

# mCrete™ R Gel

## Product Technical Data

# MCOR™

# 5101

### MCOR™ 5101 (mCrete™ R Gel)

is a two-component, high strength, extremely forgiving/tolerant, vertical and overhead, non-sag, fast set epoxy paste, packaged in a convenient 1:1 mix ratio to use a general industrial grade repair, reclaiming, resurfacing, patch filler for metal. The mCrete™ R Gel provides point-of-use application to save time and material. Highly tolerant for challenging areas, including wet. The material has a wide variety of applications, and is often sought for multi-substrate repairs, filling, patching, and as a bonding adhesive. Epoxy-based, and highly modified with fibers and silica, the material is a durable, sealed protective solution to combat corrosion.

### Applications Include

The mCrete™ R Gel is versatile:

- Segmental epoxy
- Structural caulk
- Anchoring
- Adhesive
- Filler
- Patch and repair
- Tie-in, termination
- Reinforcement

### Features

- Ease-of-application
- 100% solid
- Silica filled, fiber reinforced
- For nearly all substrates
- Able to feather and taper
- Convenient 1:1 ratio by volume
- Surface tolerant
- High build, non-sag
- Sealed and corrosion resistant

### Volume Capacity / Theoretical Coverage

The volume capacity of 1 kg. of mixed MCOR™ 5101 is 878 cm<sup>3</sup> (53.6 in<sup>3</sup>). Approximate coverage per 1 kilogram covers 1,143 cm<sup>2</sup> at 1 cm. thickness (1 pound covers 48 in<sup>2</sup> at 0.5 in. thickness).

### Film Thickness

MCOR™ 5101 (mCrete™ R Gel) is a thixotropic material intended to be applied in various controlled applications for specific needs, and may be further controlled by sanding for uniformed dressing. Intended as a cladding epoxy or filler at various thicknesses, the mCrete™ R Gel can be applied at any thickness up to 1.25 cm (1/2 inch) per pass without sagging, without mechanical support; and thicker if applied in multiple passes or with mechanical support (ie- MCOR™ FG and/or MT Mesh, weld rods, metal and fabric scrim)

### 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. Verify that the temperature of the surface is at least 3 degrees C (5 degrees F) higher than the dew point temperature to preclude condensation.

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: should the substrate prove to be excessively outgassing, the MCOR™ SE Primer is recommend to reduce the occurrences of pinholing. The MCOR™ WB Primer would be advised for substrate surface conditioning and enhancement.

Metal: Before preparing steel, please inspect and remove oil, grease, or other contaminants - "Solvent Cleaning" (SSPC-SP1) may be required. Grind any weld spatter or steel weld inconsistencies. Abrasive blasting (or other approved mechanical methods) to SSPC SP-6/NACE No. 3 "Commercial Blast Cleaning" must be used in order to achieve a clean surface with a minimum profile of 25 microns (1 mil); remove dust and debris by high compressive air or solvent cleaning (SSPC-SP1) may be require again. MCOR™ MTe (or MTw) Primecoat™ is advised as a primer should the substrate be susceptible to flash-rusting.

### Application Method

Material is supplied in two (2) containers (base+cure) as a unit.. If possible, always mix a complete unit in the proportions supplied. Use a calibrated scale to weigh out each component or use measuring cups to measure by volume. 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 16 °C (60 °F), raise its temperature slowly to above 22 °C (72 °F). For published working time to remain manageable, do not exceed 32 °C (90 °F).

After the components have been measured on a clean, flat mixing board, mix thoroughly with a trowel/spatula/putty-knife until the mixture becomes a uniform in color and viscosity with no visible streaks or lumps (2 - 3 minutes). Incomplete mixing will result in loss of physical properties and unmixed/mal cured patches.

Apply the mixture immediately with a trowel/spatula/putty-knife. Cover large holes or cracks with mechanical support (ie- MCOR™ FG and/or MT Mesh, weld rods, metal and fabric scrim) and apply mCrete™ R Gel over the patch and onto an adjacent solid area.



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Important! Although the technical details and recommendations contained in this data sheet correspond to the best of our knowledge and experience, all the above information must, in every case be taken as merely indicative and subject to confirmation after long-term practical applications; for this reason, anyone who intends to use the product must ensure beforehand that it is suitable for the envisaged application. In every case, the user alone is fully responsible for any consequences deriving from the use of the product. The sole liability of MCOR and Epoxytec International, Inc. for any claims out of the manufacturer's use of sale of its products shall be for the buyer's purchase price.

Revised: 2013-10-29



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### Packaging & Color

A unit is a two-component (base+cure)

The volume capacity of a 1 kg of mixed MCOR™ 5101 is 0.75 Liters.

MCOR™ 5101 is available in:

- Grey

### Storage & Handling

Shelf life: 36 months, sealed.

Store in a dry area away from direct sunlight.

The material should be conditioned to between 24 °C (75 °F) and 35 °C (95 °F) before use.

Clean tools with MCOR™ Cut & Clean.

### Thinning

Thinning is not advised.

### Safety

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

### Technical Properties

Type:		Thixotropic Epoxy
Base component (consistency):		Paste
Base component (color):		Dark grey
Solidified component (consistency):		Paste
Solidified component (color):		Light grey
Finish:		Matte
Mixing ratio (by volume)		1:1
Solids by volume:	ASTM D2697	100%
Solvents (VOC) by volume:		0%
Bond strength (steel):	ASTM D4541	103 Bar (1500 psi)
Impact Strength:		2.4 m- 0.45 kilo (7.9 ft-lb)
Tensile strength:	ASTM D 638	60 MPa (9,000 psi)
Flexural strength:	ASTM D 790	55 MPa (8,000 psi)
Compressive strength:		58 MPa (8,500 psi)
Temperature exposure (dry):		-26 °C – 76 °C (-15 °F – 170 °F)
Temperature exposure (wet-max):		71 °C (160 °F)
Water absorption:		0.2%
Pot life:		25 min. @ 20 °C @ 200g mass



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