

Polymer Modified Cementitious Coating

FORMERLY FLEXCRETE CEMENTITIOUS COATING 851

PRODUCT DESCRIPTION

A two component, thixotropic, polymer modified cementitious coating for the waterproofing and protection of concrete and other mineral substrates.

INTENDED USES

Incorporating the latest proven cement chemistry, fibre and acrylic copolymer technology, Intercrete 4841 is specifically designed for the waterproofing of concrete and other mineral substrates. It provides protection from chlorides, acid gases and water ingress on highway and coastal structures and enhances the durability of reinforced concrete by reinstating effective cover to achieve the specified design life.

CE-marked in accordance with BS EN 1504-2. Suitable for surface protection systems principles 1.3, 2.2, 8.2 as defined in BS EN 1504-2.

PRACTICAL INFORMATION FOR INTERCRETE 4841

| | |
|------------------------------|--|
| Colour | Grey, White |
| Volume Solids | 100% |
| Density | 1800kg/m ³ (112lb/ft ³) |
| Typical Thickness | 2 millimetres (80 mils) dry thickness |
| Practical Coverage | On prepared surfaces, a 30kg pack will cover approximately 8.33m ² at 2mm thickness. Practical coverage will depend upon the porosity of the area being treated and appropriate losses must be taken into consideration. |
| Method of Application | Airless Spray, Trowel, Brush, Skid Leveller |
| Shelf Life | 12 months at 20°C (68°F). |
| Pack Size | 30kg composite packs |
| Working Pot Life | 20°C (68°F) 30 minutes |

| Drying Time | Overcoating interval with self | | | |
|-------------|--------------------------------|----------|------------|---------|
| | Touch Dry | Hard Dry | Minimum | Maximum |
| 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:

- Suitable for surface protection systems principles 1.3, 2.2, 8.2 as defined in BS EN 1504-2.
- BBA Approved, certificate no. 05/4276
- Compliant with LU Standard 1-085 'Fire Safety Performance of Materials'.



Protective Coatings

Polymer Modified Cementitious Coating

SPECIFICATION CLAUSE

The structural waterproofing coating shall be a two component, thixotropic, polymer modified cementitious coating. It shall be CE-marked in accordance with BS EN 1504-2, 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.
- Carbon dioxide gas diffusion resistance coefficient of at least 2,600,000 in accordance with the Taywood Test, such that the equivalent air layer thickness at 2.00mm coating is 5200m
- Chloride ion diffusion resistance with at least 30 years testing without steady state flux of chlorides.

SURFACE PREPARATION

Concrete

Concrete should have a minimum strength of 20MPa. All surfaces should be clean and free from laitance, curing compounds, release agents, efflorescence, grease, oil, dirt, organic growth, old coatings and loose or disintegrating concrete. Smooth surfaces should be roughened, using high pressure water jetting or similar techniques. The prepared substrate should be thoroughly soaked with clean water until uniformly saturated without any standing water.

APPLICATION

Mixing

Intercrete 4841 is supplied in two parts; a liquid component (Part A) and a powder component (Part B). MIX FULL UNITS ONLY. Shake Part A thoroughly and pour into a suitable mixing container, then slowly add Part B and mix for a minimum of 5 minutes until homogeneous, without any lumps. Mixing should be carried out using a slow-speed drill and paddle, designed to entrap as little air as possible.

Airless Spray

Recommended

Tip size 1.40 mm (55 thou)
Total output fluid pressure at spray tip not less than 189 kg/cm²
(2690 p.s.i.)

Brush

Recommended

See Product Characteristics

Trowel

Recommended

See Product Characteristics

Work Stoppages / Clean Up

Do not allow material to remain in hoses, guns or spray equipment. Thoroughly flush all equipment with clean water.

Clean all equipment immediately after use with warm soapy water. It is good working practice to periodically flush out spray equipment during the course of the working day. Frequency of cleaning will depend upon amount sprayed, temperature and elapsed time, including any delays. All surplus material and empty containers should be disposed of in accordance with appropriate regional regulations/legislation.

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PRODUCT

Concrete

CHARACTERISTICS

Intercrete 4841 is not a decorative finish and may temporarily discolour until uniformly weathered. It may be overcoated with other Intercrete membranes to give a coloured finish.

When treating structures in a tidal zone, Intercrete 4841 must be allowed to cure for a minimum of 2 hours before being immersed. Protect from abrasion or aggressive tidal flow if necessary.

Priming

Highly porous substrates may require sealing with Intercrete 4850. All floor and deck applications must also be primed using Intercrete 4850. Drinking water applications may require use of separate primers; please consult Protective Coatings technical department for further advice.

Placing

Intercrete 4841 is applied using brush, trowel or spray techniques. Care should be taken to ensure that air is not entrapped onto the surface.

For vertical and overhead applications, apply in 2 x 1mm thick coats, applying the second coat when the first coat is stable but not fully set (typically 30-60 minutes depending on temperature). Decks and horizontal areas should be additionally primed with Intercrete 4850; see separate product data sheet.

Detail Work

Over expansion or formed joints and other critical movement areas, Intercrete 4841 may require reinforcing with Intercrete 4872. Embed the reinforcement in a 1mm layer of Intercrete 4841 or 4840, pressing the fabric into the freshly applied material and leave to become stable. Finish with a 1mm coat of Intercrete 4841 if using as a localised joint or crack sealing system. Refer to relevant product data sheet for further information. A suitable textile reinforcement should be used over surfaces exhibiting general cracking or where movement in the substrate is expected.

Curing

Normal concreting procedures should be strictly adhered to. It is important that the surface of the mortar is protected from strong sunlight and drying winds with Intercrete 4870, polythene sheeting, damp hessian or similar (see separate Data Sheet for full details). In floor and deck applications, a suitable aggregate may be broadcast on to the surface of the wet coating to provide effective curing, whilst also providing an abrasion and slip-resistant finish. Curing MUST commence within 10-15 minutes of the completed application of the coating.

When treating potable water structures, please refer to the IFU document (contact Protective Coatings technical department for further information).

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

APPLICATION TIPS

- Regularly check coating thickness during application using the wet film thickness gauge available from AkzoNobel.
- Apply Intercrete 4870 curing membrane as an even, fine mist spray. Do not over-apply or allow to pond on the surface or cracking may occur.
- Intercrete 4841 is not a decorative coating and may dry with a patchy appearance until uniformly weathered. It may be overcoated with Intercrete membranes to give a coloured finish.
- When broadcasting aggregate, use techniques such that the particles are thrown upwards and fall evenly without disturbing the smooth surface of the coating. Use a grit blower on larger areas.
- In cold, humid conditions, condensation may form on surfaces treated with Intercrete 4841, resulting in darkening of finish and retardation of set.
- Please consult Protective Coatings Technical Department when waterproofing underneath road asphalt.
- 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.
When applying to potable water structures, the minimum application temperature is 7°C (45°F); see IFU document for further information.
- Hot Weather Working (See separate Guide): Store material in cool conditions to maximise working life. Shade applied material from strong sunlight. Spray-apply a second coat of Intercrete 4870. 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 | >= 35 MPa (Class 1) Traffic with polyamide wheels | 28 days: 40.0MPa |
| BS4551 Compressive Strength Development @ 20°C | | 1 day 10.5MPa 7 days 30.5MPa 28 days 40.0MPa |
| EN 1542 Adhesive Bond | >= 2.00 MPa | 2.07MPa |
| EN13687-1 Thermal Compatibility | >= 2.00 MPa | 3.5MPa |
| Vinci Test Water Permeability Coefficient (Equivalent Concrete Thickness) | | 6.00 x 10 ⁻¹⁶ m/sec 2mm = 1000mm of concrete |
| EN 13501-1 Reaction to Fire | Euroclass | Euroclass A2 – s1, d0 |
| DIN 1048 Resistance to Water Pressure | | 10 bar (100m hydrostatic head) positive and negative |
| EN1770 Coefficient of Thermal Expansion | <= 30 x 10 ⁻⁶ K ⁻¹ | 16.6 x 10 ⁻⁶ K ⁻¹ |
| BS 6319-7 Tensile Strength | | 2.66MPa |
| EN13813 Wear Resistance | | Exceeds BCA AR0,5: Highest classification of wear resistance |
| EN 1062-3 Liquid Water Transmission Rate (Capillary Absorption and Permeability to Liquid water) | Class III (low) w <0.4kg.m ⁻² .h ^{-0.5} | w = 0.018 kg.m ⁻² .h ^{-0.5} |
| Vinci Test Chloride Ion Diffusion Resistance | | No steady state of flux reached after 30 years on test |
| EN1062-6 Permeability to CO ₂ | R >= 50m | 2mm equivalent to 100mm of concrete |
| BS EN ISO 7783-2 Permeability to Water Vapour | Class 1: S _D <=5m | S _D = 0.91m |

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.

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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