

Structural Repair Mortar

FORMERLY FLEXCRETE MARINE MORTAR S

PRODUCT DESCRIPTION

A two component, water-based (VOC-free), fibre reinforced, polymer modified, cementitious mortar with excellent adhesion for use in areas subject to early immersion. Intercrete 4804 cures rapidly to produce a high strength mortar with enhanced polymeric properties for the repair of voids in aggressive marine environments. Suitable for thicknesses up to 50mm (2.0 inches).

INTENDED USES

Specifically designed for the structural repair and profiling of vertical, horizontal and overhead surfaces in marine and tidal areas which are subject to early immersion. Intercrete 4804 is a thixotropic mortar which allows easy trowel application whilst enabling high application thicknesses up to 50mm (2 inches) per layer in both vertical and horizontal applications. Excellent resistance to wash-out soon after application.

CE-marked in accordance with BS EN 1504-3, Class R4. Suitable for repair methods 3.1, 3.2, 7.1, 7.2 as defined in BS EN 1504-3.

PRACTICAL INFORMATION FOR INTERCRETE 4804

Volume Solids	100%			
Density	2150kg/m ³ (134lb/ft ³)			
Typical Thickness	5mm - 50mm (0.20 - 2.0 inches) dry			
Practical Coverage	A 30kg pack as supplied covers 0.7m ² at 20mm thickness Practical coverage will depend upon the surface profile and porosity of the area being coated and appropriate losses must be taken into consideration.			
Method of Application	Trowel			
Shelf Life	12 months at 20°C (68°F).			
Pack Size	30kg 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) ¹	1	1	1	1

¹ Not applicable

COMPLIANCE AND CERTIFICATION

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

- CE-marked in accordance with BS EN 1504-3 Class R4.
- Suitable for repair methods 3.1, 3.2, 7.1, 7.2 as defined in BS EN 1504-3.
- BBA Approved, certificate no. 05/4276
- Compliant with Highways Agency Standard BD27/86 for the repair of Highway Structures



Protective Coatings

Structural Repair Mortar

SPECIFICATION CLAUSE

The repair mortar shall be a thixotropic, fibre reinforced, polymer modified, cementitious mortar, and shall be CE-marked in accordance with BS EN 1504-3 Class R4. It shall be BBA Certified and comply with the following performance specification:

- Compressive strength at 20°C (68°F) of at least 15-20 MPa in 1 day and 50-60 MPa in 28 days.
- Free plastic shrinkage of no more than 0.02% at 28 days.
- Bond strength of 33-36 MPa in accordance with BS 6319 - Part 4 Slant Shear Method.
- Impermeable to water under 10 bar hydrostatic pressure such that 10mm of mortar is equivalent to 3000mm of concrete.

SURFACE PREPARATION

Concrete

Mechanically remove all damaged concrete back to sound, intact material. It is recommended that any steel reinforcement present be exposed to at least 25mm (1.0 inch) behind the bars and 50mm (2.0 inches) beyond the point at which corrosion is visible. On cutting back, feather edges must be avoided. The perimeter of the repair area should be stepped to a depth of 10mm by means of saw, disc cutting or preferably using a power chisel. All surfaces should be clean, dry and free from curing compounds, release agents, trowelling compounds, surface hardeners, efflorescence, grease, oil, dirt, old coatings and loose or disintegrating concrete. The strength of the concrete sub-base should be a minimum of 20MPa. The prepared substrate should be thoroughly soaked with clean water until uniformly saturated without any standing water.

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). All exposed steel reinforcement should be treated with 2 x 1mm (40 mils) coats of Intercrete 4871, applied by brush (see relevant Product Data Sheet for full details). Note; when carrying out repairs in new construction, it is not necessary to fully expose any reinforcing bars.

APPLICATION

Mixing

Intercrete 4804 should be mechanically mixed using a forced action pan mixer or in a clean drum using a drill and paddle. A normal concrete mixer is NOT suitable.

Shake Part A (liquid) and pour into the mixing vessel and while mixing, slowly add Part B (powder). Normal mixing time depends on the type of mixer used; 2-3 minutes is average. Do not add water or other materials to this product. Mix so as to entrain as little air as possible and use without delay. Bottles of liquid and bags of powder must not be split.

Trowel

Recommended

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.

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PRODUCT CHARACTERISTICS **Concrete**

Do not use when the temperature is below 5°C (41°F) and falling. Do not use Intercrete 4804 on waterproof concrete without referring to the Protective Coatings Technical Department.

Priming

Intercrete 4804 is highly polymer-modified and as a result, concrete surfaces do not generally need a primer. Highly porous substrates should be primed with the appropriate Intercrete bonding system prior to the application of the repair mortars; contact Protective Coatings Technical Department for further information.

Placing

Intercrete 4804 should be compacted in layers not exceeding the maximum recommended thickness using a placement technique to remove entrapped air. If necessary, support with shuttering to allow for compaction if working to reveals, etc.

For repairs which require multi-layer applications, it is important to ensure that previous layers are well keyed and stable but not fully set (2-6 hours dependent on temperature) prior to the application of subsequent layers. No inter-layer priming is required. Final profiling of a high quality is easily achieved with a steel float. ALLOW TO CURE FOR A MINIMUM OF 1 HOUR BEFORE BEING IMMERSSED. THE AREA SHOULD BE PROTECTED FROM WAVE ACTION OR AGGRESSIVE FLOW IF NECESSARY.

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).

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

APPLICATION TIPS

- DO NOT wet out or prime between layers.
- If the mortar thickens, remix but DO NOT add extra water.
- DO NOT over-trowel. If the mortar begins to slump, allow to stabilise and refinish.
- When finishing, trowel from the centre out towards the perimeter, working into the edges of the repair.
- 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.
- Do not use any Part A which has been frozen.
- 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	≥ 45 MPa	28 days: 52.0 MPa
BS4551 Compressive Strength Development @ 5°C		1 day : 5-10 MPa 28 days: 40-50 MPa
BS4551 Compressive Strength Development @ 20°C		1 day : 15-20 MPa 28 days: 50-60 MPa
EN 1542 Adhesive Bond (concrete)	≥ 2.00 MPa	2.20 MPa
EN 1015-17 Chloride Ion Content	$\leq 0.05\%$	0.016%
EN 13412 Elastic Modulus	≥ 20 Gpa	26 GPa
EN 13057 Capillary Absorption	≤ 0.5 kg/m ² /h ⁻⁰⁵	0.056 kg/m ² /h ⁻⁰⁵
EN 13687-1 Freeze/Thaw Cycling	≥ 2.0 MPa	2.28 MPa
Vinci Test Water Permeability Coefficient (Equivalent Concrete Thickness)		6.21 x 10 ⁻¹⁶ m/sec 10mm = 3000mm of concrete
EN196-1 Flexural Strength	-	11.0 MPa
BS 6319-7 Tensile Strength		4.02 MPa
EN 13501-1 Reaction to Fire	Euroclass	Euroclass F

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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