

## TECHNICAL DATA SHEET (TDS)

# PRIMAFER

Codice Prodotto 000

**RE-ALKALISING ANTI-CORROSION CEMENTITIOUS MORTAR FOR STEEL REINFORCEMENT RODS.**

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### Benefits

PRIMAFER is an anti-corrosive cement-based mortar for the protection of reinforcing bars. It has the following features:

- **EASY TO APPLY:** PRIMAFER, thanks to its excellent brushability, can be rapidly applied by brush and ensures even covering of reinforcing bars;
- **PROTECTION AGAINST CORROSION AND ENVIRONMENTAL AGGRESSION:** PRIMAFER ensures an effective protection against the corrosion of rebars and the formation of rust; its composition makes it fully impermeable to aggressive agents such as chlorides, sulphates and carbon dioxide;
- **PERFECT ADHESION:** PRIMAFER provides high bond strength to metal reinforcements, to concrete and to most building materials;
- **IMPERMEABLE:** PRIMAFER, once hardened, is totally impermeable to water, saline mist, gases and to weathering;
- **IT PROMOTES ADHESION OF REPAIR MORTAR:** PRIMAFER ensures perfect adhesion between treated rebars and the later patching/rebuilding with the structural mortars;
- **REALKALIZING EFFECTIVENESS:** PRIMAFER restores the alkalinity values of the passivating layer for the rebars to the values protecting the rebars from corrosive electrochemical phenomena, undermining their durability.

PRIMAFER is compatible with the structural mortars, with all types of products for structural repairing and for restoration.



### Description

PRIMAFER is a two-component protective, passivating mortar applied with a brush to protect reinforcement bars. It contains water dispersed polymers, cementitious binders and corrosion inhibitors. PRIMAFER is applied to the reinforcement bars of reinforced concrete specifically to protect from corrosion. It is ideal to protect against corrosion and restore the alkalinity of steel reinforcements before concrete repairs with mortars.

### Where to uses

PRIMAFER can be used for:

- Anti-corrosion protection and alkalinity restoration for steel reinforcements bars in concrete structures.
- Protects steel reinforcements and improve adhesion of the mortar used in concrete repair works.



### Preparation of degraded area

To ensure a good application:

- Remove all surrounding degraded and carbonated concrete.
- Remove all loose particles, grease, oil and rust.
- In case of deep penetration of CO<sub>2</sub> into the concrete carry out a carbonation evaluating test and remove the entire thickness of concrete affected by carbonation.



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### Preparing the steel reinforcements

The rebars to be treated must be thoroughly cleaned, by carefully removing all the rust and any trace of oil, grease, etc. Sandblasting or brushing to white metal, at least Sa 2 or Sa 3, is recommended.

On the new rebars it is essential to remove any trace of grease or scale by sandblasting or brushing.

Apply PRIMAFER soon after cleaning, it is not recommended to leave the rebars without protection for long periods.

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### Application details

#### MIXING OF THE PRODUCT

Pour component B into a container, gradually adding component A and mixing thoroughly without adding any water. The final consistency of PRIMAFER should be creamy and brushable. Product pot life is about 1 hour at 20°C.

#### PRIMAFER APPLICATION

PRIMAFER is applicable with a hard bristle paintbrush in two coats, 2-3 hours apart (max 24 hours), for a total thickness of about 2 mm; evenly cover the whole exposed surface of the rebars.

After the application, the surrounding concrete surface shall be treated with PRIMAFER. It will not compromise adhesion to subsequent layers of mortar or concrete, but rather improve its adhesion;

- Application of cementitious repair mortars for structural restoration may be done about 4 hours after applying PRIMAFER;
- If repairing is done with epoxy products wait for at least 24 hours before proceeding with the application;

### Product Features

Appearance	A: liquid	B: Powder
Density	A: 1,6 g/cm <sup>3</sup>	B: 1 g/cm <sup>3</sup>
Shelf life	12 months	

#### Application Data

Mix colour	Green
Mixing ratio by weight	Part A : Part B = 1:2
Consistency of mix	Plastic-brushable
Density of mix	1760 kg/m <sup>3</sup>
Minimum thickness	Approx. 2 mm in 2 coats
Application temperature range	From +5° to +35°C
Setting starts at 20°C	1 hour after mixing
Setting ends at 20°C	4 hours after mixing
Waiting time between each coat	Approx. 2-3 h
Waiting time before applying repair mortar	Approx. 4 h
Viscosity brookfield	< 40000 mPa.sec
Consumption	100 g/ linear meter of bars of 8 mm (2 mm total in 2 coats)

#### Final performance

Performance characteristic	Test method	Minimum requirements according to en 1504-7	Performance of product
BOND STRENGTH TO CONCRETE (MC 0.40-type concrete ) according to EN 1766	EN 1542	Not required	> 2 MPa
ADHESION ON SANDED STEEL by pull-out after 7 days at 20°C - RH 65% - Sa 2 ½	EN 1542	Not required	> 2,6 MPa
PULL-OUT STRENGTH OF STEEL REINFORCEMENT BARS - Load required for 0,1 mm of slip	EN 15184	Load equal to at least 80% of the load on steel reinforcement without protection	> 91%
RESISTANCE TO ACCELERATED CARBONATATION: - 10 condensation cycles in water - 10 cycles in sulphur dioxide according to EN ISO 6988 - 5 days in saline mist according to EN 60068-2-1	EN 15183	After the series of cycles, the protected rods must be corrosion free. Penetration of rust at the ends of the steel plates with no protection must be < 1 mm	Test passed



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### Packaging and storage

PRIMAFER comes packaged in a 3 kg bucket = (A) 1kg bottle + (B) 2kg bag.

If the product is stored properly in its original packaging, indoors in a dry location, it maintains its original features for 12 months.

### Pag | III Safety procedures

As far as the proper working procedures is concerned, we recommend to consult Material Safety Data Sheets issued according to E.U. rules and to follow your national laws concerning safety in the working place. MSDS is available on our web site [www.primaxbuild.it](http://www.primaxbuild.it)

### Trademark and Origin of the good

PRIMAX® is a registered trademark of Bellinzoni company. The law considers a trademark to be a form of property and any misuse can be persecuted by law. Bellinzoni s.r.l. declares that our product PRIMAFER is **MADE IN ITALY**.



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