

Steel Reinforcement Protector 841

Reinforcement Corrosion Protection

Product Overview

Polymer modified, cementitious anti-corrosion coating for the protection of steel reinforcement.

Description

STEEL REINFORCEMENT PROTECTOR 841 is a two component, polymer modified, cementitious coating which is supplied with a convenient mixing kit. The advanced formulation contains corrosion inhibitors to passivate and protect steel reinforcement. It forms a highly alkaline coating with a degree of elasticity which defends against the effects of from acid gases, moisture and chlorides.

Uses

Suitable for Reinforcement Corrosion Protection Principles 11.1 and 11.2 as defined in BS EN 1504-7.

Advantages

- Pre-packaged material complete with mixing kit.
- Brushed on in two coats with minimal inter-coat waiting time.
- High alkalinity combined with corrosion inhibitors for rapid passivation and long-term corrosion protection.
- Tolerant to lower levels of steel preparation.
- Dense matrix protects the steel from aggressive acid gases, moisture and chlorides.
- Good insulation properties to prevent further corrosion.
- Produces a hard coating with a degree of elasticity.
- Excellent adhesion to steel ensures adequate pull-off resistance is achieved.
- Ideal for protection of steel reinforcement subjected to long term exposure.

Compliance

- UKCA & CE marked in accordance with EN 1504-7.
- BBA Approved, Certificate No. 05/4276.
- Listed under Regulation 31 - England and Wales: Regulation 33 - Scotland: Regulation 30 - NI: for use with potable water.

Application Instructions

Preparation

Reinforcement should be cleaned, preferably by the use of wet grit blasting to remove any loose rust or scale, back to a bright metal surface finish such as to Sa 2½, as defined in BS 7079: Part A1/ISO 8501 (SSPC.SP10) where possible. Alternatively, shot, water or equivalent blast cleaning techniques may be used.

If chlorides are absent from the concrete or environmental constraints preclude the use of blast cleaning, hand held power tools capable of achieving the necessary preparation can be used. Metal prepared in this way should be to St 2 or St 3 as defined in BS 7079: Part A1/ISO 8501 (SSPC.SP2 or SSPC.SP3).

Mixing

Mix as much material to apply within the working life. Place sufficient Component A (liquid) into a suitable mixing container and add the corresponding quantity of Component B (powder).

Initial Mixing Ratio:

Component B : Component A	3:1 by volume
Component B : Component A	4:1 by weight

Mix together thoroughly for 2-3 minutes to a lump free consistency. Smaller amounts are mixed by hand, and larger amounts with a low-speed electric mixer in order to entrap as little air as possible. The mixed materials should have a brushable, barely dripping consistency. If necessary, the consistency can be adjusted by the addition of one or other of the two components. Do not add water or other materials.

- Note - These instructions must be adhered to as Flexcrete will not be responsible for failure due to incorrect mixing.

Placing

Apply the first coat, by brush, onto the reinforcement as soon as possible, but no longer than 24 hours after preparation. Apply to a thickness of approximately 1mm and ensure freedom from pin-holes, voids and misses. To give total protection a second coat is applied when the first is stable but not fully cured, typically 30-90 minutes (maximum 7 days). Inspect on completion and if necessary spot repair to ensure the reinforcement is fully protected. Avoid overpainting onto the adjacent concrete.

Ideally within 2-6 hours of completion (dependent upon ambient temperature), make good any areas of missing, spalled or removed concrete with the appropriate Flexcrete repair mortar.



Limitations

Do not use **STEEL REINFORCEMENT PROTECTOR 841** when the temperature is below 5°C and falling.

Cleaning and Storage

- All tools should be cleaned with water immediately after use.
- Materials can be stored in sealed buckets for 12 months in dry, frost free conditions at 20°C.

Packaging

- **STEEL REINFORCEMENT PROTECTOR 841** is supplied in a 5kg composite pack with a mixing kit.

Coverage

- 5kg applied in two coats is sufficient for approximately 41 linear metres of 10mm diameter steel bar.

Health and Safety

- Safety Data Sheets are available on request.

Application Top Tips

1. Regularly check the coating thickness during application.
2. Hold a piece of cardboard behind the reinforcement to prevent excess application onto the parent concrete.
3. Take care during application to ensure that air is not entrapped into the surface
4. Ideal for the corrosion protection of steel reinforcement subjected to long term exposure on interrupted construction programmes.
5. Cold Weather Working (See separate Guide)
 - ≥3°C on a rising thermometer.
 - ≥5°C on a falling thermometer.
 - Do not use any Part A which has been frozen.
6. Hot Weather Working (See separate Guide)
 - Store material in cool conditions to maximise working life.
 - Shade applied material from strong sunlight.
 - If possible, avoid extreme temperatures by working at night.

The information herein is correct to the best of our knowledge, but it does not necessarily refer to the particular requirements of the customer. If the customer has any particular requirements it should make them known in writing to Flexcrete Technologies Limited, and obtain further advice accordingly.

Technical Data

Property	Standard	EN 1504-7 Requirement	Typical Result
Compressive Strength	EN 12190	-	>35 MPa: 28 Days
Shear Adhesion	EN 15184	Failure load of coated bars at 0.1mm displacement ≥80% of uncoated bars	112% of Control: Pass
Corrosion Protection	EN 15183	Coated area free from corrosion. Rust creep at ground edge <1mm	No corrosion on coated areas: Pass Rust creep at ground edge <1mm: Pass
Water Permeability Coefficient Equivalent concrete thickness	DIN1045	-	6.00×10^{-16} m/sec 2mm = 1000mm of concrete
Oxygen Diffusion Coefficient Equivalent Concrete Thickness	Vinci Technology	-	$DO_2=5.24 \times 10^{-5}$ cm ² /s 2mm = 100mm of concrete
Chloride Ion Diffusion	Vinci Technology	-	No steady state of flux after 33 years test period
Flexural Strength	EN 196-1	-	9 MPa
Tensile Strength	BS 6319: 7	-	2.7 MPa
Mixed Density		-	1950kg/m ³
Mixed Colour		-	Grey/green
Application Thickness		-	2 x 1mm coats
Min Application Temperature		-	5°C
Max Application Temperature		-	35°C
Working Life (approx.)		-	60 minutes at 20°C

The properties given above are obtained from laboratory tests: results obtained from on-site testing may vary according to site conditions.

