

Torggler

Concrete Restoration

RESTAURO FERRI

Single-component mortar for protective anticorrosive and CO₂ barrier treatment of rebars. It meets the minimum requirements of EN 1504-7.



- Exceptional adhesion to rebars and concrete
- High anti-CO₂ protection
- Extremely easy to apply
- It ensures the perfect adhesion of mortars to the substrate
- Excellent thixotropy



APPLICATION AREAS

Restauro Ferri has been specifically designed for the anticorrosive treatment of rebars in the cycle of restoration and anti-carbonation protection of reinforced concrete carried out with products of the Restauro system, of conservative restoration carried out with Restauro R2, Restauro Smart, Rinnova and of structural restoration carried out with Restauro R3, Restauro R4, Strutturale and Colabile. Restauro Ferri can also be used as an adhesion promoter to ensure the adhesion of mortars on the support.

FEATURES

Demolish the degraded concrete until the rebars are exposed. Remove, by careful hammering and chiselling, cement residues and loose, crumbling, inconsistent parts until the sound, durable substrate is reached. Expose the reinforcement rods on the surface, completely releasing them from the grip of the carbonated concrete, then all around the circumference, even in apparently healthy areas. Clean the iron well until it is “white” (until it becomes shiny) using a hydro-sandblaster or dry sandblaster to remove dust, release agent or paint residues, cement slurry, loose surface coatings and rust. In case of limited degradation, manual cleaning with a steel brush or other usual equipment is sufficient. If it is necessary to supplement the reinforcement with additional reinforcement, or to replace parts of the old reinforcement which have deteriorated too much and can no longer

fulfil their function, the new reinforcement must also be treated in the same way, i.e. it must be treated until it is "white".re

WARNINGS

- As with all cement-based products, never carry out work and applications at temperatures below +5 °C.
- Never mix with other binders such as cement, hydraulic lime, gypsum, etc.
- Stop using the mixed product when it has already started to set, so take care to prepare from time to time a quantity of mixture that can be applied within its workability time.

INSTRUCTIONS FOR USE

Mix Restauero Ferri with approx. 24-26% of water (1.2-1.3 litres of water per 5 kg bag) until a homogeneous mixture is obtained. Apply by brush on the entire surface of the rebars, in two coats, in a total thickness of at least 2 mm, waiting about 2 hours between one coat and the other. The mixture workability time is 60 min. at 20 °C. At high temperatures, avoid direct exposure to the sun and mix with cold water and apply during cooler hours. The product can also be used as an adhesion promoter on the substrate to be reintegrated; in this case, wait at least 6 hours after application on the reinforcement rods, apply a second coat both on the reinforcement rods and on the substrate, wait for an initial hardening before continuing with the volumetric filling.

TECHNICAL SPECIFICATIONS

DETERMINATION ON POWDERED PRODUCT	
Consistency	Powder
Bulk density	1,110 kg/l
Granulation (EN 12192-1)	0-0,5 mm
Content of chloride ions (EN 1015-17)	< 0,05%
DETERMINATION ON FRESH MIXTURE	
Mixing water	24-26%
Mixture consistency	thixotropic
Mixture density (EN 1015-6)	1,970 kg/l
Mixture workability time (23° C/50% U.R.)	approx. 60 minutes
Waiting time before subsequent applications (23° C/50% U.R.)	at least 6 hours
Application temperature	+5 °C to +30 °C
DETERMINATION ON HARDENED PRODUCT	
Operating temperature	-20 °C to +90 °C
Density mass of hardened mortar (EN 12190)	1,93 kg/l
Adhesion to shear (EN 15184)	Conforms
Corrosion testing (EN 15183)	Conforms
Bending strength after 28 days (EN 121909)	4,0 MPa
Compressive strength after 28 days (EN 12190)	51,0 MPa
Adhesion bonding (EN 1542)	1,5 MPa
Water vapor diffusion resistance μ (EN 7783)	130
Dangerous substances (EN 1504-7)	Conforms to section 5.3
Product classification	Conforms

1 N/mm² equals 1 MPa.

(*) Torggler's Internal Methods (MIT) are available on request.

Color	Bright grey
-------	-------------

Packaging	bag
Packaging size	4x5 kg
Pallet	40 cardboards

CONSUMPTION

The consumption of Restauero Ferri depends on the diameter of the rebars and their surface conformation (smooth or improved adherence rod). In general, improved adherence irons are always used, the following table shows some indicative consumption values based on their diameter.

Consumption in grams per linear metre.

Ø 8 mm 100 g/m

Ø 16 mm 200 g/m

Ø 20 mm 250 g/m

As an adhesion promoter the indicative consumption is approx. 1.5 kg /m²

STORAGE

Restauero Ferri must be stored in a dry and sheltered place. In the original closed bags it is kept for at least 24 months. **PROTECT FROM HUMIDITY.**

The information contained in this document is reported on the basis of our experience and knowledge; therefore, any recommendations and suggestions made are without any guarantee and must be verified before using the product by those who intend to use it, who assume all responsibility that may result from its use since the conditions of use are not under our direct control. In case of doubt, it is always advisable to make preliminary tests and/or ask for the intervention of our technicians. Torggler reserves the right to modify, replace and/or delete the items, as well as to change the product data in this document without prior notice; in this case the indications given here may no longer be valid. Always refer to the latest version of the data sheet, available at www.torggler.com. Version 05.02.2021.