

**RAPID REPAIR MICRO MC****DESCRIPTION:**

Con-Spec's Rapid Repair Micro MC is a unique preblended micro concrete material for partial to full depth repairs, requiring only potable water for mixing. It can achieve initial set in 45 minutes and be opened to traffic within four hours at 24°C (75°F). Rapid Repair Micro MC develops high strength and has a tenacious bond. Rapid Repair Micro MC is shrinkage compensated and contains a migrating corrosion inhibitor to protect the reinforcing steel embedded in the concrete. It has excellent freeze/thaw resistance and can be used for interior and exterior, wet or dry environments.

USES:

Rapid Repair Micro MC is well suited for repair and patching of floors. Due to its flowability it can be pumped or poured into congested locations. The self-consolidation of the material minimizes honeycombing without vibration. Use Rapid Repair Micro MC for structural repair of floors, loading docks, warehouse and freezer floors, sewers, tunnels and all horizontal or vertical, interior or exterior, above or below grade applications. Vertical or overhead applications will require the use of watertight forms.

CHARACTERISTICS:

Rapid Repair Micro MC is a fast setting and versatile repair material. Due to its high early strength, forms can be removed early. The low permeability of the material protects against carbon dioxide and chloride intrusion.

LIMITATIONS:

Do not apply this material in areas where the temperature is or will be below 5°C (40°F) or over 35°C (95°F) within 24 hours of application.

COMPOSITION:

Rapid Repair Micro MC contains a proprietary cement formulation with special polymer modifiers. It has specially selected blended aggregates and admixtures which are used to increase adhesion, protect reinforcing steel, reduce shrinkage and aid curing.

COVERAGE:

Rapid Repair Micro MC is packaged in 25 kg. (55 lb) bags and will yield approximately 0.44 cubic feet or 0.0125 cubic meters per bag. The area of coverage per bag is roughly 24 ft² at 1/4" thick.

APPROVALS AND TESTS:

ASTM C157 Shrinkage ~ 0.0
ASTM C928 Very Rapid Hardening Materials for Concrete Repair
ASTM C666 Freeze Thaw Resistance:
1000 cycles: weight loss 1.07%
Dynamic Modulus 91%
Sulphate Resistance: Better than type 50 Portland Cement
Contains less than 2% C₃A.

PROPERTIES: (@20°C)**(@3.5L/25Kg Bag)****Compressive Strength (ASTM C39 / C109)**

3 hour Mpa (psi)	27 (3,900)
24 hour Mpa (psi)	40 (5,800)
7 Days Mpa (psi)	50 (7,250)
28 Days Mpa (psi)	56 (8,150)

Bond Strength (ASTM C882)

24 hours Mpa (psi)	14 (2,000)
28 days Mpa (psi)	18 (2,600)

SURFACE PREPARATION:

Concrete must be fully cured (28 days) and structurally sound, clean, free of loose or deteriorated concrete, dust, dirt, and other contaminants. Saw cut perimeter of patching area a minimum of 1/2" (13mm). Remove all oxidation and scale from exposed reinforcing steel. When substrate is not absorptive, abrade as necessary to ensure proper bonding. Saturate the prepared area with potable water immediately before application.

MIXING INSTRUCTIONS:

Rapid Repair Micro MC will require approximately 3.25 - 3.5 liters of potable water per 25 kg (55 lb) bag, to achieve the proper consistency. Pour the measured amount of water into a clean mixing container, then add the measured amount of RR Micro MC and thoroughly mix for 3-4 minutes using a low speed mixer to a smooth even consistency. When using a mixer add 3 liters of potable water to mixer, with machine in operation add RR Micro MC and mix for 1 minute, add remaining water and mix for an additional 2-3 minutes to obtain a smooth even consistency.

Notice to User - Con-Spec Industries Ltd. warrants that the product described on the face hereof has been manufactured of selected raw materials by skilled technicians. Con-Spec Industries Ltd. shall not be responsible for any claims resulting from the failure to utilize the product in the manner in which it was intended and in accordance with instructions provided for use of product. The only obligation of Con-Spec Industries Ltd. shall be to replace any quantity of this product which proved to be defective. Con-Spec Industries Ltd. assumes no liability, loss, or damage resulting from use of this product. **Your use of this product constitutes your acknowledgment and acceptance of these terms and limitations.**

WORKING CHARACTERISTICS:

Rapid Repair Micro MC has a fast, 45 minute initial set, and can be opened to traffic within three hours at 24°C (75°F). The mixed material flows easily and can be pumped or poured into the patch area. It is self consolidating and does not require vibration. Ensure all forms are water tight.

APPLICATION TECHNIQUES:

This is a fast setting material and must be placed within 20 minutes of mixing. To ensure proper bond with the entire surface, the concrete must be in a saturated surface dry condition. Saturate the prepared concrete substrate by filling with clean water 24 hours before placement. Drain water and seal drain outlets prior to placement of material. After mixing pump or pour the material into patch area. Place Rapid Repair Micro MC with sufficient pressure to ensure complete contact with all surfaces. RR Micro MC does not require vibrating. If desired finish with a steel trowel until smooth and level with surrounding surface. Minimize trowelling do not overwork.

CURING TECHNIQUES:

Proper curing increases the strength and durability of the concrete. Wet curing is the method of choice for curing Rapid Repair Micro MC. During the initial hydration phase RR Micro MC demands moisture and the rapid reaction generates significant heat. If sufficient moisture is not provided during curing process, cracking and curling is possible. Moisture can be provided through ponding or repeated wetting for 4-5 hours after placement, long term stability and strength are preserved and ensured. If wet curing is not practical then apply a quality waterbased curing compound, (ie Super Diamond Clear VOX) immediately after final set. Note: a solvent based curing compound should not be used on this product. Under hot, windy or direct sunlight situations, apply a second coat of curing compound after the first has dried.

FIBERS:

Polypropylene fiber reinforcement can be used to make Rapid Repair Products even stronger while reducing plastic shrinkage cracking.

Polypropylene fibers are non-corrosive and alkali resistant. They are designed to reinforce Rapid Repair products. One bag of Rapid Repair Micro MC requires 32 grams of fiber.

The fibers should be added to the mixing water and thoroughly blended **before** adding the Rapid Repair to the mixing water. If possible, continue to stir the water-fiber mix while slowly adding the dry mix to the water-fiber mixture. This will maximize the distribution of the fibers in the mix. All other standard procedures and practices for the use of the concrete should be followed. Fibers may stick up in the finished top surface but will wear off with time.

CLEAN UP:

Clean application tools and mixing equipment with water immediately following use.

SAFETY PRECAUTIONS:

Product contains cement and is alkaline on contact with water. Wear dust, skin, and eye protection. Irritating to eyes and skin. Avoid splashing into eyes. Avoid contact with skin. In case of eye contact, flood eyes repeatedly with water and call a physician immediately. **DO NOT RUB EYES!** Wash hands thoroughly with soap and clean water after handling. Do not take internally. Keep out of reach of children. Consult Safety Data Sheet for further information.

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