

STEEL REINFORCEMENT PROTECTOR 841

USES

For providing a corrosion preventative, flexible coating to steel reinforcement prior to the application of the relevant **FLEXCRETE REPAIR MORTARS**.

ADVANTAGES

EASY TO USE:	Brush applied in two coats with minimal inter coat-waiting time.
SIMPLE:	Gauged as required. Complete with mixing kit to maintain consistency.
ALKALINITY:	Reinstates highly alkaline passivating environment around reinforcing bar.
LOW PERMEABILITY:	Protects the steel from aggressive acid gases, moisture and chlorides.
ELECTRICAL CONDUCTANCE:	High insulation properties prevent further electrochemical corrosion.
CORROSION INHIBITOR:	Provides added chemical protection to prepared steel reinforcement.
FLEXIBILITY:	Produces a hard but elastic coating.
ADHESION:	Excellent adhesion to steel reinforcement.
COMPLIANT:	Cements used are quality assured complying with BS 12. Approved by the BBA, Certificate No. 05/4276.
SAFE:	Non-toxic when cured and is listed as authorised under Regulations 31 for use in the supply of water for drinking.
COST EFFECTIVE:	Economical cementitious polymer coating.

PRODUCT DESCRIPTION

STEEL REINFORCEMENT PROTECTOR 841 consists of two components, a cementitious powder and a polymer dispersion which react chemically together to passivate, with the aid of corrosion inhibitors, and protect steel reinforcement. **STEEL REINFORCEMENT PROTECTOR 841** has excellent adhesion to steel and concrete allowing high bond strengths with **FLEXCRETE REPAIR MORTARS**. **STEEL REINFORCEMENT PROTECTOR 841** forms a highly alkaline coating with a degree of elasticity which not only protects the steel from aggressive acid gases, moisture and chlorides, but passivates the steel surface chemically to prevent further rust formation.

TECHNICAL DATA

Mixed Colour:	Pale Green.
Mixed Density:	1800kg/m ³ .
Minimum Application Temperature:	5°C.
Maximum Application and Substrate Temperature:	35°C.
Working Life:	1 hour at 20°C.

MECHANICAL CHARACTERISTICS (TYPICAL)

Ultimate Compressive Strength:
32N/mm².

Flexural Strength:
10.5N/mm².

Adhesive Strength:
3N/mm² (Concrete).
2N/mm² (Steel).

Ultimate Bond Stress:
5-6N/mm².

Water Permeability:
6.00 x 10⁻¹⁶m/sec.
i.e. 2mm **841** = 1000mm of typical concrete.

Carbon Dioxide Gas Diffusion Resistance Coefficient:
 $\mu_{CO_2} = 2,600,000.$

Therefore equivalent air thickness value R at 2mm thickness (S)
 $\mu_{CO_2} \times S = 5200m.$

Based on Engelfried Technique, an effective barrier to carbon dioxide is $R \geq 50m$.

Oxygen Diffusion Coefficient:

$D_{O_2} = 5.24 \times 10^{-5}cm^2s^{-1}.$
(Normal concrete $D_{O_2} = 2.12 \times 10^{-3}cm^2s^{-1}.$)

Chloride Ion Diffusion (851): Taywood Test

No steady state flux of chloride ions after a test period of over 18 years.

APPLICATION DATA

Application Guide available on request.

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 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 3 as defined in BS 7079: Part A1/ISO 8501 (SSPC.SP2 or SSPC.SP3).

MIXING

Mix as much **STEEL REINFORCEMENT PROTECTOR 841** as can safely be applied within working life of the material. Place sufficient Component A into a suitable mixing container and add the corresponding quantity of Component B.

Initial Mixing Ratio

Component B: Component A, 3:1 by volume.

Component B: Component A, 4:1 by weight.

Mix together thoroughly and without lumps for 2-3 minutes, small amounts by hand, larger amounts using 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.

COATING

Apply the first coat, by brush, onto the reinforcement as soon as possible, but no longer than 24 hours after preparation. Apply the coating to a thickness of approximately 1mm and ensure complete freedom from pinholes, voids and misses. To ensure total protection a second coat must then be applied when the first is stable but not fully cured, typically 30-90 minutes (maximum 7 days). Inspect on completion then spot repair, if necessary, to ensure the reinforcement is fully protected by the dense, impervious and highly alkaline protective coating. Avoid excessive overpainting onto the adjacent concrete. Within 2 to 6 hours (dependent upon ambient temperature) of application of the second coat, make good any areas of missing, spalled or removed concrete with the appropriate **FLEXCRETE REPAIR MORTAR**.

CLEANING

All tools should be cleaned with water immediately after use.

STORAGE

Store in dry, frost free conditions at moderate temperatures, not greater than 25°C.

SHELF LIFE

12 months with unopened containers under the above storage conditions.

PACKAGING AND COVERAGE

Pack Size: 5kg Composite Weight.

Coverage: One 5kg pack applied in two coats is sufficient for approximately 45 linear metres of 10mm diameter steel bar.

SAFETY DATA

Safety Data Sheet available on request.

FURTHER INFORMATION

DO NOT ADD WATER OR OTHER MATERIALS TO THIS PRODUCT.

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