Coprifacile Ripristino

Fibre-reinforced, thixotropic, normal-setting, shrinkage-compensated cementitious mortar for the restoration, protection and passivation of concrete structures. Composed of hydraulic binders, fibres selected aggregates with a maximum grain size of 1.4 mm and specific additives.

TROWEL APPLICATION | MACHINE APPLICATION | FOR INDOOR AND OUTDOOR USE | SINGLE-COMPONENT PRODUCT

R2

CE EN 1504-3

CE EN 1504-7

Use this QR code for further details on application modalities, safety sheet and other information.

96 Product code

Technical characteristics

Class according to UNI EN 1504-3	**R2**
Compressive strength UNI EN 12190	**25 MPa**
Flexural strength UNI EN 196/1	**7.9 MPa**
Corrosion protection of reinforcement according to UNI EN 1504-7	**specification exceeded**
Corrosion resistance EN 15183	**< 1 mm**
Elastic modulus EN 13412	**8.8 GPa**
Shrinkage/expansion prevented UNI EN 12617-4	**0.86 MPa**

Thermal compatibility, freeze-thaw UNI EN 13687-1	**≥ 0.8 MPa**
Resistance to carbonation EN 13295	**$d_k \leq 0.4$ mm**
Theoretical consumption (per cm of thickness)	**15/17 kg/m$_2$**
Capillary absorption EN 13057	**0.40 kg/m$_2$h$_{0.5}$**
Chloride ion content EN 1015-17	**0.02%**
Bonding UNI EN 1542	**0.9 MPa**
Slip resistance EN 13036-4	**Class II**

Description

Coprifacile Ripristino meets the principles defined in UNI EN 1504-9 ("Products and systems for the protection and repair of concrete structures: definitions, requirements, quality control and conformity assessment. General Principles for the use of Products and Systems"), the minimum requirements of EN 1504-3 ("Structural and Non-Structural Repair") for class R2 mortars and the requirements of EN 1504-7 ("Curing Mortars for Corrosion Protection of Concrete Reinforcement").
Coprifacile Ripristino is a thixotropic, cement-based, ready-mixed mortar, consisting of sulphate-resistant hydraulic binders, polyacrylonitrile synthetic fibres, selected silica aggregates and special additives, making it particularly suitable for manual and mechanised application.
After mixing with water, Coprifacile Ripristino takes on a thixotropic consistency due to the typical properties of the additives it contains, which it retains for a long time, ensuring that the mortar can be modelled during application. Thanks to this property, restoration work can also be carried out on large vertical surfaces and ceilings.
After curing, Coprifacile Ripristino is resistant to aggressive sulphate salts and adheres perfectly to well-prepared concrete surfaces.

Physical characteristics

Package	**25 kg**
Consistency	**powder**
Pile density	**1360 kg/m³**
Mixture water	**19 - 21%**
Fresh mortar specific weight	**1600 kg/m3**

Aggregate maximum size	**≤ 1.4 mm**
Workability time	**> 1 h**
Temperature of use	**+5 °C/+35 °C**
Storage period	**12 months in unopened packages away from humidity**

Fields of application

Cortical reconstruction and levelling of degraded concrete elements. Coprifacile is particularly recommended for repairing concrete elements such as:

- retaining walls; crumbling floors;
- surfaces degraded by the attack of sulphate salts in water or soil;
- Structures degraded as a result of oxidation of reinforcement rods and related expulsion of concrete cover.
- Beams, pillars, floors.
- Cornices, balconies, pediments.
- Water works, reservoirs, dams and canals, etc.
- Road and rail tunnels.

Coprifacile Ripristino is also a suitable concrete for improving the strength of masonry, such as cladding with reinforced plaster.

Substrate preparation

1. The substrate, through the removal of deteriorated and detaching concrete, must be homogeneous, resilient, rough and clean.
2. Completely remove the oxidised reinforcement by removing rust, varnish or paint with a wire brush or by sandblasting.
3. Consider further protection of the reinforcement bars with a specific passivating grout, Tradimalt Trattamento Ferro.
4. Before using Tradimalt Coprifacile, wait until the Iron Treatment has dried and saturate the substrate with water, avoiding stagnation.

Product preparation

Dose the mixing water by adjusting the flow meter of the plastering machine until the mortar is consistent and plastic (19 - 20 l of water per 100 kg of powder).
Coprifacile Ripristino remains workable for about 1 hour at +20 °C.

Application

Coprifacile can be applied manually by trowel or mechanically by plastering machine in several layers up to 3 cm thick for cortical reconstruction and smoothing of concrete.

For manual application, mix Coprifacile with 19- 21% clean water with a mixer at low speed until a homogeneous, lump-free paste is obtained; the mortar remains workable for approx. 1 hour at +20 °C. Application should be carried out by filling all vacuums as carefully as possible, taking care to avoid the formation of air pockets that could compromise durability. Finish with a sponge trowel, when the product is setting, moistening with water if necessary until a uniform surface without joints or overlaps is obtained.

For mechanised application, dose the mixing water by adjusting the flow meter of the plastering machine to obtain a consistent, plastic mortar (19 - 21 l water per 100 kg of powder). Apply Coprifacile by spraying in several layers with a maximum thickness of 3 cm per coat until the required thickness is reached. For thicknesses of more than 5 cm, it is always recommended to interpose an alkali-resistant reinforcement mesh. Projection onto the surface from a distance of about 20 cm is recommended in order to obtain an even spray pattern. Once the application has been completed over the entire surface, wait a few minutes before proceeding with levelling using an H-shaped or knife-edge aluminium with horizontal and vertical passes until a flat surface is obtained. After at least 4 hours when the product has hardened (once the plastic phase over), scratch the surface and re-shape corners and edges.
The product can remain visible or directly receive any type of interior or exterior finish.
Operate in such a way as to maintain contact with materials of equal mechanical performance and elastic modulus

Advantages

Reinforcing polymer fibres

Coprifacile Ripristino contains polyacrylonitrile (PAN) microfibres specifically inserted to prevent plastic shrinkage of the mortar. The high chemical and mechanical adhesion between the functional groups of the polymer and the cement matrix makes it possible to counteract the tensile stresses caused by shrinkage in the plastic phase, caused by the evaporation of part of the mixing water. The increased ability to counteract shrinkage, induced by the PAN fibres, results in a significant reduction in the formation of surface cracks, which usually occur within the first 24 hours of casting curing.
The introduction of the appropriate amount of fibres into the mortar, makes it possible to form a three-dimensional and homogeneously distributed fibrous structure, which counteracts the occurrence of bleeding and segregation phenomena that, if present, would impair the mechanical performance of the mortar.
In addition, the curing of the mortar is also positively influenced by the addition of the PAN fibres, which, due to their special chemical nature, are characterised by a considerable water retention capacity, which, especially under unfavourable environmental conditions, improves the curing process of the mortar and increases its mechanical properties.

Silica aggregates

Rasa & Ripristina consists of silica sand grains. This aggregate has high hardness, low reactivity to acid attacks and, above all, a low water absorption. This means that the product can be easily worked even with low amounts of resulting in lower shrinkage and superior mechanical properties. This allows for greater durability of the work. The attention to the particle size curve makes it possible to obtain an excellent level of breathability of the hardened product.

Redispersible polymer powders

Within its formulation, Coprifacile Ripristino has polymers dispersed in powder form that are activated on contact with the mixing water, creating a composite material in which the polymeric phase confers numerous advantages to the mortar, in particular allowing it to increase flexural and tensile strength, reduce the elastic modulus and create a

Strong bond between the cement mortar and the substrate, even if irregular, improving adhesion.
The presence of specific polymers ensures a better workability during the application and a stronger resistance to water and atmospheric agents in general.

Specification item

Restoration, protection and rehabilitation of degraded reinforced concrete with a non-shrinking, thixotropic, fibre-reinforced, mechanically-ejected cement mortar such as Tradimalt Spa's Coprifacile Ripristino, consisting of selected siliceous aggregates, hydraulic binder, fibres and specific additives, with a theoretical consumption of 15- 17 kg/m2 per cm thickness. 28-day compressive strength: 25 MPa
Designation R2 according to 1504-3.

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TRADIMALT s.p.a.
Via Nazionale 1 - VILLAFRANCA
TIRRENA 98049 MESSINA - ITALY
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Uni En 1504-3

COPRIFACILE Ripristino

Structural repair product for PCC lime cement mortars

Compressive strength: Class R2 Chloride
ion content 0.02% Bonding: 0.81 MPa
Resistance to carbonation: Elastic
modulus: 8.87 GPa Thermal
compatibility part 1: 0.58 MPa
Capillary absorption: 0.40 kg/(m_2-$h_{0.5}$)
Hazardous substances: complies with section 5.4
Reaction to fire: Euroclass E

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TRADIMALT s.p.a.
Via Nazionale 1 - VILLAFRANCA
TIRRENA 98049 MESSINA - ITALY
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Uni EN 1504-7

COPRIFACILE Ripristino

Cementitious mortar for corrosion protection of concrete reinforcement in buildings and civil engineering works

Tensile adhesion: Pass
Protection against carbonation: Pass
Hazardous Substances: see SDS

FORTE E CHIARO

This is Tradimalt's way of communicating, in its information and technical-commercial material, the composition of each product and some of the product's key features. Therefore, the focus is on supply chain transparency, not required by any relevant regulation but which Tradimalt nevertheless intends to offer to its customers in order to emphasise the quality of the raw materials, and thus of the product, as well as the safety that the company intends to demonstrate with regard to formulations. The focus is therefore in the "transparency" that the company intends to manifest in the supply chain, which is not required by any current formulation law.

Raw materials contained in the product

Selected raw materials: in powder form to improve adhesion and deformability of the

- Siliceous aggregates (0 to 1.2 mm) with high hardness and mortar low water absorption;
- Cements, Portland cement 52.5 R type I from Italian chemical and mechanical, reduce permeability and prevent cement factories; alkali-silica reactions;
- Sulpho-aluminous cements with high sulphate resistance, low • Structural reinforcement fibres with a high elastic modulus, polyacrylon- alkali content, which counteract the shrinkage of the mortar during trile (PAN), which prevent plastic shrinkage of the mortar. hydration phase and regulate the gripping time (>10%);
- Resin, co-polymers, based on vinyl acetate and ethylene, dispersed End-of-life recyclable product.
- Elements with pozzolanic activity that increase resistance

Warnings

- Do not apply on frozen or thawing substrates.
- Do not apply at high temperatures and on absorbent substrates.
- Always moisten the substrates the day before application.
- Protect the mortar from rapid drying and moisten for a few days after application.
- Do not apply on uneven substrates unless properly prepared (mesh).
- Do not apply on painted substrates.
- Do not apply on gypsum substrates.
- Do not apply on loose or crumbling substrates.
- Operating temperature between +5 °C and +35 °C.
- Store the product in its unopened packaging and protected from moisture for up to 12 months.