

# Fibrocem R4

**Fiber-reinforced self-passivating thixotropic cement-based mortar for the restoration and smoothing of concrete One-component with compensated shrinkage. Semi-rapid setting.**



## Fields of application:

- for restoring degraded concrete;
- for rebuilding the iron covering layer in reinforced concrete decayed due to iron oxidation without passivating reinforcing irons;
- for filling defective surfaces in concrete, such as screeds, industrial floors, ramps, etc;

- for restoring and rebuilding pillars, beams, treads, risers, edges, projecting and decorative elements;
- professional use only.

## Characteristics:


**Fibrocem R4** is an anti-shrinkage thixotropic mortar with semi-rapid setting for the structural restoration of concrete to carry out passivation of the reinforcing irons and smoothing in a single solution. It has an excellent workability, with thickness from 2 to 40 mm, and a very good finishing degree; thus, it is suitable for regularizing, smoothing, re-building surfaces in concrete and reinforced concrete, mortars in general, cement-based renders and screeds. As it has an excellent mechanical resistance, it is also used for horizontal elements in concrete, string courses, treads in balconies and terraces.

## Application:

It is applied by professionally preparing the surfaces to be treated, removing dust, brittle parts, grease and any paint. Carefully clean the reinforcing irons until they are free of rust using a manual or electric metal fiber brush, or by sanding. The substrate to be treated must be rough, so as to ensure the bonding, and sufficiently wet. **Fibrocem R4** must be mixed with 5,5 L clean water per 25 kg bag until getting the wished density, considering that the quantity of added water influences the drying time of the product. Do not add other aggregates or binders to the mixture; in case of several overlapped coats, apply before the coat below has dried.

## Quality and Environmental Standards:

**Fibrocem R4** undergoes constant, careful testing at our laboratories, in compliance with the legislation in force – UNI EN ISO 9001/2015.

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<b>DOP-IT-01-011 FIBROCEM R4 EN 1504-2:2004</b>	Coating for the surface protection of concrete by controlling humidity and increasing resistivity.
<b>DOP-IT-01-012 FIBROCEM R4 EN 1504-3:2005</b>	Hydraulic mortar modified by the addition of polymeric additives <b>R4-PCC</b> .
<b>DOP-IT-01-013 FIBROCEM R4 EN 1504-7:2006</b>	Cement-based mortar for protecting the reinforcements of concrete against corrosion in civil works and buildings..

Characteristics	Application methods	Consumption
<p>One-component Self-passivating Semi-rapid Mixture pot life: about 40 minutes Final hardening: 60 minutes Mixture water: about 5.5 l every bag Min. coat thickness 2 mm Max. coat thickness: 4 cm Resistance to compression after 28 days: 52 N/m<sup>2</sup> Resistance to flexure after 28 days: 9 N/m<sup>2</sup> Working temperature: from -30° to +90°C Paintable: after about 4 hours Granulometry: 0.5 mm</p>	<p>Trowel Smooth trowel</p>	<p>17 kg/m<sup>2</sup> /cm of thickness</p>
		<p><b>Storage</b></p> <p>Shelf life of 12 months in the original packages and in a fresh, dry place</p>

Code	Product	Form and color	Packages	Pallet
404035	Fibrocem R4	Grey powder	5 kg x 4 pz	480 kg
404030	Fibrocem R4	Grey powder	25 kg	1500 kg

### Warning

- do not apply in temperatures below +5°C. or above +35°C.;
- do not apply to concrete surface that are particularly smooth; roughen up the surface prior to use;
- after application, ensure the area reconditioned sets properly by making sure the water does not evaporate too fast;
- do not apply to frozen bases or those at risk of freezing during the 24 hours following application;
- do not pour on.

## Technical and application specifications

Hazard classification as per Directive 99/45/EC:	<b>irritant</b>
Specific weight of mixture:	<b>1.98 g/cm<sup>3</sup></b>
Pot life:	<b>approx. 50 minutes</b>
Application temperature:	<b>from +5°C to+35°C</b>
Mixing water ratio:	<b>22% (about 5,5 lt each 25kg bag)</b>
Mixture pH:	<b>over 12</b>
Start / end of paste:	<b>50-70 (+21°C)</b>
Minimum coat thickness:	<b>2 mm</b>
Maximum coat thickness:	<b>40 mm</b>
Granulometric range:	<b>0-0.5 mm</b>
Room/ambient temperature:	<b>from -30 °C to +90°C</b>
Harmonised customs code:	<b>38245090</b>



Performance EN 1504-3 R4 class	process	minimum requirements	value
Compression resistant after 28 gg	<b>EN 12190</b>	≥ 45 Mpa	>50 Mpa
Bending resistance after 28 gg	<b>EN 196/1</b>	none	10Mpa
Adhesion (28gg)	<b>EN 1542</b>	≥ 2 Mpa	>2Mpa
Resistance to carbonation	<b>EN 13295</b>	depth of carbonation ≤ reference concretes	passed
Elastic module to 28 gg	<b>EN 13412</b>	≥ 20GPa	22 Gpa
Frost-thaw cycle thermal compatibility	<b>EN 13687-1</b>	≥ 2 Mpa	≥ 2 Mpa
Capillary absorption	<b>EN 13057</b>	≤0,5 kg * m <sup>-2</sup> h <sup>0,5</sup>	≤0,5 kg * m <sup>-2</sup> h <sup>0,5</sup>
Chloride ion content	<b>EN 1015-17</b>	≤ 0,05 %	≤ 0,05 %
Reaction to fire	<b>EN 13501-1</b>	euroclass	A1
Performance EN 1504-2	process	minimum requirements	value
Water vapor permeability	<b>EN ISO 7783-2</b>	reference class	Class I: sd<5m
Capillary absorption e water permeability	<b>EN1062-3</b>	W<0,1 kg * m <sup>-2</sup> h <sup>0,5</sup>	W<0,1 kg * m <sup>-2</sup> h <sup>0,5</sup>
Adherence force for direct traction	<b>EN 1542</b>	≥ 0,8 Mpa	≥ 2 Mpa
Linear withdrawal	<b>EN 12617-1</b>	≤ 0,3 %	≤ 0,3 %
Adherence following thermal shock	<b>EN 13687-2</b>	≥ 2N/mm <sup>2</sup>	≥ 2N/mm <sup>2</sup>
Performance EN 1504-7	process	minimum requirements	value
Corrosion protection	<b>EN 15183</b>	no corrosion	no corrosion
Adhesion by cut	<b>EN 15184</b>	> 80 % of the value of the bare bar	passed

Measurement of data at 23°C/50% Residual Humidity and no ventilation. The data may be considerably modified by the conditions of use.