

# Betocem Finitura

**FLEXIBLE MINERAL SKIMMING PLASTER FOR LEVELLING AND PROTECTIVE SMOOTHING, GUARANTEED DURABILITY OF CONCRETE SURFACES AND RESTORATION WORK USING MINERAL MORTARS.**



**TECHNICAL DATA SHEET - REV. 02/2023**

## DESCRIPTION

BETOCEM FINITURA is a flexible powdered skim coat consisting of hydraulic binders, siliceous aggregates and special additives. When mixed with water, it turns into an easily workable mortar with a thixotropic effect that can be applied horizontally and vertically for renovation and levelling. Thanks to its composition, it adheres perfectly to all concrete surfaces. Once hardened, BETOCEM FINITURA turns into a water-resistant layer, resistant to the passage of aggressive atmospheric gases, resistant to freeze-thaw cycles, with high dimensional stability that limits the risk of cracking. Can be used for thicknesses between 1 and 4 mm, even in a single coat.

**Conforms to European Standard EN 1504-3 ("Non-structural structural repair") for class R2 non-structural mortar (PCC) according to the CR principle (concrete repair).**

**Conforms to European Standard EN 1504-2 ("Concrete Surface Protection Systems") coating (C) according to the MC (moisture control) and IR (increased resistivity) principles.**

## FIELDS OF APPLICATION

BETOCEM FINITURA is used for low-thickness non-structural repair work, for the protective skimming of concrete rehabilitated with BETOCEM mineral mortar or degraded concrete structures in general, for levelling and subsequent smoothing of defective concrete castings, such as gravel nests or castings, for regularising concrete edges and mouldings, such as stringcourses, cornices, lintels, protruding elements. BETOCEM FINITURA allows the creation of millimetric levelling compounds, even on low-porous substrates, the levelling of thermal insulation panels in thermal insulation systems and the levelling of FPO waterproofing membranes.

## SUPPORT PREPARATION

Substrates must be perfectly cured, clean, solid, free of dust, efflorescence and greasy substances. Mechanically remove all deteriorated concrete or concrete in the detachment phase by peening, until the substrate is solid and consistent. Previous restoration work that is not perfectly consistent must be removed. Thoroughly wash with water under pressure (pressure washer) in order to eliminate any portion that is detaching, open the porosity in order to favour perfect adhesion and saturate the substrate with moisture before starting to apply the levelling compound. In the case of structural repairs, reconstruct the initial volumes of concrete with BETOCEM FIBRE or BETOCEM HR thixotropic, fibre-reinforced, compensated-shrinkage mineral mortars that meet the minimum requirements of EN 1504-3 as class R3 and R4 structural mortars respectively.

## APPLICATION

To prepare the mix, pour approx. 5 litres of clean water per 25 kg bag of BETOCEM FINITURA into a container or concrete mixer and mix for a few minutes, taking care to remove any loose powder from the sides and bottom of the container, until a homogeneous, lump-free mix is obtained. Let it rest for a few minutes, stirring it briefly before use. This mixture remains workable for approximately 30 minutes at a temperature of +23 °C.

Apply BETOCEM FINITURA manually with trowel or smooth trowel. Perfect adhesion with the substrate is guaranteed by exerting good pressure and reworking the product with the trowel directly on the surface to be restored, wrapping any reinforcing bars, until the desired thickness is reached. The product can also be applied in several layers, taking care however to leave the surface well roughened for the final application of BETOCEM FINITURA as a protective skim coat. The minimum applicable thickness per layer is approx. 1 mm and a maximum of 4 mm, depending on the application. The last coat can be finished with a sponge trowel, smooth metal trowel or plastic trowel, depending on the degree of finish required. If the surface tends to dry out during finishing, water can be sprayed on to facilitate the flow of the trowel. The waiting time for this operation is strongly influenced by weather conditions. When skimming thermal insulation panels in thermal insulation systems or when making the protective skim coat of FPO waterproofing membranes, BETOCEM FINITURA must be reinforced with special ARMOFLEX 130 cross-fibre mesh, placed between the first and second coat. The complete repair cycle includes, in addition to BETOFER (1 K or 2 K) and BETOCEM FINITURA, decorative protection to be carried out with MANTOCOLOR anti-carbonation elastomeric water-based paint.

## YIELD

1.6 kg/m<sup>2</sup> per mm of thickness.

## RECOMMENDATIONS

- ◆ Do not use BETOCEM FINITURA on smooth concrete substrates, but strongly roughen the surface to be restored.
- ◆ Never remix the product once the setting process has begun, as it will lose all its chemical-physical properties.
- ◆ Cure BETOCEM FINITURA carefully, avoiding, especially on hot or very windy days, the rapid evaporation of mixing water that could cause small surface cracks due to plastic shrinkage.
- ◆ Keep the surface moist during the first 24 hours after applying the mortar, spraying it with water or covering it with waterproofing sheets.
- ◆ Protect from rain, frost or beating sun for the first 24 hours.
- ◆ Do not work at temperatures below +5 °C or above +35 °C.
- ◆ Wash all equipment used for preparation and application of the product with water before it hardens. After setting, the mortar may only be removed mechanically.

## PACKAGING

BETOCEM FINITURA is supplied in 25 kg polythene paper bags on 1500 kg pallets. Store the product in a dry place and in tightly closed original packaging. Under these conditions its stability is at least 12 months.

## SAFETY INSTRUCTIONS

The product contains cement, which on contact with body sweat produces an alkaline reaction irritating and sensitising to the skin. Wear suitable clothing, gloves and protective goggles.

For more information on the safe use of the product, see the relevant Material Safety Data Sheet.

## SPECIFICATIONS

Levelling of degraded concrete works and protective skimming by applying a flexible mineral skimming plaster composed of high-strength hydraulic binders, siliceous aggregates and special additives, such as **BETOCEM FINITURA** by COLMEF Srl. The product shall meet the minimum requirements of Standard EN 1504-3 for class R2 non-structural mortars and the minimum requirements of Standard EN 1504-2 coating (C), according to MC-IR principles, for concrete protection.

The substrates must be clean, solid and compact, suitably roughened after removing any loose parts and cleaning the oxidised reinforcement rods, to be calculated separately. The product must be applied to the substrate wet to saturation, with a trowel or spatula in thicknesses of between 1 and 4 mm per coat, and then finished with a sponge trowel or smooth metal trowel at a consumption of approximately 1.6 kg/m<sup>2</sup> per mm of thickness.

**TECHNICAL DATA**

<b>Conforms to Standard:</b>	<b>EN 1504-3</b>
<b>Class:</b>	<b>R2</b>
<b>Typology:</b>	<b>PCC</b>
<b>Conforms to Standard:</b>	<b>EN 1504:2</b>
<b>Class according to EN 1504-2:</b>	<b>coating (C), principles - moisture control (MC) - increasing resistivity (IR)</b>
Appearance:	powder
Colour:	grey
Mix density (kg/m <sup>3</sup> ):	1598
Grain size (mm):	0-0,5
Mixing ratio:	~ 5 litres of water per 25 kg of powder
Mix consistency:	thixotropic
pH value:	≥ 12
Waiting time for overcoating:	24-48 h
Permissible application temperature:	+5 °C to +35 °C

**FINAL PERFORMANCE according to EN 1504-3 Class R2-PCC**

	<b>Requirements</b>	<b>Results</b>	<b>Test method</b>
Compressive strength after 28 days (MPa)	≥ 15	> 19,0	EN 12190
Flexural strength after 28 days (MPa):	not required	> 7,3	EN 12190
Chloride ion content (%):	≤ 0,05	< 0,01	EN 1015-17
Direct tensile adhesion (MPa):	≥ 0,8	> 0,8	EN 1542
Carbonation resistance:	dk ≤ control cls [MC(0.45)]	Passes	EN 13295
Elastic modulus in compression (GPa):	not required	> 9,0	EN 13412
Thermal compatibility measured as adhesion according to EN 1542 -Bond strength after 50 cycles (MPa):			
- freeze-thaw cycles:	≥ 0,8	> 0,8	EN 13687-1
- thunderstorm cycles:	≥ 0,8	> 0,8	
- dry thermal cycles:	≥ 0,8	> 0,8	
Capillary absorption (kg/m <sup>2</sup> ·h <sup>0.5</sup> ):	≤ 0,5	< 0,24	EN 13057
Reaction to fire:	Euroclass	Class A1	EN 13501-1

**FINAL PERFORMANCE according to EN 1504-2 Class MC-IR**

	<b>Requirements</b>	<b>Results</b>	<b>Test method</b>
Adhesion to concrete after 28 days at +20 °C and 50% R.H. (N/mm <sup>2</sup> ):	for flexible systems without traffic ≥ 0,8 with traffic ≥ 1,5	2,17	EN 1542
Thermal compatibility with thunderstorm cycles and with freeze/thaw cycles with immersion in de-icing salts, measured as adhesion (N/mm <sup>2</sup> ):		2,01	
Permeability to water vapor - equivalent air thickness S <sub>D</sub> (m):	Class I S <sub>D</sub> < 5 m Class II 5m ≤ S <sub>D</sub> ≤ 50 m Class III S <sub>D</sub> > 50 m	S <sub>D</sub> < 0,55 Class I (permeable to vapour) μ = 41	EN ISO 7783-1
Capillary absorption and water permeability (kg/m <sup>2</sup> ·h <sup>0.5</sup> ):	w < 0,1	0,09	EN 1062-3
Linear shrinkage (%):	< 0,3	< 0,3	EN 12617-1

DATA COLLECTION AT +23 °C - R.H. 50% AND NO VENTILATION

The above information and prescriptions are based on our best experience. However, we cannot accept any liability for the possible misuse of the products. We therefore advise those who intend to use them to assess whether or not they are suitable for the intended use and to carry out preliminary tests in any case. Always refer to the latest version of the technical data sheet, available at [www.colmef.com](http://www.colmef.com).

**FOR MORE INFORMATION OR PARTICULAR USES, PLEASE CONSULT THE COLMEF TECHNICAL SUPPORT SERVICE.**

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