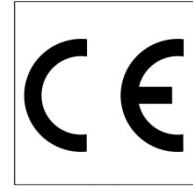


Beyem R3 T

One-component, thixotropic, low shrinkage and high strength mortar for concrete repair



EN 1504-3



About this product

BEYEM R3 T is a one-component, thixotropic, low shrinkage and high strength mortar for concrete repair. Formulated with special cements, selected aggregates, organic additives and resins to improve adhesion and mechanical strengths. Fiber-reinforced. Specially suitable for concrete repair works.

Benefits

- Class R3.
- Modified polymer mortar (PCC).
- High mechanical strengths.
- High adhesion.
- Thixotropic.
- Free of chlorides and organic fibers.
- Very low shrinkage behaviour.
- Suitable for pump machines and manual applications.
- Both internal and external use. Surface ready to paint.
- Superior workability.

Use

Regeneration and repair of structural and non-structural elements. Repair of precast concrete elements. Re-establishing structural integrity of concrete. Repairs of structural elements such as columns, bridge girders, water treatment plants, tunnels, pillars with large load transfer...

Restoration work (Principle 3 , method 3.1 and 3.3 of EN 1504-9). Repair of spalling and damaged concrete in buildings, bridges, infrastructure and superstructure works.

Structural strengthening (Principle 4 , method 4.4 of EN 1504-9). Increasing the bearing capacity of the concrete structure by adding mortar.

Preserving or restoring passivity (Principle 7, method 7.1 and 7.2 of EN 1504-9). Increasing cover with additional mortar and replacing contaminated or carbonated.

Substrates

BEYEM R3 T is suitable for:

- Concrete
- Precast concrete elements

Preparation of substrates

Concrete must be free from dust, loose material, surface contamination and materials which reduce bond or prevent suction or wetting by repair materials. Steel reinforcements must be free of rust, grease, oil and other adhesion impairing contaminants (Sa21/2 degree). Where necessary, concrete must be cleaned by sandblasting, high pressure water jetting or other approved mechanical methods that do not cause vibration or impact, to leave a clean and keyed surface. Rusty exposed reinforcement must be cleaned by metal brushing or sandblasting. Absorbent substrates should be previously wetted until they are saturated, preventing waterlogging, and applying the mortar once the surface has a matt appearance.

Smooth, slightly absorbent or very damaged substrates should be treated to obtain a surface with minimum guarantees of roughness and tensile strength. Minimum roughness of at least 5 mm. For more information regarding substrate preparation, refer to the recommendations provided in EN 1504-10.

Instructions for use

Mix manually or mechanically BEYEM R3 T with $\approx 3,7$ l per bag of clean water until a homogeneous, and lump-free paste is obtained. BEYEM R3 T can be applied either manually using traditional techniques or mechanically using wet spray equipment in thicknesses not less than 5 mm and not more than 40 mm per layer, respecting the correct application techniques.

Press the repair mortar with a trowel onto the substrate. Finishing for both hand and machine application can be done with the same trowel or float as soon as the mortar has started to stiffen.

Cautions and recommendations

- Do not apply below 5°C or above 30°C.
- Do not apply when there is risk of frost, rain, strong wind or direct sunlight.
- Do not add water in excess of the recommended dosage .
- Protect the mortar applied of early dehydration, using suitable curing methods. The curing operation in humid environment is essential for at least 24 hours after application.
- Do not apply on gypsum, metal or wood.

- Mix only sufficient material that can be applied using available labour and equipment.

Technical data

Product identity. Properties of mixture and application data

Appearance	Powder
Color	Grey
Grading	0-2 mm
Density of the mix	≈ 2000 Kg/m ³
Pot life	≥ 40 min
Mixing water,%	± 14,5 %
Minimum layer thickness	5 mm
Maximum layer thickness	35 mm
Coverage	18 Kg/m ² per cm of thickness
Tariff code	3824.50.90.00

Final performances

Type	R3
Adhesion	≥ 1,5 MPa
Compressive strength	≥ 25,0 MPa
Flexural strength	≥ 6,0 MPa
Chloride ion content	≤ 0,05 %
Capillary absorption	≤ 0,5 kg/m ² h ^{1/2}
Elastic modulus	≥ 15 GPa
Thermal compatibility. Part 1	≥ 1,50 MPa
Carbonation resistance	$d_k \leq$ reference concrete MC (0,45)
Crack tendency – Coutinho ring	no cracking after 180 days
Reaction to fire	Euroclass A1

Packaging

BEYEM R3 T is packed 25 kg plastic lined paper bags.

Storage: when stored unopened in a cool dry place, shelf life is 12 months from date of manufacture.

Cleaning tools

Tools can be cleaned easily with water before the product hardens. Hardened product can be removed only mechanically.

Project specification

Regeneration, regularization and repair of concrete structures must be carried out with one-component, thixotropic, low shrinkage, fiber-reinforced and high strength mortar for concrete repair compliant with EN 1504-3 – Class R3 and according to Principle 3, method 3.1 and 3.3, Principle 4, method 4.4 and Principle 7 methods 7.1 and 7.2 of the EN 1504-9, such as Beyem R3 T, manufactured by Rodacal Beyem Company. Coverage will be $\approx 18 \text{ kg} / \text{m}^2$ per cm of thickness.

Health and Safety

For further and complete information about the safe use of our product please refer to our latest version of the Safety Data Sheet, which is available upon request.

Disposal of the product and packaging must be in accordance with current legislation. This is responsibility of the final product user.

Certifications



ER-1089/1999



IDI-0004/2012



Contact



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Note

Product for professional use

The above guidelines and information is accurate to the best of our knowledge and is offered in good faith. This information is true and accurate, but as conditions of use and any labor involved are beyond our control, the end user must satisfy himself by prior testing that the product is suitable for his specific application, and no responsibility can be accepted, or any warranty given by our Representatives, Agents or Distributors.

End user should ensure that he has our latest literature, copy of which will be sent upon request.