

# Monolevel FC

## Fairing Coat and Thin Screed Render

### Product Overview

**Cosmetic quality fairing coat and thin screed render for filling blow holes and surface defects and for levelling concrete surfaces. CE-marked in accordance with BS EN 1504-3 Class R2.**

### Uses

Filling minor blow holes and surface defects and repairing surface imperfections. Levelling screed to provide a fair faced finish. Suitable for repair methods 3.1, 3.3, 7.1, 7.2 as defined by BS EN 1504-3.

### Advantages

- Incorporates the latest proven cement chemistry, microsilica, fibre and styrene acrylic copolymer technology.
- Pre-packaged material only requiring mixing with water on-site.
- Can be applied using bag-rubbing techniques or as a render in single thicknesses up to 6mm in vertical, horizontal and overhead situations.
- High bond strength exceeds tensile strength of concrete, ensuring monolithic performance of the repair.
- Dense matrix provides excellent protection from the ingress of acid gases, moisture and chlorides.
- Non-toxic when cured.
- Economic mortar requiring no substrate or inter-layer priming. Part bags can be mixed. Suitable for feather edging.
- Suitable as an exposed external finish without further protection or coating.
- Easily overcoated with specialist membranes to provide further protection and aesthetic properties.

### Description

**MONOLEVEL FC** is a single component, polymer modified, fibre reinforced cementitious repair mortar with high adhesive properties, allowing it to be used as a thin screed or filler to provide a fair-faced finish. It cures to provide enhanced freeze/thaw resistance and protection from the ingress of water, acid gases and chlorides. It is supplied as a single component system requiring only the addition of clean water.

### Compliance

- CE-marked in accordance with BS EN 1504-3 Class R2. Suitable for repair methods 3.1, 3.3, 7.1, 7.2 as defined by BS EN 1504-3.
- Compliant with Highways Agency Standard BD27/86 for the repair of Highway Structures.
- Compliant with LU Standard 1-085 'Fire Safety Performance of Materials'.

### Specification Clause

The fairing coat shall be a single component, thixotropic, polymer modified, cementitious repair mortar with high adhesive properties. It shall be CE-marked in accordance with BS EN 1504-3 Class R2 and shall comply with the following performance specification:

- Suitable for use on both horizontal and vertical surfaces without the need for a primer.
- Suitable for use as an exposed external finish without further protection or coating.
- Compressive strength at 20°C of at least 20MPa in 1 day and 51MPa in 28 days.



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EN1504-3: Concrete repair product for non-structural repair  
 PCC mortar (based on hydraulic cement polymer modified)

Compressive Strength	: Class R2 ≥ 15 MPa
Adhesive Bond	: Class R2 ≥ 0.8 MPa
Chloride Ion Content	: ≤ 0.05%
Thermal Capability Part 1	: Class R4 ≥ 2.0 MPa
Capillary Absorption	: 0.047 kg.m <sup>-2</sup> .h <sup>0.5</sup>
Dangerous Substances	: Complies with 5.4
Reaction to Fire	: Euroclass A2-s1, d0



Technical Data / Mechanical Characteristics

Property	Standard	BS EN 1504 R2 Requirement	Result
Compressive Strength	EN 12190	≥ 15 MPa @28days	28 days: 53 MPa
Compressive Strength Development @20°C	BS4551		1 day 20 MPa 7 days 39 MPa 28 days 51 MPa
Adhesive Bond	EN 1542	≥ 0.8 MPa	3.25 MPa Class R4 ≥2.0MPa
Chloride Ion Content	EN 1015-17	≤ 0.05%	≤ 0.05%
Capillary Absorption	EN 13057	≤ 0.5 kg/m <sup>2</sup> /h <sup>-05</sup>	0.047 kg/m <sup>2</sup> /h <sup>-05</sup>
Freeze/Thaw Cycling	EN 13687-1	≥ 0.8MPa	2.86 MPa Class R4 ≥2.0MPa
Flexural Strength	EN196-1	-	10.74 MPa
Shrinkage	BS EN 12617-4	-	0.052% after 7 days
Mixed Density		-	1900 kg/m <sup>3</sup> at 0.14 water: powder ratio
Mixed Colour		-	Concrete grey
Min Application Thickness Max Application Thickness		-	Feather edge 6mm per layer
Min Application Temperature Max Application Temperature		-	5°C 40°C
Working Life (approx.)		-	30 minutes at 20°C
Reaction to Fire	EN 13501-1	Euroclass	Euroclass A2 – s1, d0

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

Application Instructions

Preparation

Mechanically remove all damaged concrete back to a sound core.

The areas to be treated must be free from all unsound material, dust, oil, grease, corrosion by-products and organic growth.

Smooth surfaces should be roughened, all loose material and surface laitance removed and reinforcement cleaned to bright steel using wet grit blasting techniques or equivalent approved methods.

The strength of the concrete sub-base should be a minimum of 20MPa.

Treatment of Steel Reinforcement

All exposed steel reinforcement should be treated with 2 x 1mm coats of **STEEL REINFORCEMENT PROTECTOR 841** applied by brush (See separate Data Sheet for full details).

Please Note: When carrying out repairs in new construction, it is not necessary to fully expose any reinforcing bars.

Priming of Concrete

The prepared substrate should be thoroughly soaked with clean water until uniformly saturated without any standing water.

Mixing

**MONOLEVEL FC** 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 3.0 – 4.0 litres of clean water per 25kg bag. For part bags, use 5 - 6.5 volumes of powder to one volume of water. Normal mixing time depends upon the type of mixer used: 2-3 minutes is average. Mix so as to entrain as little air as possible. Use without delay.

**Please Note: It is vital to the success of the application that these instructions are strictly adhered to. Flexcrete cannot be held responsible for any product failures due to incorrect mixing.**





## Placing

**MONOLEVEL FC** 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 fair faced finish, **MONOLEVEL FC** 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. Alternatively, spray techniques can be used.

Once the last layer has stabilised (2 - 6 hours dependent on temperature), 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. A high quality is easily achieved with a steel float.

## Curing

Particular attention should be paid to adequate curing with thin screed applications of **MONOLEVEL FC**. It is important that the surface of the mortar is protected from strong sunlight and drying winds with **FLEXCRETE CURING MEMBRANE WB**, polythene sheeting, damp hessian or similar (See separate Data Sheet for full details).

## Cleaning and Storage

All tools should be cleaned with water immediately after use.

Materials can be stored for 12 months in dry, frost free conditions with unopened bags at 20°C.

## Packaging

**MONOLEVEL FC** is supplied in 25kg bags.

## Yield and Coverage

15.5 litres per 25kg bag.

A 25kg bag as supplied covers 15.5m<sup>2</sup> at 1mm thickness.

## Health and Safety

Safety Data Sheets are available on request.

## Application Top Tips

1. During early mixing, the material appears dry. **DO NOT** add extra water at this stage as full mixing produces a smooth consistency.
2. **DO NOT WET OUT OR PRIME** between layers.
3. If the mortar thickens, remix but **DO NOT ADD EXTRA WATER.**
4. **DO NOT OVER TROWEL** when applied as a fairing coat otherwise blisters could form in the material, which must be removed.
5. Remove trowel marks using a wooden float or damp sponge once the surface has stabilised.
6. Can be overcoated with Flexcrete membranes to give a coloured, aesthetic finish.
7. Cold Weather Working (See separate Guide)
  - ≥3°C on a rising thermometer.
  - ≥5°C on a falling thermometer.
8. 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 **CURING MEMBRANE WB.**
  - If possible, avoid extreme temperatures by working at night.

The information herein is correct to the best of our knowledge, but it does not necessarily refer to the particular requirements of the customer. If the customer has any particular requirements it should make them known in writing to Flexcrete Technologies Limited, and obtain further advice accordingly.



FM 41091  
EMS 597350  
OHS 597351

Quality  
Environmental  
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