

Steel Reinforcement Protection

FORMERLY FLEXCRETE STEEL REINFORCEMENT PROTECTOR 841

PRODUCT DESCRIPTION

A two component, water based, polymer modified cementitious anti-corrosive coating.

INTENDED USES

For the protection of steel reinforcement. It cures to form a highly alkaline coating with a degree of elasticity which protects the steel from acid gases, moisture and chlorides.

Tolerant of lower levels of steel preparation.

CE-marked in accordance with BS EN 1504-7. Suitable for reinforcement corrosion protection principles 11.1, 11.2 as defined in BS EN 1504-7.

PRACTICAL INFORMATION FOR INTERCRETE 4871

Colour	Grey Green			
Volume Solids	100%			
Density	1800kg/m ³ (112lb/ft ³)			
Practical Coverage	A 5kg pack applied in two coats will cover approximately 45 linear metres of 10mm diameter steel bar.			
Method of Application	Brush			
Shelf Life	12 months at 20°C (68°F).			
Pack Size	5kg composite packs			
Working Pot Life	20°C (68°F) 60 minutes			
Drying Time	Overcoating interval with self			
Temperature	Touch Dry	Hard Dry	<i>Minimum</i>	<i>Maximum</i>
20°C (68°F)	5 hours	18 hours	45 minutes	7 days

COMPLIANCE AND CERTIFICATION

When used as part of an approved scheme, this material has the following certification:

- BBA Approved, certificate no. 05/4276
- CE-marked in accordance with BS EN 1504-7. Suitable for reinforcement corrosion protection principles 11.1, 11.2 as defined in BS EN 1504-7.
- Listed under Regulation 31 – England and Wales; Regulation 33 – Scotland; Regulation 30 – NI, for use with potable water. WRAS Approved for use with potable water.



Protective Coatings

Steel Reinforcement Protection

SPECIFICATION CLAUSE

The two component, corrosion prevention coating shall consist of a cementitious powder and a polymer dispersion. It shall be BBA Certified and CE-marked in accordance with BS EN 1504-7 and shall comply with the following performance specification:

- Impermeable to water under 10 bar hydrostatic pressure such that a 2.0mm coating is equivalent to 1000mm of concrete.
- Typical compressive strength of 32MPa and typical flexural strength of 10.5MPa.
- Oxygen diffusion coefficient to be no greater than $5.24 \times 10^{-5} \text{ cm}^2/\text{sec}$.
- Resistance to chloride ion diffusion in excess of 30 years in accordance with Taywood Test

SURFACE PREPARATION

Steel Reinforcement

Reinforcement should be cleaned, preferably by the use of wet grit blasting to remove any loose rust or scale, back to a ISO8501-1 Sa2½ (SSPC SP10). 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 ISO8501 St 2 or St 3 (SSPC SP2 or SSPC SP3).

APPLICATION

Mixing

Mix as much Intercrete 4871 to apply within the working life of the material. Place sufficient Part A (liquid) into a suitable mixing container and add the corresponding quantity of Part B (powder). 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.

Mix Ratio

1 part(s) Part A: 3 part(s) Part B by volume

Brush

Recommended

Thinner

- **DO NOT THIN**

Work Stoppages / Clean Up

Clean all equipment immediately after use with clean water.

All surplus materials and empty containers should be disposed of in accordance with appropriate regional regulations/legislation.

Steel Reinforcement Protection

PRODUCT CHARACTERISTICS

Limitations

Do not use Intercrete 4871 when the temperature is below 5°C (41°F) and falling.

Placing

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 pin-holes, voids and misses. To give 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 overpainting onto the adjacent concrete.

Ideally 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 Intercrete repair mortar.

CE mark applies to products manufactured at Tomlinson Road, Leyland, PR25 2DY England, under reference 2797-CPR-530942.

APPLICATION TIPS

- Hold a piece of cardboard behind the reinforcement to prevent excess application onto the parent concrete.
- Care should be taken during application to ensure that air is not entrapped into the surface.
- Ideal for the corrosion protection of steel reinforcement subjected to long term exposure on interrupted construction programmes.
- Cold Weather Working (See separate Guide): $\geq 3^{\circ}\text{C}$ (37°F) on a rising thermometer, $\geq 5^{\circ}\text{C}$ (41°F) on a falling thermometer.
- 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.

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TECHNICAL DATA / MECHANICAL CHARACTERISTICS

Standard and Property	BS EN 1504-2 Requirement	Result
EN 12190 Compressive Strength		28 days: >35MPa
DIN 1045 Water Permeability Coefficient (Equivalent Concrete Thickness)		6.00 x 10 ⁻¹⁶ m/sec 2mm = 1000mm of concrete
BS 6319-7 Tensile Strength		2.66MPa
Vinci Test Chloride Ion Diffusion Resistance		No steady state of flux reached after 30 years on test
Vinci Test Oxygen Diffusion Coefficient Equivalent Concrete Thickness		DO ₂ = 5.24 x 10 ⁻⁵ cm ² /s 2mm = 100mm of concrete
EN 15184 Shear Adhesion	Failure load of coated bars at 0.1mm displacement =80% of uncoated bars	112% of control: Pass
EN 15183 Corrosion Protection	Coated area free of corrosion. Rust creep at ground edge <1mm	No corrosion on coated areas: Pass Rust creep at ground edge <1mm: Pass
EN 196-1 Flexural Strength		7.0MPa
BS 6319:7 Tensile Strength		2.66MPa

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

SAFETY PRECAUTIONS

This product is intended for use only by professional applicators in industrial situations in accordance with the advice given on this sheet, the Safety Data Sheet and the container(s), and should not be used without reference to the Safety Data Sheet (SDS).

All work involving the application and use of this product should be performed in compliance with all relevant national, Health, Safety & Environmental standards and regulations.

In the event welding or flame cutting is performed on metal coated with this product, dust and fumes will be emitted which will require the use of appropriate personal protective equipment and adequate local exhaust ventilation.

If in doubt regarding the suitability of use of this product, consult International Protective Coatings for further advice.

Important Note

The information in this data sheet is not intended to be exhaustive; any person using the product for any purpose other than that specifically recommended in this data sheet without first obtaining written confirmation from us as to the suitability of the product for the intended purpose does so at their own risk. All advice given or statements made about the product (whether in this data sheet or otherwise) is correct to the best of our knowledge but we have no control over the quality or the condition of the substrate or the many factors affecting the use and application of the product. Therefore, unless we specifically agree in writing to do so, we do not accept any liability at all for the performance of the product or for (subject to the maximum extent permitted by law) any loss or damage arising out of the use of the product. We hereby disclaim any warranties or representations, express or implied, by operation of law or otherwise, including, without limitation, any implied warranty of merchantability or fitness for a particular purpose. All products supplied and technical advice given are subject to our Conditions of Sale. You should request a copy of this document and review it carefully. The information contained in this data sheet is liable to modification from time to time in the light of experience and our policy of continuous development. It is the user's responsibility to check with their local representative that this data sheet is current prior to using the product.

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