

DRACOSTEEL

RE-ALKALISER TREATMENT OF REINFORCEMENT BARS PROTECTING AGAINST CORROSION

DRACO

REFURBISHMENT & PROTECTION LINE

PASSIVATING AGENT FOR
THE PROTECTION OF
REINFORCING BARS



DRACOSTEEL 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. **DRACOSTEEL** 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 **FLUECO** and **CONCRETE FINISHER** mortars.

BENEFITS

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

✓ **EASY TO APPLY:** DRACOSTEEL, thanks to its excellent brushability, can be rapidly applied by brush and ensures even covering of reinforcing bars;

✓ **PROTECTION AGAINST CORROSION AND ENVIRONMENTAL AGGRESSION:** DRACOSTEEL 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:** DRACOSTEEL provides high bond strength to metal reinforcements, to concrete and to most building materials;

✓ **IMPERMEABLE:** DRACOSTEEL, once hardened, is totally impermeable to water, saline mist, gases and to weathering;

✓ **IT PROMOTES ADHESION OF REPAIR MORTAR:** DRACOSTEEL ensures perfect adhesion between treated rebars and the later patching/rebuilding with the **FLUECO** structural mortars;

✓ **REALKALIZING EFFECTIVENESS:** DRACOSTEEL restores the alkalinity values of the passivating layer for the rebars to the values protecting the rebars from corrosive electrochemical phenomena, undermining their durability.

DRACOSTEEL is compatible with the **FLUECO** structural mortars, with all the skimcoats and products for structural repairing and for restoration of the **DRACO** line.

WHERE TO USE

DRACOSTEEL can be used for:

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



© Copyright 2015 - Tutti i diritti sono riservati - Le indicazioni contenute nella presente scheda tecnica rispondono in modo reale e veritiero alle nostre migliori ed attuali conoscenze - In funzione dell'accuratezza delle diverse fasi di posa in opera sulle quali non abbiamo alcuna responsabilità, possono verificarsi delle variazioni. La nostra garanzia si limita pertanto alla qualità e costanza del prodotto fornito di cui alle indicazioni stesse. La presente edizione annulla e sostituisce le precedenti.

SUPPORT PREPARATION

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 CO₂ into the concrete carry out a carbonation evaluating test and remove the entire thickness of concrete affected by carbonation.

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

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 **DRACOSTEEL** should be creamy and brushable. Product application time is about 1 hour at 20°C.

PRODUCT APPLICATION

DRACOSTEEL 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 **DRACOSTEEL**. It will not compromise adhesion to subsequent layers of mortar or concrete, but rather improve its adhesion;
- ▶ application of **FLUECO** mortars for structural restoration may be done about 4 hours after applying **DRACOSTEEL**;
- ▶ when the repairing job is done with epoxy products such as **EPOMALT**, **EPOBETON** or **EP FIX**, wait for at least 24 hours before proceeding with the application;

In order to complete the repairing job and even the repaired surfaces, use the following products:

- ▶ **CONCRETE FINISHER**, cement-based mortar for superficial skimcoats.
- ▶ **DRACOSEAL**, impermeable osmotic cement-based mortar to be applied by brush.
- ▶ **ACRIPAIN**, pigmented acrylic paint against carbonation for outdoor applications.
- ▶ **EPOMALT**, epoxy cement mortar for skimcoats.
- ▶ All the above mentioned products also have an effective protective activity against chemical aggression by the environment: carbon dioxide, sulphates, sulphides, chlorides, aggressive waters, etc.

PACKAGING AND STORAGE

DRACOSTEEL comes packaged in a 3-kg pail with both previously described components in their own containers:

- 1-kg bottle (A) + 2-kg bag (B)

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



PRODUCT FEATURES

ASPECT	A: liquid B: Powder
DENSITY	A: 1,6 kg/l B: 1 kg/l
CONFEZIONE	1-kg bottle (A) + 2-kg bag (B) packaged in 3-kg pail
STORAGE	12 months

APPLICATION DATA (+20°C and 50% R.H.)

COLOUR OF MIX	Green
MIXING RATIO	A:B = 1:2
CONSISTENCY OF MIX	Plastic-trowellable
DENSITY OF MIX	1760 kg/m ³
MINIMUM THICKNESS	ca. 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/m bars of 8 mm (2 mm thick 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 60068-2-11	EN 15183	After the series of cycles, the protected rods must be corrosionfree. Penetration of rust at the ends of the steel plates with no protection must be < 1 mm	test passed

ITEM SPECIFICATIONS



Realkalizing treatment for protection against the anodic and cathodic corrosion of rebars. The rebars shall have to be treated by previously cleaning and removing rust, by sanding or brushing at least Sa 2½, using the two-component cathodic and anodic anti-corrosive product **DRACOSTEEL**, which is applied by brush in two coats at a distance of 2-3 hours according to the recommendations of the manufacturer, **DRACO Italiana SpA**.

The product must have the following performance characteristics:

Mixing ratio:	A:B = 1:2 weight parts
Density of the mix:	1760 kg/m ³
Application temperature range:	From +5°C to +35°C
Pot life of mix:	approx. 1 hour at 20°C
Waiting time before applying repair mortar:	approx. 4 hours
Adhesion to the substrate (EN 1542):	> 2 MPa
Resistance to slipping of steel bars (EN 15184):	> 91% compared to the untreated bar, breaking stress 110 kN
Resistance to corrosion (EN 15183):	meets specification
Consumption:	100 g/m on 8 mm bar (thickness 2 mm)

Legal Notice - SLCMP version dated 01.03.2017

In the technical specifications herein, Draco Italiana s.p.a. used the indicators therein specified, with the relevant standards.

Please check if this Sheet and the figures therein contained apply to the product batch you are interested in or if they have been overridden by any later release. If in doubt, check whether this Sheet matches the one applicable at the time of finalising the sales agreement, at www.draco-edilizia.it, and/or contact our Engineering Department.

No advice provided by our staff, either verbally or in writing at your request, about the potential applications of the Products shall be binding under the sales agreement or shall be considered an integral part of the agreement. Such advice is based on our experience and on the best available practical and/or scientific knowledge; as such, it shall not be binding or conditional on the buyer or user. Please try our products first to find out whether they are fit for your intended use or application; in any case, you shall be solely responsible for your choice.