

Corrocrete MC

High strength, structural micro-concrete

Reference No.	TDS / CR / CCRMC
Issue Date:	January 2018
Revision No.	7

Product Features

Corrocrete MC is a pre-mixed and bagged blend of cements, aggregates & special polymers to give a high strength, free flowing, structural micro-concrete suitable for large volume grout or repair applications to concrete.

Corrocrete MC is non metallic, free from chlorides and is shrinkage compensated to completely fill voids from 10 – 120 mm in a single layer, ensuring the transfer of loads whilst developing excellent compressive strength.

Typical Uses

Corrocrete MC is typically used for grouting or repairing large volume applications such as pile heads, reinstatement to concrete columns, floors and other repair areas where a highly fluid material is advantageous, particularly with a high density of reinforcement, therefore ensuring good compaction around the bars.

It can also be used as a heavy duty floor screed & levelling compound from 10 – 120 mm on top of structural concrete.

Technical Data

Properties	Test Standards	Typical Values
Appearance		: grey mix
Particle size		: up to 5 mm
Wet density		: 2.2 kg per litre
Water ratio		: 12%
Flexural strength, @ 28 days	BS EN 196 - 1 : 85	: > 8 N/mm ²
Compressive strength, @ 28 days	BS EN 196 - 1 : 2005	: > 70 N/mm ²

Note: All values given are subject to 5 - 10% tolerance.

Directions for Use

Preparation

Concrete

Long term durability and function can only be achieved with good preparation to give a strong mechanical bond to the substrate and complete void filling.

For effective grouting under base plates, erect a waterproof formwork with drainage points, tight to the longest sides of the plate to be grouted, ensuring the height of the formwork extends above the height of the base plate.

At one of the short ends of the plate, erect a hopper at least 50 mm away from the plate, with sufficient volume to create a minimum height of 200 mm above the level of the base plate. This will ensure the material flows in a continuous pour under the plate without potential air voids.

At the opposite short end to the hopper erect a similar formwork to the long sides but leaving a gap not exceeding 25 mm from the plate to minimise the unrestrained area of grout as it exits from under the plate.

For large volume repairs to columns, walls or soffits, mark the extremity of the repair area and saw cut to a minimum depth of 10 mm to define the area to be removed.

Chip out the area within the saw cut back to sound concrete, to a minimum depth of 10 mm ensuring no feather edges and a good mechanical key for the **Corrocrete MC**.

If steel reinforcement is exposed, continue to break out the concrete to at least 15 mm behind the bars.

Mechanically prepare concrete surfaces to remove laitance, curing compounds and other loose materials back to sound concrete, to provide a mechanical key for the subsequent product.

If subsequent formwork is required for example, around pile heads, ensure it is well constructed, watertight but with drainage points at the lowest level, and has a suitable release agent from **Corrorelease** range to facilitate easy demoulding.

Steel

Mechanically prepare any exposed reinforcement preferably by grit blasting to remove rust, contamination or other loose material.

Priming

Concrete

Thoroughly soak the existing concrete with clean water for 1 – 2 hours. Drain shutters or remove all standing water, ensuring a saturated surface prior to the application of **Corrocrete MC**.

Apply a bonding coat comprising 3 parts water and 1 part **Corrobond SBR** (see separate data sheet) to the pre-soaked concrete surface. Apply the repair mortar 'wet on wet' to the bonding coat. DO NOT LET THE BONDING COAT DRY. Simply re-prime if the primer coat has dried.

If the substrate can not be pre-soaked with water, we recommend priming with **Corrobond EBA** instead of **Corrobond SBR**.

Thoroughly stir both parts of **Corrobond EBA** together in full for at least 2 – 3 minutes until a homogenous consistency is achieved.

Apply **Corrobond EBA** using a brush to the prepared concrete surface at a rate of 5 – 6 m² per pack then apply **Corrocrete MC** before **Corrobond EBA** becomes tack free. This is typically 2 - 4 hours, depending on temperature.

Work the primer well into the concrete surface using a stiff brush to give an even, continuous, unbroken coating.

Mixing

It is essential that the mixing instructions are carefully followed to ensure the correct characteristics of the product are

Corrocrete MC

High strength, structural micro-concrete

achieved. Failure to do so can result in lower performance or even possible failure of the product.

Accurately measure 4 - 4.8 litres of drinking quality water and place in a suitable empty container with sufficient volume to accommodate the mixed material.

Slowly add the powder to the water and mix continuously for 4 - 5 minutes using a slow speed drill and paddle or forced action mixer, until a homogenous consistency is achieved.

No additional water should be used as this will change the performance of the mixed material.

Application

As a floor screed, pour the mixed material onto the prepared surface. Spread out and tamp or compact using a plastic or wood float to provide a dense topping to a minimum thickness of 10 mm.

Finish with a plastic float, wood float or steel trowel depending on the surface texture required.

Alternatively, pour the mixed material into formwork, allowing it to flow to fill all voids and repair areas as necessary. Keep topping up as required to ensure a continuous flow in a single operation, stopping after the desired level is reached or when the formwork is full.

This product can also be applied using pumping equipment however we recommend the use of a trained specialist applicator in the use of equipment and the product to carry out the application.

The application should be carried out in a continuous operation without breaks therefore please ensure sufficient materials, equipment and labour are available to achieve this.

Expansion joints must be reflected through the product and preferably sealed with a sealant from the **Corroseal** range.

For floor screed applications, a 5 – 10 mm joint between the screed and wall around the perimeter must be created. This can then be sealed with a sealant from the **Corroseal** range or hidden by skirtings or other internal finishes.

Curing

Curing is essential for all cementitious products to prevent possible shrinkage cracks and ensure the performance characteristics of the product are achieved.

We recommend applying one of the **Corrocure** range immediately after initial hardening of the product or removal of any formwork.

Hot Weather Conditions

For application above 40°C we recommend adopting the following guidelines:

Store unmixed materials in a cool preferably air conditioned environment.

Avoid exposure of mixed & unmixed materials to direct sunlight.

Use iced water for mixing.

Keep equipment that will be in contact with the product cool and away from direct sunlight.

Avoid application during the hottest time of day.

Cleaning

Clean tools & equipment immediately after use with detergent and water.

Limitations

Substrate temperatures should be above 5°C and rising.

For application in temperatures above 40°C please refer to hot weather condition recommendations.

Avoid application if the work area may be subject to the onset of rain or moving water.

Do not part mix under any circumstances.

Additional coating protection should be applied if the product is exposed to chemicals.

All products should be used within the pot life. Materials not used within the specified time should be discarded.

If the above general application details do not meet with your requirements, please contact Corrotech for a project specific method statement.

Estimating

Corrocrete MC pack size: 40 kg. Coverage rate approximately 20 litres yield per bag

Corrocure AR pack size: 200 litres. Coverage rate approximately 4 - 5 m² per litre per coat

Corrobond SBR pack size: 20 & 200 litres. Coverage rate depends on concrete porosity. Approximately 3 - 8 m² per litre of diluted solution

Corrobond EBA pack size: 2.5 litres. Coverage rate approximately 5 - 6 m² per pack

Corrocrete MC

High strength, structural micro-concrete

All coverage rates given are theoretical and subject to actual site conditions. We recommend trial areas are done to establish practical consumption particularly for primers.

Health & safety

Always use appropriate PPE including gloves, goggles and a barrier cream to avoid contact with skin and eyes.

Should contact with skin or eyes occur, wash immediately with plenty of clean water and seek medical advice.

If swallowed, seek medical attention immediately. Do not induce vomiting.

Avoid inhalation and ensure adequate ventilation or suitable respiratory equipment if working in confined spaces.

Do not expose products to fire or naked flames under any circumstances.

Always refer to the product Material Safety Data Sheet (MSDS) for full health & safety and handling recommendations.

Storage

Corrocrete MC has a maximum shelf life of 12 months from the date of manufacture.

To maximize shelf life always store products in their original, unopened packaging in a dry environment, away from direct sunlight with a minimum temperature of 10°C but not exceeding 35°C.

Damaged packaging, high humidity or extreme temperatures may reduce the shelf life.