT INFORMATION

Composition	Cement modified with polymers, specially selected aggregates.
Appearance/Colour	Grey powder
Packaging	25 kg bags (1500 kg pallets) Plastic bags 5 kg. Pallet 960 kg (48 cartons of 20 kg)
Storage conditions	In sealed packaging and dry environment
Shelf life	12 months from date of manufacture

TECHNICAL CHARACTERISTICS

Compressive strength:	> 45 MPa (Class R4)
Chloride content:	$\leq$0.05%
Adhesive bond:	$\geq$2 MPa
Restrained shrinkage /expansion:	$\geq$2 MPa
Carbonation resistance:	Passes
Elastic modulus:	$\geq$ 20 GPa
Capillary absorption:	$\leq$0.5 kg/m^{2}h ^{0,5}
Reaction to fire:	Euroclass A1

APPLICATION INFORMATION

Mixing ratio	3.5 – 4.2 lt of water per bag of 25 kg
Consumption	Approx. 20 kg of powder, per m^2, per 10 mm layer thickness

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DIRECTIONS OF USE

SUBSTRATE PREPARATION

- The concrete substrate must be completely clean and structurally sound.
- The cavity of the surface to be repaired should be at least 10 mm thick.
- The edges where concrete is removed, should be cut at an angle of 90o and to a thickness of at least 10mm
- Remove deteriorated concrete or mortar by hand or mechanical methods (chisel or high pressure water blasting) ensuring also the appropriate surface roughness.
- Reinforcement should be cleaned from rust and any other loose and deleterious materials or you should add new bars if the existing ones are no longer appropriate
- Before applying THIXOCRETE the substrate should be saturated with water
- Remove excess water, if any

MIXING

- In a clean bucket, initially pour the minimum amount of water indicated, start the mixer and add THIXOCRETE continuously. Mix (in low speed) until a homogeneous, without lumps, mixture is achieved
- Then leave the mixture to settle for 2 – 3 min and if necessary add water (according to the amount indicated), and mix again until the required consistency is achieved.
- Hand mixing of the product is not recommended

APPLICATION

- The mortar can be applied by trowel or sprayed.
- The final levelling /smoothing of the surface, may only begin once the mortar has started to set

TOOLS CLEANING

Fresh material should be removed from the equipment with water immediately after application.

Hardened/mature material can only be removed by mechanical means.

IMPORTANT NOTICE

- After application all free surfaces of the mortar should be properly cured for at least 2 days. During the summer period with wet burlaps, spraying water or curing agents and during winter period should be protected from low temperatures with plastic sheets.
- The above application guidelines are indicative, for the correct use of the product. For more technical details please contact the company's technical department.
- For thickness application > 50mm contact the technical department of NORDIA SA

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COMPLIANCE WITH STANDARDS

CE marking and Declaration of Performance based on standards EN 1504-3 (for structural repairs). TÜV AUSTRIA HELLAS (0906) - 0906-CPR-02413045

HEALTH, SAFETY & ENVIROMENTAL PROTECTION

Detailed information and instructions regarding the safe management of the product and in matters of Health & Safety, are provided in the most recent Safety Data Sheet (SDS), copies of which are available on the company's website https://marmoline.gr/ or upon request.

LEGAL NOTICE

We guarantee the quality of all our products, based on their technical specifications, as described in the Declaration of Performance (CE) and this Technical Data Sheet. Such guarantee refers only to the products that we deliver for use and never to its application or final result, which largely depends on the experience and quality of work of each user and on the application conditions. The user is advised to test the product on a small scale, and if he is satisfied with the result, then to use the product on large scale in his project. All data stated in this Technical Data Sheet are based on laboratory tests. The really measurable data might differentiate due to conditions that are not subject to our control. The recommendations and implementation instructions must be considered by the user as indicative, and always with given that the product has been traded and traded and stored according to its instructions. As it is not possible to control the parameters/conditions of its application product in practice, no guarantee is provided for the final result of each application. Consequently, no legal liability of the Company can be established based on the information and instruction given in this Technical Data Sheet. The Company reserves the right to modify data listed in this Product Data Sheet, with no previous warning. Users must refer to the latest version of the product Technical Data Sheet.

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DoP:208 MAR-CPR
0906

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364 Kifissias Av., 15233 Chalandri, Athens/ Greece

EN 1504-3

THIXOCRETE R4
Repair mortar (CC mortar) for structural concrete repairs

Compressive strength: *class R4*
Chloride ion content: ≤ *0.05%*
Adhesive bond: ≥ *2 MPa*
Restrained shrinkage/expansion : ≥ *2 MPa*
Elastic modulus: ≥ *20 GPa*
Carbonation resistance: *pass*
Capillary absorption: ≤ *0.5 kg* m^{-2} $h^{-0.5}$
Dangerous substances: *comply with §5.4*
Reaction to fire: *class A1*