

# RIW CEMENTFILL FC

Cementfill FC is a thixotropic, polymer modified, cement based, waterproof , engineering quality fairing coat.

## BENEFITS

- | Totally waterproof
- | Resists up to 100m head of positive and negative water pressure
- | Applied to damp surfaces
- | Suitable for horizontal, vertical and overhead applications
- | Can be feathered edged
- | Environmentally friendly
- | Enhanced chemical resistance

## APPLICATIONS

- | Fairing coat to fill minor blow holes and defects
- | Repair surface cavities and honeycombed concrete
- | Thin waterproof screed

## APPLIED TO

- | Concrete
- | Masonry

# RIW CEMENTFILL FC

## TYPICAL USES

Cementfill FC is used to fill minor blow holes and defects, and for repairing surface cavities and honeycombed concrete/open textured masonry prior to application of other RIW membranes. Thin screed applications can be used to waterproof and/or level both vertical and horizontal surfaces. The product is a single component system which incorporates the most advanced microsilica, polymer and fibre technology, ready for on-site mixing and use, requiring only the addition of clean water.

## DURABILITY

Subject to normal conditions of use, Cementfill FC will provide an effective barrier to the transmission of liquid water for the life of the structure.

## SPECIFICATION

C42 – Repairing/Renovating/Conserving concrete or  
M10 – Cement based levelling/wearing screeds.

Please consult RIW for further information.

## INDEPENDENT AUTHORITY



**RIW Limited**  
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**13**  
0086-CPR-597751

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

Compressive Strength:	R4 ≥ 45 MPa
Adhesive Bond:	R4 ≥ 2.0 MPa
Chloride Ion Content:	≤ 0.05%
Carbonation Resistance:	Passes
Elastic Modulus:	R3 ≥ 15 GPa
Thermal Compatibility:	R4 ≥ 2.0 MPa
Capillary Absorption:	≤ 0.5 kgm <sup>-2</sup> h <sup>-0.5</sup>
Dangerous Substances:	Complies
Reaction to Fire	Euroclass A2-s1, d <sub>0</sub>

## PERFORMANCE & COMPOSITION

### TECHNICAL DATA

Mixed Colour	Concrete grey
Mixed Density	1860 kg/m <sup>3</sup>
Application thickness	6mm maximum per layer
Application temperature	5 – 35°C
Working Life	30 mins at 20°C

### MECHANICAL CHARACTERISTICS (TYPICAL)

Compressive Strength: BS 4551 Tested at 20°C	
1 day	23 N/mm <sup>2</sup>
7 days	46 N/mm <sup>2</sup>
28 days	60 N/mm <sup>2</sup>
Flexural Strength: BS 4551 Tested at 20°C, 65% RH	
28 days	10.5 N/mm <sup>2</sup>
Water Permeability Coefficient:	
Taywood Test by Penetration	6.94 x 10 <sup>-16</sup> m/s
1mm of Cementfill FC = 1000mm of concrete.	
Oxygen Diffusion Coefficient:	
Taywood Test	DO <sub>2</sub> = 4.90x 10 <sup>-5</sup> cm <sup>2</sup> s <sup>-1</sup>
Normal concrete: DO <sub>2</sub> = 2.12 x 10 <sup>-3</sup> cm <sup>2</sup> /s <sup>-1</sup>	
Equivalent concrete thickness = 250mm	

The above performance figures are typical values and should not be considered a product specification.

## CONSTRUCTION

### GENERAL

All construction should conform to the Building Regulations, Codes of Practice and British Standards in current use at the time the building is being constructed. In particular, it is recommended that reference is made to BS 8102:2009.

### PREPARATION

**All surfaces:** The areas to be treated must be free from all loose and unsound material ie: dust, oil, grease, corrosion by-products and organic growth.

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

**Existing surfaces:** All existing finishes must be completely removed back to the structure.

The entire substrate should be pressure washed. This method is also the best way to 'saturate' the surfaces, and remove soil, dust and any other loose debris from the existing wall.

**Masonry surfaces:** Should be sound with joints flush pointed or 'bagged out'.

Mortar joints should be checked to ensure they provide a sound substrate, onto which the product can be applied. Defective mortar joints should be raked out, and repointed using Cementfill HB.

**Concrete surfaces:** The strength of the concrete sub base must be a minimum of 20N/mm<sup>2</sup>.

All surface laitance should be removed, preferably using wet grit, power washing techniques or other equivalent approved methods.

Damaged areas should be first repaired as necessary, using Cementfill HB.

#### PRIMING

Cementfill FC is highly polymer modified and as a result concrete surfaces do not generally require a primer. Highly porous substrates should be primed with Cementseal Primer; see separate data sheet.

#### MIXING

Cementfill FC should be mechanically mixed in tub supplied using a slow speed drill and paddle or with a forced action pan mixer. A normal concrete mixer is not suitable. For normal application, use from 2.2 to 2.6 litres of clean water per 20 kg depending upon desired consistency. For part mixes, this equates to approximately 6.5 volumes of powder to one volume of water. Typically, for screeding applications, use 2.4 litres of clean water per 20kg which gives a water: powder ratio of 0.12. Normal mixing time depends on the type of mixer used but 2 minutes is average. Mix so as to entrain as little air as possible, and use without delay.

#### APPLICATION

Cementfill 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 highly alkaline thin screed for the protection of concrete and for structural waterproofing, Cementfill FC should be applied to the prepared surface 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. For repairs which require multi-layer applications it is important to ensure that previous layers have been finished with a wood or plastic float and are stable but not fully set prior to the application of subsequent layers.

No inter-layer priming required. Once the last layer has stabilised, 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.

#### CLEANING

All tools should be cleaned with water immediately after use.

#### CURING

Particular attention should be paid to adequate curing of Cementfill FC. It is important that the surface of the mortar is protected from strong sunlight and drying winds with Cementseal Primer, polythene sheeting, damp hessian or similar.

#### SAFETY

Full health and safety instructions are contained on the product material safety data sheets and these must be referred to before use.

#### SUPPLY

##### AVAILABILITY

All RIW products can be obtained through Builders Merchants or approved stockists. A list of approved stockists is available from RIW's offices.

##### PACKAGING

Pack size	20 kg bag in plastic tub
Yield	12 litres / 20 kg powder
Coverage	20 kg pack covers 4 m <sup>2</sup> at 3 mm thickness

##### STORAGE

Store the containers in dry, frost free, conditions. Shelf life in unopened containers at 20°C is 12 months.

#### TECHNICAL SERVICES

The Technical Department is available to advise on individual projects and to prepare and assist in the preparation of specifications and drawings. A list of experienced applicators of RIW materials is available from RIW's offices.

The information in this literature was correct at the time of going to press. However, we are committed to continually improving our products and reserve the right to change product specifications.

For the latest information, please consult RIW. Conditions of use are beyond our control, therefore we cannot warrant the results to be obtained.

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