Intercrete® 4820

Pore Filler & Screed

FORMERLY FLEXCRETE MONOLEVEL 844SP

PRODUCT DESCRIPTION

A single component, water-based (VOC-free), polymer modified, fibre reinforced, cementitious engineering quality mortar.

Intercrete 4820 has high adhesive and waterproofing properties, resistance to acid gases, chlorides, freeze/thaw cycles and enhanced chemical resistance.

INTENDED USES

Designed as an engineering quality fairing coat and render for filling minor blow-holes and surface defects and as a levelling screed to provide a fair-faced finish and reinstate cover.

CE-marked in accordance with BS EN 1504-3, Class R4. Suitable for repair methods 3.1, 3.3, 7.1, 7.2 as defined in BS EN 1504-3.

PRACTICAL INFORMATION FOR INTERCRETE 4820

Colour	Grey
Density	1860kg/m^3 (116lb/ft^3)
Typical Thickness	3 millimetres (120 mils) to 6 millimetres (240 mils) dry thickness. Can be feather-edged.
Practical Coverage	On prepared substrates, a 25kg pack will cover approximately 5m^2 at 3mm thickness. Practical coverage will depend upon the porosity of the area being treated and appropriate losses must be taken into consideration.
Method of Application	Putty knife, Trowel, Bag-rub, Sponge, Spray
Shelf Life	12 months at 20°C (68°F).
Pack Size	25kg packs
Working Pot Life	20°C (68°F) 30 minutes

Drying Time			Overcoating interval with self	
Temperature	**Touch Dry**	**Hard Dry**	*Minimum*	*Maximum*
20°C (68°F)	5 hours	7 hours	3 hours	7 days

COMPLIANCE AND CERTIFICATION

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

- Suitable for repair methods 3.1, 3.3, 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
- 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.

CE 2797

FM 41091
EMS 597530
OHS 597351
Quality
Environmental
Health & Safety

SPECIFICATION CLAUSE

The fairing coat shall be a single component, waterproof, thixotropic, polymer modified, cementitious repair mortar with high adhesive properties. It shall be CE-marked in accordance with BS EN 1504-3 Class R4, and shall comply with the following performance specification:

- Compressive strength at 20ºC (68ºF) of at least 23MPa in 1 day and 60MPa in 28 days.
- Impermeable to water under 10 bar hydrostatic pressure such that 1mm of mortar is equivalent to 1000mm of concrete.
- Flexural strength at 28 days (20ºC, 65% RH) of at least 10.5MPa in accordance with EN 196-1.
- Oxygen diffusion coefficient to be no greater than 2.72 x 10^{-4} cm^2/sec.

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.

Steel Reinforcement

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 4820 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 between 2.8 and 3.2 litres of clean water per 25kg bag of Intercrete 4820. For part bags, use a ratio of 6.5:1 powder to water. Typically, for screeding applications, use 3 litres of clean water per 25kg bag, which gives a water:powder ratio of 0.12. Normal mixing time depends on the type of mixer used; 2-3 minutes is average. Mix so as to entrain as little air as possible and use without delay.

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

PRODUCT CHARACTERISTICS

Concrete Substrates
Application should only be made in the range 5ºC - 40ºC (41ºF - 104ºF). Do not use when the temperature is below 5˚C (41˚F) and falling. Do not use Intercrete 4820 on waterproof concrete without referring to the Protective Coatings Technical Department.

Priming
Intercrete 4820 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 4820 can be applied to localised minor voids and surface defects using a palette knife. For large areas of pore filling, work well into the prepared substrate using a wooden float or 'bag-rubbing' techniques.

When used as a highly alkaline thin screed for the protection of concrete and for structural weatherproofing, Intercrete 4820 should be applied to the prepared substrate using a steel float to provide a smooth, polymer-rich surface finish. An initial thin layer should be worked well into the surface to fill blow-holes and minor defects, prior to building up the thickness to a maximum of 6mm (240 mils). Alternatively, spray techniques can be used.

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. Once the last layer has stabilized, trowel marks can be removed using a wooden float or damp sponge to produce a surface comparable to emery paper, which provides an excellent finish for the subsequent application of a surface coating.

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).

APPLICATION TIPS

- During early mixing, the material appears dry. DO NOT add extra water at this stage, as full mixing produces a smooth consistency.
- DO NOT wet out or prime between layers.
- If the mortar thickens, remix but DO NOT add extra water.
- DO NOT over-trowel when applied as a thin screed, otherwise blisters could form in the material, which must be removed.
- Remove trowel marks using a wooden float or damp sponge once the surface has stabilized.
- Can be overcoated with Intercrete membranes to give a coloured aesthetic finish.
- Cold Weather Working (See separate Guide): ≥3°C (37ºF) on a rising thermometer, ≥5°C (41ºF) 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. 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	>= 45MPa	28 days: 55.7MPa
BS4551 Compressive Strength Development @ 20°C		1 day 23MPa 7 days 46MPa 28 days 60MPa
EN196-1 Flexural Strength		10.5MPa
EN 1542 Adhesive Bond	>= 2.00 MPa	2.66MPa
Taywood Test Water Permeability Coefficient (Equivalent Concrete Thickness)		6.94×10^{-16}m/sec 1mm = 1000mm of concrete
EN 1015-7 Chloride Ion Content	<= 0.05%	<= 0.05%
EN 13295 Carbonation Resistance	<= ref. concrete	Passes
EN 13412 Elastic Modulus	>= 20GPa	17.3GPa Class R3 =15MPa
EN 13507 Capillary Absorption	<= 0.5kg.m^{-2}.h$^{-0.5}$	0.047kg.m^{-2}.h$^{-0.5}$
EN13687-1 Thermal Compatibility	>= 2.00 MPa	2.56MPa
BS EN 12617-4 Shrinkage		0.060% after 7 days
BS 6319-7 Tensile Strength		5.02MPa
Taywood Test Oxygen Diffusion Coefficient		2.72×10^{-4}cm^2/sec

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

www.international-pc.com