

Exocem R1 rapid

Quick setting cement-based thixotropic mortar

Product Description

EXOCEM R1 RAPID is a pre-mixed mortar of cement, selected aggregates, superplasticizers, shrinkage controlling agents during both plastic (UNI 8996) and hardening phase (UNI 8147). With the addition of water it is possible to obtain a thixotropic mortar, highly adhesive to concrete, bricks and iron. It is a durable mix, suitable for highly resistant restoration and coating of structures, without shrinkage.

Typical applications

EXOCEM R1 RAPID is suggested for all the applications which need a strong acceleration in the mortar hardening after its laying.

It is especially suggested for:

- Metal parts fixing
- Damaged parts repair with concrete and masonry;
- restoration of damaged column edges, beams, frontal parts, etc..

Transport, storage, dosage, yield

- EXOCEM R1 RAPID is available in kg 25 bags;
- Product to be stored in a dry and covered place between +5°C and +40°C. Once the bag is open, it is advisable to use the whole product for it is sensitive to humidity due to its cement content.

Yield:

Consistency (UNI EN 196, part 3)	Fluid 70-80 mm
l of H ₂ O per 100 kg of EXOCEM R1 RAPID	18-20
l of fresh mortar per 100 kg of EXOCEM R1 rapid	61
kg of EXOCEM R1 RAPID per 1m ³ of fresh mortar	1610-1695
Yield kg/m ² /mm fresh mortar	1,610 – 1,695
Specific gravity fresh mortar g/cc	1,95 ± 0,05

Use recommendations

a) Substrate preparation

The surface must be carefully clean from dust, grease, oil or rust. The damaged concrete must be removed from the substrate, which is to be kept rough.

This operation is essential to enable EXOCEM R1 RAPID perfectly to adhere to the support.

b) Water saturation

Wet the support until the saturation, taking care to remove any access.

c) Mortar preparation

As it is a quick-setting mortar, it is suggested to mix a quantity of product which may be laid down in about 15 minutes.

Pour into the mixture about 90% of water, then switch on the mixer by adding EXOCEM R1 RAPID without interruption. Mix the for 2-3 minutes. Then, add the remaining water, if needed, in order to reach the required consistency and mix for 2-3 minutes once again.

In particularly hot climates, small water increases could be tolerable, comparing to the specified values, The contrary may happen in cold and damp climates.

d) Influence of temperature

It is suggested to apply the product at temperature, in between +5°C and +40°C. Low temperatures (<5°C) slow the mortar setting-time down. High temperatures (>40°C) reduce the mortar workability.

e) Mortar application

EXOCEM R1 RAPID is applied by a trowel. The finishing can be done by smoothing the surface with a wooden or plastic piece.

Properties

- accelerated hardening starting its setting within 20 minutes;
- high mechanical strengths under compression and flexion;
- adhesion to concrete >4MPa at 28 days (the support breaks);
- adhesion to steel >4MPa at 28 days for smooth bars; ≥ 30MPa at 28 days for improved strengths bars;
- easy and quickly laying and finish;
- elastic modulus and thermal expansion coefficient similar to the concrete one;
- shrinkage cracks absent;
- bleeding absent.

Setting time		Compressive strengths	
Initial	Final	1 day	28 days
15 min	21 min	5.5 MPa	32 MPa

Not recommended for:

- rebuilding thickness of less than 5 mm;
- rebuilding of waste surfaces;
- elements with formworks.



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Revision 01/2009. The present edition cancels and replaces all the previous ones. The information contained in the present technical data sheet is based on our knowledge and experience and should therefore not be taken as our guarantee. Neither shall we be responsible for the utilisation of the product since the conditions under which it is used are beyond our control

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