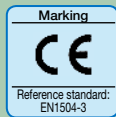


# RESISTO BETON

HIGH RESISTANCE AND SHRINKING-COMPENSATING FIBRE-REINFORCED LIQUID MORTAR FOR FIXING AND RESTORING CONCRETE STRUCTURES



CHARACTERISTICS	ENVIRONMENTAL	METHOD OF USE	PRECAUTIONS
	ECO GREEN	RECYCLABLE	STORAGE: IN A DRY PLACE
		MIX MECHANICALLY	

## PROBLEM

### RESTORING CONCRETE WITH SHUTTERING



In the most serious cases of restoring concrete, when significant structural reinforcements are required, it is necessary to intervene with liquid mortar in shuttering, with a high resistance and fluidity.

## SOLUTION

RESISTO BETON is a premix based on selected aggregates, special additive binders and low carbon content steel fibres, which when mixed with water provide a shrinking-compensating liquid grout, with very high mechanical resistance.

## APPLICATION FIELDS

RESISTO BETON provides restorations with thickness ratios up to about 5 cm. For thicknesses up to 10 cm, add 35% in weight of filler with a suitable grain-size curve from 5 to 12 mm to the mortar. It is used for structural restoration of elements dynamically stressed and subject to heavy impacts such as: concrete slabs and decks; structures in seismic areas; coatings of hydraulic structures subject to abrasion; special items such as reinforced doors or safes; structures exposed to the hazard of explosion such as inflammable deposits or bunkers.

## ADVANTAGES

- Absence of shrinkage to prevent crack problems.
- Time and money savings compared to traditional solutions, thanks to quick setting and improved workability.



## METHOD OF USE

### • SURFACE PREPARATION

Remove all the detaching loose parts until reaching good concrete, eliminate any trace of oil, grease and dirt in general. Roughen the surfaces with mechanical means and wash with pressurised water. Any reinforcing rods must be cleaned until the metal is white and protected with cement mortar made with STRATO 4900 - Index (1). If the section of the rods is insufficient after cleaning, replaced them. Any water penetration must be blocked to avoid the washout of the mortar while setting.

### • MIX PREPARATION

RESISTO BETON must be mixed with 12% clean water (3 litres per bucket) using suitable mixers until a homogeneous and fluid mix with

no lumps is obtained (2). Then add the fibres and mix for a few seconds.

Do not prolong the mixing time beyond 3 minutes, do not use high speed mixers. Do not mix by hand. The mix must be carried out by adding powder to the water and not vice versa.

### • APPLICATION

RESISTO BETON is applied by pouring into suitable shuttering (3). While pouring, assist the sliding with iron rods and ensure that the mortar has filled all the cavities. We advise not vibrating the mortar and pouring from one side to encourage the removal of air. When the laying is complete, we advise not removing the shuttering for at least 24-48 hours depending on the temperature (4). Use an anti-curing agent in

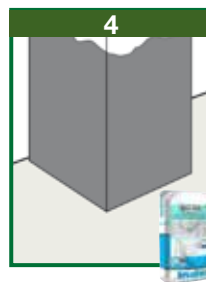
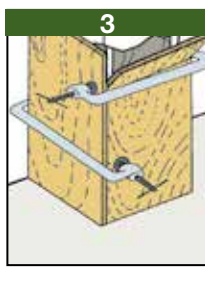
case of high temperatures or exposure to direct sunshine.

### • COVERAGE

Coverage is about 2.1 kg/dm<sup>3</sup>.

### • PRECAUTIONS

- Use cold water in the summer and at 20°C in the winter.
- Application temperature from +5°C to +35°C.
- Do not add water when the mix starts to set.
- Do not add other materials such as cement, aggregates, additives.
- In hot weather, keep the surface of the laid mortar wet, avoiding that the product dries quickly, for at least 24 hours.
- In hot weather of +30°C, the workability time decreases to 20-30 minutes
- Do not apply on smooth surfaces.
- Clean the tools with water and the coated surfaces with a wet cloth immediately after laying.
- Do not expose the material to the sun in hot weather.
- Store in a dry place closed in the original packaging.



## TECHNICAL CHARACTERISTICS

		Standard	RESISTO BETON
Appearance			Powder
Colour			Grey
Particle size			0÷3 mm
Apparent density	<b>EN 1015-6</b>		1.50 kg/L
Mix water			12% ± 1%
Storage in original packaging in a dry place			12 months
<b>Mix properties and workability</b>	<b>Standard</b>		
Density of mix			2.20 kg/L
pH of mix			approx 12
Workable mix duration (*)			approx 1 hour
Application temperature			+5°C ÷ +35°C
Waiting time - before road can be used			after 12 hours
Spreading the mix	<b>EN 13395-1</b>		90%
Minimum application thickness			10 mm
Maximum thickness of application by layer			more than 100 mm (with 30% of filler)
Application			manual or mechanical
<b>Performance characteristics</b>	<b>Standard</b>	<b>Minimum requirement</b>	<b>Product performance</b>
<b>Class and type</b>	<b>EN 1504-3</b>		<b>R4 - CC</b>
<b>Resistance to compression - after 28 days</b>	<b>EN 12190</b>	≥45 MPa	80 MPa
Resistance to compression - after 7 days			45 MPa
Resistance to compression - after 1 day			35 MPa
Resistance to bending - after 28 days	<b>EN 196-1</b>		18 N/mm <sup>2</sup>
Resistance to bending - after 7 days			13 N/mm <sup>2</sup>
Resistance to bending - after 1 day			11 N/mm <sup>2</sup>
<b>Compression elastic module</b>	<b>EN 13412</b>	≥20 GPa	≥25 GPa
<b>Chloride ion content</b>	<b>EN 1015-17</b>	Assenti	Absent
<b>Bond strength</b>	<b>EN 1542</b>	≥2.0 MPa	≥4.5 MPa
<b>Thermal compatibility with frost-thaw cycles - Part 1</b>	<b>EN 13687-1</b>	≥2.0 MPa	≥2.0 MPa
Thermal compatibility to frost-thaw cycles with defrosting salts			50 cycles
<b>Capillarity water absorption</b>	<b>EN 13057</b>	W1	$w \leq 0.5 \text{ kg/m}^2\cdot\text{h}^{0.5} - W1$
<b>Durability - Resistance to carbonation</b>	<b>EN 13295</b>		Test passed
Thermal resistance - Operating temperature			-30°C ÷ +90°C
<b>Fire reaction</b>	<b>EN 13501-1</b>	A1	A1
<b>Hazardous substances</b>	<b>EN 1504-3</b>		Conforme nota in ZA.1

Test conditions: temperature 23±2°C, R.H. 50±5% and air speed in test area <0.2 m/s. **The data shown may vary depending on the specific work site conditions: temperature, humidity, ventilation, absorbency of the base coat.**

(\*) The times indicated will be longer or shorter as the temperature drops or rises.

Compliant with the general principles defined in **EN 1504-9** - Principles for evaluating the use of products and systems.

The numerous possible uses and the possible interference of conditions or elements beyond our control, we assume no responsibility regarding the results which are obtained. The purchasers, of their own accord and under their own responsibility, must establish the suitability of the product for the envisaged use.

The figures shown are average indicative figures relevant to current production and may be changed or updated by INDEX at any time without previous warning. The advice and technical information provided, is what results from our best knowledge regarding the properties and the use of the product. Considering

## PACKAGING

### RESISTO BETON

- 25-kg-Sack
- +2-kg-box

• FOR ANY FURTHER INFORMATION OR ADVICE ON PARTICULAR APPLICATIONS, CONTACT OUR TECHNICAL OFFICE • IN ORDER TO CORRECTLY USE OUR PRODUCTS, REFER TO INDEX TECHNICAL SPECIFICATIONS •

 <p><b>Construction Systems and Products</b></p> <p>Via G. Rossini, 22 - 37060 Castel D'Azzano (VR) - Italy - C.P.67 Tel. (+39)045.8546201 - Fax (+39)045.518390</p>	<p>Internet: <a href="http://www.index-spa.com">www.index-spa.com</a> Informazioni Tecniche Commerciali <a href="mailto:tecom@indexspa.it">tecom@indexspa.it</a> Amministrazione e Segreteria <a href="mailto:index@indexspa.it">index@indexspa.it</a> Index Export Dept. <a href="mailto:index.export@indexspa.it">index.export@indexspa.it</a></p>					
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