



FINOMIX®
DRY MORTARS

Technical Data Sheet

Release 2: 14/02/2020

RP 4000 rapid

**fast-setting
fiber-reinforced
high strength
repairing mortar**
(for layers up to 3cm thick)

class R3



- Class CC R3 according to EN 1504-3
- Application thickness up to 3cm
- Fast development of mechanical strengths
- Reduced water permeability
- Non-shrinking formula



RP 4000 RAPID

**fast-setting fiber-reinforced
high strength repairing mortar**

DESCRIPTION

Fast-setting, fiber-reinforced repair mortar, based on a special blend of grey cements to control the speed of setting and drying.

It exhibits fast setting and hardening, zero shrinkage, reduced water permeability and excellent adhesion to the substrate.

Classified as CC R3 cementitious mortar for the repair of concrete structures according to European standard EN 1504-03.

APPLICATIONS

RP 4000 RAPID is suitable for quick repair of concrete elements, anchoring, patching of cavities, groove formation, etc.

It can be applied on floors, walls or ceilings and generally whenever is needed high strength and fast application.

It is applied in layers up to 3cm thick, with a trowel, on horizontal or vertical surfaces, as well as ceilings. It is ideal when application has to take place at low ambient temperatures (>5°C).

It is applicable in the following cases:

- Repair of decayed concrete surfaces and beams, as well as balconies damaged by oxidation of the iron reinforcement.
- Smoothing of defects such as nests, working joints, holes from mould supports, protruding reinforcement rods, etc.
- Filling of rigid joints.
- Construction of strips and cavities prior to the application of waterproofing layers on roofs and balconies.
- Anchoring-supporting metal balustrades on balconies and terraces.
- Restoration of masonry disconnected from the load-bearing structure.

PROPERTIES / ADVANTAGES

- Fast setting and hardening.
- Excellent adhesion to the substrate.
- Very high mechanical properties.
- Excellent workability and thixotropy.
- Non-shrinking formula.
- Fiber-reinforced to control shrinkage.
- Reduced water permeability and very high abrasion resistance.

HARMONIZED STANDARDS / REGULATIONS

- **EN 1504-3:2004:** Concrete repair product for structural repair CC mortar (based on hydraulic cement), class R3. Meets the requirements of the standard.
- **Regulation (EC) No. 305/2011:** CE marked product with Declaration of Performance (DoP): RP4000RAPID/CPR-7-13/040/10-2013.

APPLICATION INSTRUCTIONS

- Deteriorated and loose concrete must be removed until the substrate is solid, strong and rough.
- Concrete and reinforcing rods must be cleaned until free of dust, rust, cement residue, grease, oils and previously applied paints by sand-blasting to Sa 2½ (ISO 8501-1).
- Before the application of **RP 4000 RAPID**, soak the substrate with water. Allow excess water to evaporate or remove it using compressed air.
- As an alternative, it is recommended to coat the surface with **RP 4020 CORROSION PROTECT** or **LATEX** liquid resin to create an adhesion bridge between old and new concrete. The repair coat should be followed while the adhesion bridge is still wet.
- Add the bag content into the necessary clean water under continuous stirring for at least 2-3 minutes, until a homogenous mixture is formed having the desired consistency. It is recommended to use a low speed electric mixer (300rpm). Avoid manual mixing as it requires greater quantities of water which are detrimental to some characteristics of the product, such as mechanical strength and shrinkage.
- It is recommended to mix a small quantity every time, because of the short working time (about 20 minutes at +22°C).
- **RP 4000 RAPID** is applied with a trowel in layers up to 3cm thick. When applying, first create a scratch coat by firmly pressing the repair mortar on the substrate to form a thin layer and fill pores or pits in the surface. Ensure the whole surface to be repaired is covered by the scratch coat. Then build up layers from bottom to top by pressing mortar well into the repair area.
- When a second layer is required, the surface of the first layer should be roughened to achieve better adhesion. Each layer must be applied before the previous one has completely set.
- The finished surface must be protected immediately from weather conditions and kept moist for 48 hours.

CLEANING OF EQUIPMENT

Clean all tools and application equipment with water immediately after use. Hardened material can only be mechanically removed.

RECOMMENDATIONS

- Temperature during application should be between +5°C and +35°C.
- Do not mix the product with dirty or salty water.

- Don't use excess water for mixing as it will affect the performance of the product.
- Do not add cement, aggregates or other additives.
- Do not add water when the mixture begins to set.
- During periods of high temperatures or strong winds, the surfaces should be dampened after application to prevent rapid drying of the material, which may result in reduced final strength.

TECHNICAL CHARACTERISTICS		
PRODUCT CHARACTERISTICS		
Appearance		cementitious powder
Colour		grey
Bulk density		1.25 ±0.05 kg/lt
Chloride ion content (EN 1015-17)		< 0.05%
Maximum aggregate size		1.2 mm
APPLICATION CHARACTERISTICS (+23°C / 50% R.H.)		
Mixing ratio		18-20% b.w. (3.6-4.0 kg water /20kg bag) (0.9-1.0 kg water /5kg bag)
pH		> 11
Density		2.05 ±0.05 kg/lt
Pot life		20 minutes (22°C)
Application temperature		minimum: +5°C / maximum: +35°C
Application thickness		≤ 30 mm
Consumption		approximately 16-17 kg/m² for a 1cm thick layer
PERFORMANCE CHARACTERISTICS		
Hardened density (EN 1015-10)		2.00 ±0.05 kg/lt
Capillary absorption (EN 13057)		≤ 0.50 kg·m ⁻² ·h ^{-0.5}
Compressive strength (EN 12190)	after 24 hours	≥ 16.0 N/mm²
	after 7 days	≥ 28.2 N/mm²
	after 28 days	≥ 37.7 N/mm²
Flexural strength (EN 196-1)	after 24 hours	≥ 2.0 N/mm²
	after 7 days	≥ 5.0 N/mm²
	after 28 days	≥ 7.2 N/mm²
Modulus of elasticity in compression after 28 days (EN 13412)		15 GPa (class R3 requirement: ≥ 15 GPa)
Adhesion to concrete (EN 1542, MC 0,40)		≥ 1.5 N/mm²

Note: Measurements were conducted in a laboratory environment. The varying conditions present on-site (temperature, humidity, ventilation, substrate absorbency) may affect the material's properties.

SAFETY PRECAUTIONS

- The product contains cement which has an alkaline reaction with water and is classified as irritant.
- Always wear appropriate personal protective equipment for eyes and skin (protective clothing, gloves and goggles).
- If skin contact occurs, rinse well with plenty of clean water.
- In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
- Consult product's Safety Data Sheet for further instructions on safety handling.
- **PRODUCT FOR PROFESSIONAL USE.**

PACKAGING - STORAGE

Available in:

- 5kg plastic bags.
- 20kg paper bags.

Storage: 12 months from production date, if stored in original, sealed packaging, protected from direct sunlight and moisture.

LEGAL NOTICE

The technical characteristics and recommendations for the use and application of the **FINOMIX** range of products are based on the knowledge and experience of the company. The above information shall be considered merely indicative and subject to confirmation after long-term practical application. For this reason, anyone who intends to use the product must ensure that it is suitable for the envisaged application. Since the specific site conditions during the applications are beyond the control of our company, the user alone is fully responsible for any consequences deriving from the use of the product. **FINOBETON S.A. (FINOMIX)** has the right to modify the properties of its products without prior notice. This release voids any previous publications issued for this technical specifications sheet.

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