

# RIW CEMENTFILL HB

Cementfill HB is a thixotropic, polymer modified, cement based, waterproof, rapid hardening, high build repair mortar.

## BENEFITS

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- | Totally waterproof
- | Resists up to 100m head of positive and negative water pressure
- | Applied to damp surfaces
- | 5-80mm build up in horizontal, vertical and overhead applications
- | Excellent low sag properties
- | Environmentally friendly
- | High bond strength

## APPLICATIONS

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- | High build structural repair mortar
- | Rendering and profiling vertical, horizontal and overhead applications
- | Fillets at internal corners

## APPLIED TO

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- | Concrete
- | Masonry

# RIW CEMENTFILL HB

## TYPICAL USES

Cementfill HB is used for the structural repair, rendering and profiling of vertical, horizontal and overhead surfaces. The material is also used to provide fillets at internal corners prior to application of other RIW membranes.

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.

This results in a rapid hardening, low density, high strength mortar with enhanced polymer properties. The thixotropic, shrinkage compensated nature of the product enables easy high build trowel applications.

## DURABILITY

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

## SPECIFICATION

C42 – Repairing/Renovating/Conserving concrete in accordance with NBS Clauses.

Please consult RIW for further information.

## INDEPENDENT AUTHORITY



**RIW Limited**  
**Arc House, Terrace Road South, Binfield,**  
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**13**  
0086-CPR-597751

EN 1504-2: Concrete repair product for structural repair PCC mortar (based on hydraulic cement polymer modified)

Compressive strength:	R3 ≥ 25 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 kg m <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	1725 kg/m <sup>3</sup> at 0.14 water powder ratio
Application thickness	5-80mm per layer
Application temperature	5 – 35°C
Working life	60 minutes @ 20°C

### MECHANICAL CHARACTERISTICS (TYPICAL)

Compressive Strength: BS 4551 Tested at 20°C	
1 day	23.5 N/mm <sup>2</sup>
7 days	41.0 N/mm <sup>2</sup>
28 days	48.0 N/mm <sup>2</sup>
Flexural Strength: BS 4551 Tested at 20°C, 65% RH	
28 days	8.0 N/mm <sup>2</sup>
Water Permeability Coefficient:	
Taywood Test by Penetration	9.65 x 10 <sup>-15</sup> m/sec.
5.7mm of Cementfill HB = 1000mm of concrete.	
Oxygen Diffusion Coefficient:	
Taywood Test	DO <sub>2</sub> = 2.72 x 10 <sup>-4</sup> cm <sup>2</sup> /s
Normal concrete: DO <sub>2</sub> = 2.12 x 10 <sup>-3</sup> cm <sup>2</sup> /s <sup>-1</sup>	
Electrical Resistivity:	
4-Point Wenner probe	10,000 ohm-cm
Suitable for use in conjunction with CP systems	

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.

### 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.

If rendering, defective mortar joints should be raked out.

**Masonry surfaces:** Mortar joints should be checked to ensure they provide a sound substrate, onto which the product can be applied.

**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.

#### PRIMING

Cementfill HB 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 HB should be mechanically mixed in the tub supplied using a slow speed drill and paddle or a forced action pan mixer. A normal concrete mixer is not suitable. For normal application, use from 2.6 – 3.0 litres of clean water per 20 kg, depending upon desired consistency. For part mixes, this equates to approximately five to six volumes of powder to one volume of water. Typically, for high build applications, use 2.8 litres of clean water per 20kg, which gives a water: powder ratio of 0.14. Normal mixing time depends upon the type of mixer that is used; 2 minutes is average. Mix so as to entrain as little air as possible, and use without delay.

#### PLACING

Cementfill HB can be applied by float or trowel as a render, resulting in application thicknesses of 80mm, even in soffit situations.

If necessary, support with shuttering to allow for compaction when working to reveals, etc. The application thickness achievable is dependent upon the substrate, and care must be taken to ensure that an initial 5 – 10mm thickness of mortar is well placed and adhered before building up to larger depths. For repairs which require multi-layer applications, it is important to ensure that previous layers are well keyed and stable but not fully set 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.

#### CLEANING

All tools should be cleaned with water immediately after use.

#### 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 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	13.2 litres / 20 kg powder
Coverage	20 kg pack covers 2.64m <sup>2</sup> at 5 mm thickness or 42 lm of 25 x 25mm fillet.

#### 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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**waterproof** **RIW**