

## RonaBond HB40 and HB40 Ultra Rapid

Mortars for high build concrete repair on vertical and overhead surfaces



### FEATURES

- high build repairs to 75mm
- ease of application
- prepacked for control and convenience
- waterproof
- frost proof
- 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

### 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.

### Test Data (HB40)

#### Compressive strength

1 hour	N/A
24 hours	23N/mm <sup>2</sup>
7 days	33N/mm <sup>2</sup>
28 days	35N/mm <sup>2</sup>
Tensile strength @ 28 days	2.9N/mm <sup>2</sup>
Flexural strength @ 28 days	7.1N/mm <sup>2</sup>
ISAT (ml/m <sup>2</sup> /sec)	0.003

### Test Data (HB40 Ultra Rapid)

#### Compressive strength (N/mm<sup>2</sup>)

1 hour	6N/mm <sup>2</sup>
24 hours	30N/mm <sup>2</sup>
7 days	N/A
28 days	37N/mm <sup>2</sup>
Tensile strength @ 28 days	2.7 N/mm <sup>2</sup>
Flexural strength @ 28 days	7.1 N/mm <sup>2</sup>
ISAT (ml/m <sup>2</sup> /sec)	0.0

### Physical Properties (HB40)

Min / max build per layer (mm)	6 / 75
Density (kg/m <sup>3</sup> )	1550
Min / max application temperature (°C)	+2 / 25

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<b>Physical Properties (HB40) (continued)</b>	<b>Packaging (kg)</b>	<b>18</b>
	<b>Water addition per pack (litres)</b>	<b>3 - 3.2</b>
	<b>Yield (litres)</b>	<b>13</b>
	<b>Packs required per m<sup>3</sup></b>	<b>77</b>
	<b>Coverage per pack</b>	<b>1m<sup>2</sup> at 13mm</b>

<b>Physical Properties (HB40 Ultra Rapid)</b>	<b>Min / max build per layer (mm)</b>	<b>6 / 75</b>
	<b>Density (kg/m<sup>3</sup>)</b>	<b>1500</b>
	<b>Min / max application temperature (°C)</b>	<b>3 / 25</b>
	<b>Packaging (kg)</b>	<b>18</b>
	<b>Water addition per pack (litres)</b>	<b>3 - 3.2</b>
	<b>Yield (litres)</b>	<b>13</b>
	<b>Packs required per m<sup>3</sup></b>	<b>77</b>
<b>Coverage per pack</b>	<b>1m<sup>2</sup> at 13mm</b>	

**Supply** RonaBond HB40 and RonaBond HB40 Ultra-Rapid are supplied prepacked requiring only the addition of water.

**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.

### Instructions for Use

#### 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.

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## Mortars for high build concrete repair on vertical and overhead surfaces

### Instructions for Use (continued)

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.

#### Damping 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).

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.

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### Instructions for Use (continued)

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 as RonaBond Crack Bridging Anti Carbonation Coating WB, RonaBond Anti-Carbonation Coating WB or RonaBond Masonry Paint WB 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.

### 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.

### 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.

### Health and 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.

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<b>0836</b>
Ronacrete Ltd, Flex Meadow, Harlow Essex, CM19 5TD, UK
13 0836-CPR-13/F046
BS EN 1504-3 Concrete Repair
<b>Product: RonaBond HB40</b> <b>Compressive Strength: <math>\geq 25</math> MPa</b> <b>Chloride ion Content: <math>\leq 0.05\%</math></b> <b>Bond Strength Test: <math>\geq 1.5</math> MPa</b> <b>Rest. Shrinkage/Expansion: <math>\geq 1.5</math> MPa</b> <b>Carbonation Resistance: <math>dk \leq</math> control concrete (MC (0.45))</b> <b>Reaction to Fire: A2-s1,d0</b> <b>Dangerous Substances: Refer to Safety Data Sheet</b>

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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.