

# RonaBond Flowable Micro Concrete

## Prepacked mortars for hand applied flowable concrete

### FEATURES

- ✓ prepacked flowable micro concrete
- ✓ high strength flowable micro concrete
- ✓ free flows in to shuttering and formwork
- ✓ shrinkage compensated
- ✓ can be trowelled, poured or pumped
- ✓ protects steel reinforcement

### SPECIFICATION CLAUSES

#### Concrete Repair - using flow applied concrete

The concrete repair mortar shall be RonaBond Flowable Micro Concrete 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.

### SUMMARY APPLICATION PROCEDURE

#### RONABOND FLOWABLE MICRO CONCRETE

1. prepare surface
2. expose and clean reinforcing steel as necessary
3. apply two coats of Ronacrete Standard Primer to steel
4. erect shuttering
5. mix and pour RonaBond Flowable Micro Concrete
6. cure with Ronacrete Curing Membrane
7. remove shuttering

### Description

RonaBond Flowable Micro Concrete is a repair concrete used in place of hand applied mortars to repair and replace sections of concrete. Designed for pour and pump application the material is poured in to shuttering to reform concrete profiles. It is shrinkage compensated and provides high early and ultimate strengths. Flow is affected by temperature.

### GENERAL INSTRUCTIONS FOR USE

#### Mixing RonaBond Flowable Micro Concrete

RonaBond Flowable Micro Concrete will provide optimum performance when machine mixed in a forced action mixer (eg. Creteangle pan mixer or slow speed [500 rpm] drill and paddle mixer). Place the minimum quantity (2.5 litres) of water for each pack of material in the mixer, then slowly add the powder, mixing continuously. Once a homogeneous mix has been obtained add sufficient water to give the required consistency (maximum 3.5 litres per pack). Mix for up to 5 minutes to achieve a lump free consistency.

#### Working Temperatures

RonaBond Flowable Micro Concrete can be used in most weather conditions and in a wide temperature range, typically from +3°C to 25°C and above; the minimum working temperature for RonaBond Flowable Micro Concrete is +5°C. Note that at high ambient temperatures the working time of the mix will be reduced; it will be increased at lower temperatures. Ideally store materials between 10°C and 20°C before use.

#### Health and Safety

RonaBond Flowable Micro Concrete is 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 if irritation or pain occurs. In the event of eye contact, irrigate with plenty of clean water and seek immediate medical advice. In the event of ingestion, do not induce vomiting. Seek immediate medical advice.

#### Storage

RonaBond materials should be stored unopened between 5°C and 25°C in dry warehouse conditions and out of direct sunlight. In these conditions shelf life is approximately 9 months.

#### Technical and Test Data

Note that all quoted data is based on laboratory tests conducted at 20°C. Cubes, tested at 28 days, are 100mm and air cured. Results shown are

MAXIMUM laboratory strengths achieved by casting and curing cubes in ideal working conditions; site strengths will be lower.

### INSTRUCTIONS FOR USE

1. All concrete identified for removal must be removed back to a suitable substrate which is sound and stable and strong enough to accept the mortar
2. 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 edged and feather edged repairs.
3. The concrete must be removed around the steel to allow not less than 15mm of repair mortar to be placed around the steel. Corroded steel must be replaced where necessary.
4. All removal of concrete and steel must be carried out in accordance with the specifiers recommendations.
5. All surfaces must be cleaned to remove all loose dust, debris and surface contamination which may prevent adhesion of repair mortar to concrete and steel.
6. When repairing chloride contaminated concrete any exposed reinforcing steel must be grit blasted or similarly prepared back to bright, uncorroded steel.
7. Following preparation of concrete and steel, thoroughly damp all concrete surfaces to be repaired. Remove any standing water. Water used must be clean and of potable quality.
8. Brush two coats of Ronacrete Standard Primer to the steel.
9. Erect formwork as necessary around the repair area allowing adequate access for placing concrete. Advantage should be made of any falls and potential air pockets should be avoided. Formwork should be watertight and sufficiently rigid to hold the liquid concrete without deforming.
10. Prior to concreting, the shutter should be filled with water to test for water tightness and the substrate should be soaked for at least two hours. After soaking, drain the shuttering and blow out any standing water using oil free compressed air. Mix RonaBond Flowable Micro Concrete (see Mixing RonaBond Flowable Micro Concrete).
11. Pour the concrete as soon as possible, and no more than 20 minutes after mixing (at 20°C). Pours should be continuous and material waiting to be poured should be kept agitated. Start the concrete pour from one side or end of the works to avoid trapping air. The fluid concrete is self compacting, vibration is unnecessary and should not be used, however shutters can be tapped to displace air bubbles.
12. After completion of pouring, exposed surfaces should be finished to required profile and protected with a suitable curing membrane such as Ronacrete Curing Membrane (see Ronacrete Curing Membrane data sheet). The material should be protected from frost and from drying out for at least seven days after placing.
13. Formwork may be removed after 24 hours at 20°C, however care should be taken not to damage the freshly exposed surfaces. At lower temperatures, longer periods of time will be required before the formwork can be safely removed.
14. Note that for large volume pours, the material may be bulked out using suitable dried aggregates. Mix the concrete as normal, then add up to 25kg of aggregate for each pack. The amount of aggregate that can be added will depend upon size and grading and on the nature of the pour. Suitable dried aggregates can be obtained from Ronacrete Ltd.

#### 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.

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### RONABOND FLOWABLE MICRO CONCRETE Compressive Strength (restrained)

Age	20° C Flowable	20° C Fluid	5° C Flowable
1 day	10N/mm <sup>2</sup>	5N/mm <sup>2</sup>	-
3 days	30N/mm <sup>2</sup>	25N/mm <sup>2</sup>	5N/mm <sup>2</sup>
7 days	50N/mm <sup>2</sup>	40N/mm <sup>2</sup>	20N/mm <sup>2</sup>
28 days	70N/mm <sup>2</sup>	60N/mm <sup>2</sup>	40N/mm <sup>2</sup>

Age	Tensile Strength	Bond Strength
3 days	2.5N/mm <sup>2</sup>	2.0N/mm <sup>2</sup>
7 days	3.5N/mm <sup>2</sup>	2.5N/mm <sup>2</sup>
28 days	4.0N/mm <sup>2</sup>	3.0N/mm <sup>2</sup>

Yield and Coverage						
	pack size	packs required per m <sup>3</sup>	yield per pack m <sup>3</sup>	coverage per pack	use with Ronacrete Standard Primer	Typical min/max application depth per layer
RonaBond Flowable Micro Concrete	25kg	80	0.0125	1m <sup>2</sup> @ 12mm	optional	25mm/300mm
Ronacrete Standard Primer	2kg, 10kg	n/a	n/a	3-4m <sup>2</sup> , 15-20m <sup>2</sup>	n/a	n/a

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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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