

# Ronabond HB40 and HB40 Ultra Rapid

Prepacked mortars for high build concrete repair on vertical and overhead surfaces

## FEATURES

- ✓ prepacked concrete repair mortars
- ✓ prepacked levelling coat and pore filler
- ✓ high build
- ✓ thick section
- ✓ up to 75mm per layer
- ✓ add water

## SPECIFICATION CLAUSES

### 1. Concrete Repair - Standard Specification

The concrete repair mortar shall be Ronabond HB40 by Ronacrete Ltd, telephone +44 (0) 1279 638700. The primer for steel and concrete shall be Ronacrete Standard Primer. All materials to be applied in accordance with manufacturers instructions.

### 2. Concrete Repair - using Rapid Set grade

The concrete repair mortar shall be Ronabond HB40 Ultra-Rapid by Ronacrete Ltd, telephone +44 (0) 1279 638700. The primer for steel and concrete shall be Ronacrete Rapid Primer. All materials to be applied in accordance with manufacturers instructions.

## Description

Ronabond HB40 mortars are used for repairing concrete on vertical and overhead surfaces where ease of application is as important as high strength. They can be applied in relatively thick section to walls and soffits and, depending on the nature of the repair, in layers up to 75mm depending on grade.

## Types of Supply

Ronabond HB40 and Ronabond HB40 Ultra-Rapid are supplied prepacked requiring only the addition of water.

## Properties

The cured mortars are waterproof, frostproof and bond well to concrete, steel and other building surfaces. They offer long term performance and protection to structures.

## Advantages

- High build repairs to 75mm
- Ease of application
- Prepacked for control and convenience
- Low temperature grade (Ultra-Rapid)
- Suitable for use in contact with potable water
- Smooth surface finish prior to application of protective/decorative coating
- Waterproof, high strength, monolithically bonded mortars
- Use for structural concrete repair, dubbing out
- Excellent for thick section soffit work

## RONABOND HB40 FEATURES

- prepacked concrete repair mortar
- based on acrylic polymer
- add water
- max. build 75mm per layer
- use above +3°C
- 35N/mm<sup>2</sup> compressive strength at 28 days
- working life approximately 30-40 minutes
- use for standard repairs where high strengths needed
- Meets the requirements of BD 27/86

## RONABOND HB40 ULTRA-RAPID FEATURES

- As HB40, plus
- can be used at low temperature to min. +2°C
- 37N/mm<sup>2</sup> compressive strength at 28 days
- working life approximately 10 - 20 minutes
- use for repairs at low temperature or where fast curing, drying or strength gain are required

## Working Temperatures

Ronabond HB40 can be used in most weather conditions and in a wide temperature range, from +3°C to 25°C and above. At high ambient and material temperature the working time of the mix will be reduced; it will be increased at lower temperatures.

Ronabond HB40 Ultra-Rapid can be used between +2°C and 25°C and above. At high ambient temperature the working time will be considerably reduced; it will increase slightly at lower temperatures. Care must be taken when using Ronabond HB40 Ultra-Rapid in extreme low temperatures to ensure that the water used for dampening (and the Ronacrete Rapid Primer) does not freeze on contact with the substrate. In very low temperatures for additional speed warm water may be used for mixing.

## Site Attendance

When on site Ronacrete representatives are able, if asked, to give a general indication of the correct method of installing a Ronacrete product. It is important to bear in mind that Ronacrete Ltd is a manufacturer and not an application contractor and it is therefore the responsibility of the contractor and his employer to ensure he is aware of and implements the correct practices and procedures to ensure the correct installation of the product and that liability for its correct installation lies with the contractor and not with Ronacrete Ltd.

## WORKING INSTRUCTIONS

### Preparation of concrete and steel

All concrete identified for removal must be removed back to a suitable substrate which is sound and stable and which will accept the repair or render mortar.

Reinforcing steel in the repair area must be exposed, and concrete cut back along the length of the steel to expose clean uncorroded steel. Loose rust and scale must be removed. Cut around the periphery of spalled areas to a minimum depth of 6mm at 90° to avoid dished edges and feather edged repairs.

The concrete must be removed to allow no less than 15mm of repair mortar to be placed around the steel. Corroded steel must be replaced where necessary.

All removal of concrete and steel must be carried out in accordance with the specifiers recommendations.

When repairing chloride contaminated concrete the method used to prepare and prime surfaces may differ and the Ronacrete Technical Department should be consulted.

All surfaces must be cleaned to remove loose dust, debris and surface contamination which may prevent adhesion of the repair mortar to concrete and steel. Surfaces to be rendered must be cleaned and mechanically abraded to provide a key.

### Dampening and priming

Following preparation of concrete and steel, thoroughly damp all concrete surfaces to be repaired with clean, potable water. Remove any standing water.

Brush apply Ronacrete Standard Primer or Ronacrete Rapid Primer as appropriate to the steel and allow to become tacky, not dry.

When the priming coat on steel is tacky, brush a single coat of the same primer on to the damp concrete and a second coat on to the steel. Ensure that the first priming coat applied to the steel is not removed during the application of the second coat.

### Mixing

Ronabond HB40 and Ronabond HB40 Ultra Rapid must be mixed mechanically in a forced action mixer (e.g. Creteangle pan mixer) or using a slow speed drill (typically 500 rpm) with a paddle attachment (do not use a free fall mixer).

# Ronabond HB40 and HB40 Ultra Rapid

Pour the dry powder in to a mixing vessel containing approximately 3 litres (but not more than 3.2 litres) of clean potable water. Mix to produce an even consistency to suit the requirements of the applicator. Generally a drier mix can be applied in thicker layers; a wetter mix can be used to achieve a smoother finish.

Use complete packs to ensure consistency, uniform dispersion of pack contents and accuracy of powder:water ratio. To avoid a false set in warm working conditions store materials in the shade and use cool water.

## Application

The mortar must be applied on to the wet or tacky primer before the primer dries. If the primer dries it must be thoroughly scarified and reapplied.

Apply the mortar in layers to achieve the required thickness and to reform the original profile of the concrete and cover reinforcing steel. Layer thickness will vary according to the shape and size of the repair, the nature of the substrate and the mixing and application technique. Application techniques include hand packing the mortar on to the surface; this method allows faster build up and the ability to feel that the mortar has been packed around and behind reinforcing steel.

When applying multiple layers to achieve the total depth these can be built up monolithically (wet-on-wet) or after previous layers have firmed up. Keying and priming (with the appropriate primer) between hardened layers is necessary to ensure total adhesion through the repair or render.

Finish the repair with a wood float, steel trowel or leave with a sponged finish as required. If applying a protective or decorative coating such a Ronabond

Joltec, Ronabond Zolpacryl or Ronabond Nigatex leave the final layer with a sponged or float finish to aid adhesion.

## Curing

Cure with Ronacrete Curing Membrane or tight fitting polythene as soon as possible and as quickly as is practical to prevent rapid and excessive early moisture loss and minimise the risk of resultant cracking and crazing. Curing is more important when working in direct heat, sunlight, in a drying breeze or wind, or a combination of these factors.

Note that maximum application depth per layer is dependent on the size and profile of the repair or render area, the consistency of the mortar and the skill and technique of the applicator. It is not always possible to achieve high build application, especially when working on larger areas.

## Health & Safety

Ronabond HB40 products are non-hazardous although protective clothing such as goggles, overalls and gloves is recommended to prevent any effect from prolonged skin contact, inhalation or ingestion. In the event of skin contact, wash with soap and water. Seek medical advice. In the event of eye contact, irrigate with plenty of clean water and seek medical advice. In the event of ingestion do not induce vomiting. Seek immediate medical advice.

## Shelf Life and Storage

Ronabond HB40 should be stored unopened between 10°C and 25°C in dry warehouse conditions and out of direct sunlight. In these conditions shelf life is approximately 9 months.

Table 1 - Technical Data, Packaging, Coverage

all strengths measured at 28 days unless otherwise stated	Ronabond HB40	Ronabond HB40 Ultra-Rapid
min/max build per layer (mm)	6/75	6/75
compressive strength (N/mm <sup>2</sup> ) at 1 hour	-	6
compressive strength (N/mm <sup>2</sup> ) at 24 hours	23	30
compressive strength (N/mm <sup>2</sup> ) at 7 days	33	-
compressive strength (N/mm <sup>2</sup> ) at 28 days	35	37
tensile strength (N/mm <sup>2</sup> )	2.9	2.7 @ 28 days
flexural strength (N/mm <sup>2</sup> )	7.1	7.1 @ 28 days
ISAT (ml/m <sup>2</sup> /sec)	0.003	0.0
density (kg/m <sup>3</sup> )	1500	1550
min/max application temperature (°C)	3/25	+2/25
packaging (kg)	18	18
water addition per pack (litres)	3 - 3.2	3 - 3.2
yield (litres)	13	13
coverage per pack	1m <sup>2</sup> at 13mm	1m <sup>2</sup> at 13mm

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The information detailed in this leaflet is liable to modification from time to time in the light of experience and of normal product application, and before using, customers are advised to check with Ronacrete Ltd, quoting the reference number, that they possess the latest issue. Any person or company using the product without first making further enquiries as to the suitability of the product for the intended use does so at his own risk, and Ronacrete Ltd can accept no responsibility for the performance of the product, or for any loss or damage arising out of such use.



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