

Cicorepair[®]MC

High Strength Large Pouring Micro Concrete Repair Grout

DESCRIPTION

Cicorepair[®]MC is a cementitious, micro concrete, normal setting, and non-shrink pourable repair grout. Cicorepair[®]MC contains portland cement, graded silica sand, graded aggregates, fillers, and chemical additives. This non-shrink repair grout is applicable for the large thickness range of 30-200 mm. Cicorepair[®]MC is ideal for upgrading the structural sections to enlarge their bearing capacities to high ratios.

USES

- Deep and large concrete cavities repair.
- Big anchor boxes filling.
- Upgrading of R.C. structural sections.
- Rails fixation and heavy steel frame fixation.

ADVANTAGES

- Made in accordance with [Dimension Stability Technology].
- Obtains high durability for structures.
- Ideal if used in structural columns upgrading.
- Easy to apply; one component.
- Non-shrink.
- High compressive strength.
- Wide range of repair thickness.
- Non-calcareous material (it does not contain free lime or separate calcium carbonate).
- Replacing concrete in many cases.
- Breathable and Chloride free.
- Helps avoid steel reinforcement rust.

PACKAGING

25 Kg bag

SHELF LIFE & STORAGE

12 months storage life if stored in its original unopened containers under a dry and shaded place in a temperature from 2°C to 55°C.

TECHNICAL PROPERTIES

Form	Grey Powder
Fresh Wet Density	2300±50 kg/m ³
Pot Life @ 25°C	>25 min.
Volume change after 28 days (ASTM C157)	0.02%
Repair gap thickness	30-200 mm
Initial setting time @ 25°C	
Final setting time @ 25°C	
Yield [25 Kg bag @ 15% W/P]	12.5 liters

MECHANICAL CHARACTERISTICS

Compressive Strength @ 14% W/P [ASTM C109]	
1 day	48±2 N/mm ²
3 days	55±2 N/mm ²
7 days	64±2 N/mm ²
28 days	72±2 N/mm ²
Flexural Strength @ 14% W/P [ASTM C348]	
1 day	5.75±0.25 N/mm ²
3 days	7.75±0.25 N/mm ²
7 days	8.25±0.25 N/mm ²
28 days	9.0±0.25 N/mm ²
Tensile Strength @ 14% W/P	
1 day	3.5±0.25 N/mm ²
3 days	4.0±0.25 N/mm ²
7 days	5.0±0.25 N/mm ²
28 days	6.0±0.25 N/mm ²
Shear bond to concrete @ 14% W/P [BS 6319] @28 days	25±1 N/mm ²

APPLICATION INSTRUCTIONS

Surface Preparation

All Concrete Substrates should be sound, clean, rough, and free from oil and grease. Any loose or weak concrete should be removed using hand tools or light mechanical tools (heavy tools are not recommended). All steel reinforcement should be reached to the extent to be coated from all around by hand, and then cleaned either by sandblasting if possible, or by using a hard steel brush. Just after cleaning, the steel should be coated with protective material (Cicorust®EP or Cicoprime®Zincrich). Then all concrete surfaces should be wetted by water reaching SSD condition (Saturated Surface Dry) prior to applying the bonding layer or the repair mortar directly.

Priming

For rough damp concrete surfaces, primer or bonding agent is not required. For structural elements upgrading, if requested, apply Cicobond®EP by soft hair brush over the clean damp concrete surface (please review the TDS of Cicobond®EP before use). The long open time of Cicobond®EP, which extends to more than eight hours, will allow other repair activities to take place like carpentry around upgrading structural elements.

Mixing

Mix Cicorepair®MC with 3.5 to 3.75 liters of water per bag to obtain the required consistency. Use a clean suitable container (not less than 20 liters volume) for one bag mixing using a high torque medium speed mixer and suitable pedal for about 60 seconds. In case of more than one bag mixing, using a drum mixer of 150-200 liters volume is recommended but mix for 2-3 minutes. Always add grout to clean water (the right quantity of water is variable, depending on the desired flowability degree). It is recommended to keep the mixed grout temperature in the range of 10–30°C, by using cold water in hot weather and warm water in cold weather, and shading all the time while storing, mixing, and placing.

Application

Cicorepair®MC should be applied within 25 minutes of mixing. For horizontal application, it should be poured continuously, and formwork should be tamped gently. For vertical applications such as caves, or column upgrading repairs, the grout should be poured/injected starting from the top and should continue until the space is full. Cicorepair®MC may be placed in thicknesses of up to 200 mm in a single pour. For sections thicker than this limit, CicogROUT®MC can be used, otherwise, it is necessary to contact CIC technical representative for advice. Cicorepair®MC must not be vibrated or compacted.

Curing

The finest curing procedures should be applied to keep the hydration water of grout in place. That means early curing and multi-stage curing together as follows: Just after finishing the surface (within 30 minutes after casting), spray any Cicocure® product on the exposed area and then cover it with a PET sheet. After deshuttering (normally after 24 hrs.), all exposed areas should be water saturated, and then covered with a wet cloth and kept wet for 3 days. This is the best curing method, but in case of lack of water, another curing compound spray should be applied over all exposed surfaces after deshuttering and be recovered again with a PE sheet for 3 days.

CLEANING

Tools freshly contaminated with Cicorepair®MC can be cleaned using water. Hardened material can be removed by mechanical means.

PRECAUTIONS

Health And Safety

Cicorepair®MC is an alkaline, non-hazardous. It should not be swallowed or allowed to come into contact with skin or eyes. Suitable protective goggles and gloves should be worn. In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice. When contact with the skin is made, wash off immediately with soap and water. If swallowed, seek medical attention immediately, do not induce vomiting.

TECHNICAL SUPPORT

CIC provides on-site assistance, as well as consulting services on projects when requested. Technical data sheets on other CIC products and guidance on their use are available on request.



Warranty

CIC products are guaranteed against defective materials and manufacture and sold subject to CIC's standard terms and conditions of sale. Whilst CIC endeavors to ensure that any advice, information or recommendation given is correct, the company cannot accept any liability either directly or indirectly arising from the use of its products. User of the product must test the product's suitability for the intended application and purpose, since the company has no control over the application of its products. Information contained in this document is given on the best current knowledge. Our Products are in continuous development and CIC reserves the right to change the product without prior notice.