

MCOR™ 5511 (mCrete™ Corpac™) is a 2-component, 100% solids, next generation epoxy compound system formulated to produce an ultra-light weight, high strength polymer packing grout. MCOR™ 5511 is a truly unique and technically advanced polymer repair compound. mCrete™ Corpac™ hangs up to 25cm (10-inches) vertical and overhead in just one pass, yet cures with amazing durability, permanent bond-breaking concrete adhesion, and high compressive strength of 110 Mpa (16,000 psi).

The mCrete™ Corpac™ system is a structural-grade epoxy repair polymer formulated with an enhanced proprietary blend of advanced polymers and microceramics. The MCOR™ 5511 is the ideal solution for the repair and protection of concrete, especially in areas where ultra-high build, vertical and overhead repairs are required. As a sealed epoxy system with near zero porosity, its interaction with steel reinforcement bars and structures lends itself to solid mitigation against corrosion. Being polymer-based, the material moves with subtle changes to the substrate and will not pop-off or delaminate, making it a lasting repair for projects requiring permanency.

## Applications Include

- Repair, restoration, and rebuilding of deteriorated concrete and masonry requiring permanent repair
- High build application of deep spalled concrete (especially vertical and overhead)
- Rehabilitation of structural ceilings, columns, pilings, walls, balconies and railings
- Epoxy-grade encapsulation of exposed reinforcing bars
- Decorative or ornate moldings and cosmetic repairs
- Exceptional bonding material for concrete, brick, masonry, stone, or brick
- Protection against water and chemical infiltration

## Features

- Shapeable tailorability
- Can be cut and dressed for refined shaping
- Apply by hand or with simple tools
- Early development cure for reduced down time
- Ultra-high-build and overhead hanging capabilities
- Tenacious bond strength
- Pre-proportioned mixing kit
- Minimal to zero shuttering, forms, or support required
- No shrinkage regardless of thickness
- Sealed and corrosion-resistant
- 100% solids, no VOCs
- High compressive strength

## Theoretical Coverage & Film Thickness

The MCOR™ 5511 is designed to be applied at a maximum thickness of 25 cm (10 inches) per pass vertical or overhead without sag. The material is 100% solid, and therefore will not shrink (the wet film and dry film remain the same).

Approximate coverage per 1 kilogram covers 352 cm<sup>2</sup> at 5 cm thickness (1 kilogram covers 1.5 sq.ft. at 0.5 inches <or> 107 sq.in. at 1 inch thickness).

## Surface Preparation

The success of any coating application is directly proportional to the completeness of the substrate preparation and the care the application crew puts into the application. Surface must be clean and sound

Concrete: Remove all oil, dirt, and contaminates and prepare the concrete by abrasive blasting, high pressure water blasting, jetting and/or approved mechanical methods to SSPC SP-13/NACE No. 6 "Surface Preparation of Concrete." Surface should be dry and free of dust. Although primers are optional: The MCOR™ E1 Primer is recommend to assist in bonding to dry or smooth concrete substrates when an application of the MCOR 5511 required "tack" coat cannot be achieve or is impractical.

## Application Method

Material is supplied in one (1) container with two (2) parts, Part A and B (base+cure) as a unit. If possible, always mix a complete unit in the proportions supplied. When mixing portions, use a calibrated scale to weigh out each component. Adding more or less hardener will adversely affect the cured physical properties.

Measure the material temperature prior to mixing. If the material is cooler than 15 °C (60 °F), raise its temperature slowly. Cold material temperature can adversely affect the cure. For published working time to remain manageable, do not exceed 35 °C (95 °F).

NOTE- If using primer: Apply E1 Primer to the specified substrate prior to mixing. Refer to MCOR E1 Primer technical product sheet for details.

Pour half (1/2) the contents of Part B (cure) inside pail with Part A (base). Using a "gate" type bit with a heavy-duty power mortar mixer, begin to mix on low speed for 1 - 2 minutes.



"Gate" type mixer (essential)

Pour the remaining contents of Part B (cure) into the pail. Mix thoroughly beginning with low speed and increasing the speed steadily with a power mixer until the mixture becomes a uniform in color and viscosity with no visible streaks or lumps (3 - 5 minutes). Incomplete mixing will result in loss of physical properties and unmixed/mal cured patches.

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Utilizing protective gear and gloves (refer to SDS for more detail), immediately apply the mixture by hand, rubbing material onto the substrate until a thin "tack" coat is achieved throughout the specified area (if utilizing primer, this step is not required). After an initial "tack" coat is achieved, proceed to building up material to desired thickness not to exceed 25 cm (10 inches) per pass overhead/vertical.

Allow material to cure.

## Volume Capacity & Color

The volume capacity of a 1 kg of mixed MCOR™ 5511 yields 1,758 cm<sup>3</sup> (107 in<sup>3</sup>).

MCOR™ 5511 is available in:

- Light Grey (LGY)

## Storage & Handling

Shelf life: 5 years, sealed.

Store in a dry area away from direct sunlight.

Clean tools with MCOR™ Cut & Clean.

## Thinning

Thinning is not advised.

## Safety

Consult Material Safety Data Sheet (SDS) for all material safety information.

## Technical Properties

|                                                          |            |                                                        |
|----------------------------------------------------------|------------|--------------------------------------------------------|
| Type:                                                    |            | Proprietary Microceramic Epoxy                         |
| Finish:                                                  |            | Fine texture                                           |
| Ratio:                                                   |            | 5 (A) : 1 (B) by weight                                |
| Solids by volume:                                        | ASTM D2697 | 100%                                                   |
| Solvents (VOC) by volume:                                |            | 0%                                                     |
| Bond strength (concrete):                                | ASTM D4541 | Substrate failure                                      |
| Taber abrasion:                                          | ASTM D4060 | 480 mm <sup>3</sup> (CS17, 1000 cycles)                |
| Bond strength (steel):                                   | ASTM D4541 | 103 Bar (1500 psi)                                     |
| Slant shear (bond) strength:                             | ASTM C882  | 50 MPa (7,200 psi)                                     |
| Tensile strength:                                        | ASTM C307  | 15 MPa (2,150 psi)                                     |
| Flexural strength:                                       | ASTM C580  | 26 MPa (3,790 psi)                                     |
| Compressive strength:                                    | ASTM C579B | 110 MPa (16,000 psi)- 48 hrs.                          |
| Coefficient of thermal expansion:                        | ASTM C531  | 14.8 X 10 <sup>-6</sup> in./in./°F<br>(@ 74° to 210°F) |
| Modulus of elasticity:                                   | ASTM C580  | 12,411 MPa (1,800,000 psi)                             |
| Linear shrinkage @ 7 days:                               | ASTM C531  | < 0.015%                                               |
| Thermal compatibility:                                   | ASTM C884  | Passed                                                 |
| Flowability and bearing:                                 | ASTM C1339 | > 90% contact area                                     |
| Pot life:                                                |            | 20 min.<br>@ 20 °C (500g mass)                         |
| Gel time:                                                |            | 2 hrs.<br>@ 20 °C (500g mass)                          |
| Minimum cure (return-to-service)<br>@ 20 °C (500g mass): |            |                                                        |
| * Light Traffic                                          |            | 12 hrs.                                                |
| * Full use                                               |            | 48 hrs.                                                |

