

Rapid Ripristino

Anti-shrinkage mortar, thixotropic fibre reinforced, rapid setting and hardening, for repairing, protection and structural passivation of concrete, to be applied manually. Composed by hydraulic binder, fibres, selected inert, granulometry of max 1.4mm and specific additives.



R4

RAPID HARDENING

POLYMERIC REINFORCED FIBRES

SiO₂ 60 SILICEOUS AGGREGATES



Use this QR code to study in depth the application methods, the safety sheet and other information.

69 Product code

Also available in:

MINIPACK 5kg



Technical features

Class according to UNI EN 1504-3	R4
Compressive strength UNI EN 12190	47,5 MPa
Tensile strength UNI EN 196/1	13,7 MPa
Protection against the rebar corrosion UNI EN 1504-7	out of specification
Resistance to corrosion UNI EN 15183	< 1 mm
Rebar movement resistance UNI EN 15184	out of specification
Shrinkage/Expansion prevented UNI EN 12617-4	2,4 MPa

Carbonation resistance UNI EN 13295	d_k ≤ 1,5 mm
Modulus of elasticity UNI EN 13412	21 GPa
Theoretical consumption (per cm of thickness)	15/17 kg/m²
Spreading UNI EN 13395-1	150 mm
Chloride ions content UNI EN 1015-17	0,02%
Adhesive bond UNI EN 1542	2,5 MPa
Capillary absorption UNI EN 13057	0,35 kg/m²h^{0,5}

Description

Rapid Ripristino follows the principles defined by EN 1504-9 (Products and systems for the protection and repair of concrete structures - Definitions, requirements, quality control and evaluation of conformity. General principles for the use of the products and systems), the requirements EN 1504-3 (Structural and non-structural repair), for the structural mortars of class R4 and requirements EN 1504-7 (Reinforcement corrosion protection). Rapid Ripristino is an anti-shrinkage pre-mixed mortar, thixotropic, rapid setting and hardening properties, mono-component, cement based, composed of hydraulic binders resistant to sulphates, which allows the mortar to set

and harden rapidly, maintaining at the same time its capacity to compensate for hygrometric shrinkage.

Rapid Ripristino is particularly suitable for structural recovery where the severe environmental conditions have damaged the fibres, differentiating from the other fibre-reinforced mortars reinforced with stainless steel fibres or other special metal alloys, these fibres are synthetic and do not corrode, oxidize or do not suffer chemical corrosion even in particularly severe environmental conditions. After hardening, Rapid Ripristino, resists the aggression of sulphate salts, and adheres perfectly to concrete surfaces if well treated beforehand.

Physical features

Package	25 kg / Minipack
Consistency	powder
Apparent density	1350 kg/m³
Water in the mixture	16 - 18%
Specific weight of wet mortar	2000 kg/m³

Maximum grain size	≤ 1,4 mm
Pot life	< 15 min
Application temperature range	+5°C/+35°C
Storage	12 months in an intact package and repaired from humidity

Where to use

Rapid reconstruction of concrete structural elements. The hardening speed facilitates its use during reconstructions where it is not possible to wait for the normal cement mortar hardening time. Rapid Ripristino is suitable for a fast restoration of concrete or reinforced concrete structural elements, such as:

- Deteriorated concrete and concrete segregation;
- Severe mechanical structure solicitation;
- Containment walls;
- Water related projects, tanks, dams, canals etc.;
- Road and train tunnels;
- Degraded surfaces due to the oxidation of the rebar and consequent damage of the material covering it;
- Beams, pillars and ceilings;
- Ledges, balconies, balcony beams.

Surface preparation

1. The surface after the deteriorated and detached concrete has been removed, must be homogeneous, resistant, rough and clean.
2. Clean the oxidised reinforcing rods completely, removing rust and paint with a metallic brush or by sanding.
3. Evaluate if the oxidised reinforcing rods need passivation grouting Tradimalt Trattamento Ferro.
4. Before using Tradimalt Rapid Ripristino, wait until Trattamento Ferro has dried and then wet the surface until saturation, avoiding stagnation.

Product preparation

Mix Rapid Ripristino with 16 - 18% of clean water using a low rpm mixer until obtaining a homogeneous mixture. It is advisable to prepare the correct quantity of product that can be

applied within 12- 15 min. (setting time of the product). Rapid Ripristino remains workable for approx. 15 min. at +20°C

Application

Apply Rapid Ripristino with a trowel or a float in multi layers , with a thickness of max 5 cm per layer . For thicknesses over 5cm it is advisable to use an alkali resistant fibreglass net. During the application it is important to fill up all the holes , to avoid air bubbles that could in time put at risk the durability . Finish with a sponge float when the product is setting. Rapid

Ripristino can be left exposed or covered with cement based plasters or be plastered with any interior or exterior finish after it has been properly treated . Operate in a way that materials with similar mechanical and elastic proprieties are in contact with each other . To guarantee a longer durability apply the specific finish anti -carbonation Rasoplus Tradimalt.

Plus

Polymeric reinforced-fibres

Rapid Ripristino contains poliacrilonitrile micro -fibres (PAN) used to prevent the plastic shrinkage of the mortar. The high chemical and mechanical adhesion between the polymer and the cement hinders the traction stress originating from the shrinkage during the plastic phase , caused by water evaporation in the mixture. The increase of capability to hinder the shrinkage , induced by the PAN fibres , prevents the formation of superficial fissuring that normally occur within 24 hours of applying the product . Adding the proper quantity of fibres in

the mortar, results in a three -dimension fibre structure, homogeneously distributed , hinders the phenomena of bleeding and segregation , which weakens the mechanical proprieties of the mortar. Even the aging of the mortar is positively influenced by the addition of PAN fibres, due to their particular chemical nature , they have a high capability of retaining the mixture water, that especially in unfavourable conditions this allows for the improvement of the mechanical proprieties of the mortar.

Siliceous aggregates

Rapid is composed of grains of silica sand. This aggregate has elevated hardness, poor reactivity by acid attack and above all low water absorption . This quality translates into an improved workability of the product even with low quantities

of water in the mix, so that there is less shrinkage and higher mechanical proprieties that translates into a superior durability of the work undertaken.

Polymer in Powder

Rapid Ripristino has in its formula dispersible Polymers in powder that are activated when in contact with the water in the mixture therefore creating a composite material where the polymer phase results in many advantages for the mortar, in particular it increases the flexion and traction resistance, redu-

ces the plastic module and bonds the cement mortar with the support, even if irregular, it also increases the adhesion. The presence of specific polymers guarantees a better workability during the application and better water resistant and weathering characteristics.

Rapid Hardening

The combination of sulphur aluminium cements and Portland cements with the addition of accelerants, allows the product to set and harden rapidly.

The product has high initial mechanical proprieties therefore resistance to abrasion , chemicals , sulphurs and from the action of water.

Technical specifications

Repair, protection and consolidation of degraded reinforced concrete with anti- shrinkage mortar, thixotropic , fibre reinforced , rapid setting and hardening to be mixed with only water , type Rapid Ripristino of Tradimalt Spa compo-

sed of selected siliceous inert hydraulic binder, fibres PAN and specific additives.

Compressive strength after 28 days 47,5



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0925-CPR C h n. 36/2010

**Uni En 1504-3
Rapid Ripristino**

Concrete repair product for structural repair PCC mortar

Compressive strength: class R4

Chloride ions content : 0,02%

Adhesive bond : 2,4 MPa

Resistance to carbonation : Pass

Elastic modulus : 20,12 GPa

Thermal compatibility part 1: 2,5 MPa

Capillary absorption : 0,35 kg/(m²xh^{0,5})

Dangerous substances: comply 5.4

Reaction to fire: Euroclass E



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0925-CPR C I n. 57/2014

**Uni EN 1504-7
Rapid Ripristino**

Cement based mortar for the protection from corrosion of reinforcing bars in buildings and civil structures

Tensile adhesion: Pass

Carbonation resistance: Pass

Dangerous substances: see SDS



It's Tradimalt's policy to communicate in the information and technical-commercial material, the composition of every product and some important production characteristics. The focus is the total transparency during the commercial chain, not re-

quired by any existing law but the fact that Tradimalt wants to offer its clients this information so to underline the quality of the raw materials, therefore the quality of the final product, in addition to "the safety" during the production phase.

RAW MATERIALS IN THE PRODUCT

Selected raw materials:

- Silica aggregates (0 to 1.4mm) elevated hardness and low water absorption characteristics.
- Cements, Portland cement 52.5 R type I produced by Italian cement plant. (>22%);
- Sulphoaluminate cements, highly resistant to sulphates, low content of alkali, which hinders the shrinkage of the mortar during the drying phase and regulates the setting time (>10%);

- Setting accelerators, which regulate the setting time.;
- Resin, co-polymers, vinyl acetate and ethylene based, dispersed in powder which increases adhesion and the deformability of the mortar (>3%);
- Structural reinforcement fibres with a high elastic module, aramid, polyacrylonitrile (PAN), that prevent the shrinkage of the mortar.

Recyclable at the end of life of the product.

Recommendation

- Do not apply to frozen or de-icing surfaces.
- Do not apply in high temperatures and on absorbent surfaces.
- Always dampen the surface the day before applying the product.
- Protect the product from rapid drying and dampen for a few days after the application.
- Do not apply on non-homogenous surfaces if not properly treated (net).
- Do not apply on painted surfaces.
- Do not apply on gypsum surfaces.
- Do not apply on crumbly or inconsistent surfaces.
- Application temperature range +5°C/+35°C.;
- Keep the product in an intact package and protected from humidity for max 12 months.

The technical -practical information contained in the technical data sheet are the results of our laboratory testing and the experience on the field. With no intervention on the building site conditions and supervision on the way the job is carried out, this information is not to be considered binding and therefore not legally binding or in any other way to a third party. This information does not excuse the user from his responsibilities of trying our products so be sure that the product is correct for the required use. We recommend that the client /applier does the appropriate tests on the Tradimalt products to be sure of the suitability of the product.