

Rapid Setting Repair Mortar

FORMERLY FLEXCRETE FASTFILL

PRODUCT DESCRIPTION

A single component, water-based (VOC free), polymer modified, fibre reinforced, Portland cement based repair mortar.

INTENDED USES

Specifically designed for the structural repair and reinstatement of concrete in heavy wear areas such as roads, runways, bridges, decks, floors, footpaths, tidal areas and areas which cannot be taken out of service for long periods.

Intercrete 4802 is a rapid curing mortar with enhanced polymeric properties and reliable strength development which is not significantly affected by low temperature use. Can be used as supplied up to 100mm (4.0 inches) deep, or can be bulked out with sharp sand or aggregate to a pourable consistency for floor or deck repairs up to maximum depth of 300mm (12 inches).

CE-marked in accordance with BS EN 1504-3, Class R4. Suitable for repair methods 3.1, 3.2, 4.4, 7.1, 7.2 as defined in BS EN 1504-3.

PRACTICAL INFORMATION FOR INTERCRETE 4802

| | |
|------------------------------|--|
| Colour | Grey |
| Density | 2150kg/m ³ (134lb/ft ³) |
| Typical Thickness | Minimum 5mm to maximum (per layer) of 50mm on vertical, 100mm (4 inches) on decks and floors, 300mm (12 inches) when bulked out |
| Practical Coverage | On prepared surfaces, a 25kg pack will cover approximately 1.33m ² at 10mm thickness Practical coverage will depend upon the porosity of the area being treated and appropriate losses must be taken into consideration. |
| Method of Application | Trowel, Hand Moulding, Float |
| Shelf Life | 12 months at 20°C (68°F). |
| Pack Size | 25kg packs |
| Working Pot Life | 20°C (68°F) 10 minutes |

| Drying Time | Overcoating interval with self | | | |
|-------------|--------------------------------|------------|----------------|----------------|
| | Touch Dry | Hard Dry | Minimum | Maximum |
| 20°C (68°F) | 10 minutes | 60 minutes | Not applicable | Not applicable |

COMPLIANCE AND CERTIFICATION

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

- Suitable for repair methods 3.1, 3.2, 4.4, 7.1, 7.2 as defined in BS EN 1504-3.
- Compliant with LU Standard 1-085 'Fire Safety Performance of Materials'.
- Compliant with Highways Agency Standard BD27/86 for the repair of Highway Structures
- BBA Approved, certificate no. 05/4276
- Listed under Regulation 31 – England and Wales; Regulation 33 – Scotland; Regulation 30 – NI, for use with potable water.



Protective Coatings

Rapid Setting Repair Mortar

SPECIFICATION CLAUSE

The repair mortar shall be a single component, polymer modified, fibre reinforced, Portland cement based repair mortar, which is physically and chemically compatible with the host concrete. It shall be BBA Certified and CE-marked in accordance with BS EN 1504-3 Class R4, and shall comply with the following performance specification:

- Ability to set in 10 minutes at 20°C (68°F), achieving a compressive strength of at least 14MPa in 1 hour and 60MPa in 28 days
- Resistant to sulphates to class DS-5m of BRE Special Digest 1.
- Impermeable to water under 10 bar hydrostatic pressure such that 7.5mm of mortar is equivalent to 1000mm of concrete.
- Flexural strength at 28 days (20°C, 65% RH) of at least 11.6MPa in accordance with EN 196-1.

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. The perimeter of the repair area should be stepped to a depth of 10mm (0.4 inches) using a saw, disc or power chisel. Feather edges must be avoided. The preferred methods of surface preparation are wet grit or water blasting techniques. 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. 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 4802 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. For normal applications, typically use 3.5 litres of clean water per 25kg bag of Intercrete 4802. For part bags, use a ratio of 5.5:1 powder to water. In cold temperatures, tepid water may be used to adjust working pot life.

See page 3 Product Characteristics for further information on screeding applications.

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

Mixing

For screeding applications or larger pockets in decks up to a maximum depth of 100mm (4.0 inches), a clean washed medium grade concreting sand may be introduced, up to 50% by weight. For deep repairs up to a maximum of 300mm (12 inches) in a single application, or where a pourable concrete is required, coarse clean aggregates (5-10mm size [0.2-0.25 inch]) can be introduced into the mix in up to equal proportions by weight, without adversely affecting its physical performance.

Priming

Intercrete 4802 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

For normal applications, Intercrete 4802 should be compacted, using a placing technique to remove entrapped air, in layers not exceeding 50mm (2.0 inches) in vertical situations, or 100mm (4.0 inches) deep in pockets. When bulking out to the maximum of 300mm (12 inches), support with shuttering and compact to remove entrapped air.

For repairs which require multi-layer applications, it is important to ensure that previous layers are well keyed and stable but not fully set (15-30 minutes 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.

When applying material to floors, the area should be divided up and each bay completed within the working life of the Intercrete 4802. Typically, bay sizes should be restricted to 1m² but please contact Protective Coatings Technical Department for further advice. Do not polish the surface with a steel float but use a stiff brush on the wet surface to provide a slip-resistant finish.

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). Intercrete 4802 must be allowed to cure for a minimum of 30 minutes prior to total immersion.

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

APPLICATION TIPS

- When bulking out, base the initial quantity of water on the amount of Intercrete 4802 in the mix. Add the minimum amount of extra water to achieve the desired consistency, as in the table below;

| Extra Water | Flow (mm) | Set Time (mins) |
|------------------|-----------|-----------------|
| 10% (3.9 litres) | 160 | 30 |
| 20% (4.3 litres) | 175-180 | 35-40 |
| 30% (4.5 litres) | 210-220 | 40-45 |
- Take care if using very cold mixing water as this will accelerate setting of Intercrete 4802.
- DO NOT wet out or prime between layers.
- 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.
- Due to the rapid set of Intercrete 4802, only mix as much material to use within the working life of the material. Do not hand mix.
- For large floor repairs, divide into bays and adopt a chequerboard pattern, limiting individual bay sizes to a maximum of 1m².
- Intercrete 4802 is particularly suited to repairs at temperatures as low as -10°C (14°F) but should not be applied to frozen substrates. In cold temperatures, use tepid water to adjust the working life.
- 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 | $\geq 45\text{MPa}$ | 28 days: 60MPa |
| BS4551 Compressive Strength Development @ 20°C | | 1 hour 14MPa 2 hours 20MPa 4 hours 30MPa 1 day 40MPa 7 days 50MPa 28 days 60MPa |
| EN196-1 Flexural Strength | | 11.6MPa |
| EN 1542 Adhesive Bond | $\geq 2.00\text{ MPa}$ | 2.39MPa |
| EN13687-1 Thermal Compatibility | $\geq 2.00\text{ MPa}$ | 2.45MPa |
| Taywood Test Water Permeability Coefficient (Equivalent Concrete Thickness) | | $2.60 \times 10^{-14}\text{m/sec}$ 7.5mm = 1000mm of concrete |
| EN 13501-1 Reaction to Fire | Euroclass | Euroclass A2 – s1, d0 |
| EN 1015-7 Chloride Ion Content | $\leq 0.05\%$ | 0.012% |
| EN 13295 Carbonation Resistance | $\leq \text{ref. concrete}$ | Passes |
| EN 13412 Elastic Modulus | $\geq 20\text{GPa}$ | 26.1GPa |
| EN 13507 Capillary Absorption | $\leq 0.5\text{kg.m}^{-2}.\text{h}^{-0.5}$ | $0.108\text{kg.m}^{-2}.\text{h}^{-0.5}$ |
| BS EN 12617-4 Shrinkage | | 0.025% after 7 days |

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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