

# Cementfill HB

RIW Cementfill HB is a single component, thixotropic, polymer modified, cement based, waterproof, rapid hardening, high build repair mortar for concrete and masonry.

## BENEFITS

- 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

## APPLICATIONS

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

## APPLIED TO

- Concrete
- Masonry

The logo for RIW, consisting of the letters 'RIW' in a bold, white, sans-serif font, centered within a dark blue oval with a white glow effect.

**Cementfill HB**

## DESCRIPTION

**RIW Cementfill HB** is a single component cement based mortar which incorporates the most advanced cement chemistry, microsilica, fibre and styrene acrylic copolymer technology. 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.

## TYPICAL USES

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

## DURABILITY


Subject to normal conditions of use, **RIW 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 Limited or further information.

## INDEPENDENT AUTHORITY

 RIW424	
RIW Limited Arc House, Terrace Road South, Binfield, Bracknell, Berkshire, RG42 4PZ, England 11 0086-CPD-530942	
EN1504-3: Concrete repair product for structural repair PCC mortar (based on hydraulic cement polymer modified)	
Compressive Strength:	Class R3 ≥ 25 MPa
Adhesive Bond:	Class R4 ≥ 2.0 MPa
Chloride Ion Content:	< 0.05%
Carbonation Resistance:	Passes
Elastic Modulus:	18.2 GPa
Thermal Capability Part 1:	Class R4 ≥ 2.0 MPa
Capillary Absorption:	0.077 kg.m-2.h-0.5
Dangerous Substances:	Complies with 5.4
Reaction to Fire:	Euroclass A2-s1, d0

## 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 – 40° C
Working life	60 minutes at 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. ie ; 5.7mm of RIW Cementfill - HB = 1000mm of typical concrete	
Oxygen Diffusion Coefficient : Taywood Test. D <sub>O2</sub> = 2.72 x 10 <sup>-4</sup> cm <sup>2</sup> / sec. ( Normal concrete : D <sub>O2</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 Practices and British Standards in current use at the time the building is being constructed.

### PREPARATION

The areas to be treated must be free from all unsound material, i.e. dust, oil, grease, corrosion by-products and organic growth. Smooth surfaces should be roughened, all loose material and surface laitance removed. The strength of the concrete sub-base should be a minimum of 20 N / mm<sup>2</sup>. The prepared substrate should be thoroughly soaked with clean water until uniformly saturated without any standing water.

### PRIMING

**RIW 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 **RIW Cementseal Primer** ; see separate data sheet.

### MIXING

**RIW 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

**RIW 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 dependant 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 **RIW Cementseal Primer**, polythene sheeting, damp hessian or similar.

## ADVANTAGES

- Dense matrix offers low permeability to water, even at 10 bar pressure (100m head of water).
- Incorporates the latest proven cement chemistry, microsilica, fibre and styrene acrylic copolymer technology.
- Pre-packaged material requiring mixing with clean water on-site to give an easily trowellable mortar with maximum application thickness of 80mm in vertical, horizontal and overhead situations.
- High bond strength exceeds the tensile strength of concrete, thus ensuring monolithic performance of the repair.
- Improved tensile and impact strength.
- Excelent low sag properties.
- Economical mortar generally requiring no substrate or inter-layer priming. Part bags can be mixed.
- Easily overcoated with other RIW membranes, to provide further protection.
- Non-toxic when cured.

## 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 Ltd's offices.

### PACKAGING

Pack size	20 kg bag in plastic tub
Yield	13.2 litres / 20 kg powder
Coverage	20 kg pack covers 2.64 m <sup>2</sup> at 5mm thickness or 42lm of 25 x 25mm fillet.

### SHELF LIFE

12 months in dry, frost free conditions with unopened containers at 20° C.

## TECHNICAL SERVICES

The RIW Technical Department is available to advise on individual projects and to prepare and assist in the preparation and specifications and drawings. A list of experienced applicators of RIW materials is available from RIW Ltd'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 Limited. Conditions of use are beyond our control, therefore we cannot warrant the results to be obtained.



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