

mCrete™ FloGrout™ Product Technical Data

MCOR™ 5555

MCOR™ 5555 (mCrete™ FloGrout™) is a 3-component, 100% solids, modified epoxy system formulated to produce a moisture-tolerant, chemical resistant, ultra high density epoxy grout.

The mCrete™ FloGrout™ system is a structurally dense with 123 Mpa (17,800 psi) compressive strength, abrasion resistant, with an enhanced proprietary granular blend of dense media and ceramics.

Modified with flow enhanced properties utilized for projects requiring good characteristics for leveling, re-topping, and/or form-and-pour. The system provides an ultra-high build material with incredible corrosion protection, wear resistance and overall industrial-grade strength and durability.

Applications Include

- Trowel-based lining
- Horizontal re-topping
- Sealed, resistant slab formation
- Permanent patching and repair
- Reforming restoration
- Ultra-high wear area protection
- Impact protection

Features

- "Green" - 100% solids, no VOCs
- Excellent bearing area for even distribution of loads
- Excellent wear and abrasion resistance
- Good chemical, corrosion and impact resistance
- Formulated resilience
- Excellent adhesion and bond strength
- Fill and flow, forming characteristics
- Easy to apply
- Ultra high build
- Structural

Theoretical Coverage & Film Thickness

The MCOR™ is designed to be applied at a minimum thickness of 1 cm (0.375 inches) for light traffic <or> 1.27 cm (0.5 inches) minimum for heavy industrial use. 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 530 cm² at 1 cm. thickness (1 kilogram covers 0.57 sq.ft. at 0.375 inches thickness <or> 0.43 sq.ft. at 0.5 inches).

MCOR™ 5555 (mCrete™ FloGrout™) is a thixotropic material intended to be applied in various controlled applications horizontally, poured in forms vertically or overhead, or for filling/patching. Intended as a cladding epoxy or filler at various thicknesses, the mCrete™ FloGrout™ can be applied at thicknesses up to 15 cm (6 inches) without mechanical support; and thicker consider mechanical support. If applied vertically or overhead, must utilize forms.

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 contaminants 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™ SE1 Primer is recommended to reduce the occurrences of pinholing. The MCOR™ WB1 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 required 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 one (1) containers with three (3) parts (base+cure+media) 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 24 °C (75 °F), raise its temperature slowly. Cool material temperature can adversely affect the cure. For published working time to remain manageable, do not exceed 35 °C (95 °F).

Mix resins first (base+cure) in a separate container. Mix thoroughly with a power mixer 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. Continue to mix with a slow setting while slowly pouring the media into the mix. Pour small amounts at a time, until all the media has been added. Continue mixing until a uniformed slurry is achieved. Apply the mixture immediately with a trowel/spatula/squeegee.



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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: 2014-10-09



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Volume Capacity & Color

A unit is a three-component (base+cure+media).

The volume capacity of a 1 kg of mixed MCOR™ 5555 yields 545 cm³ (33 in³).

MCOR™ 5555 is available in:

- Pebble (PE)

Storage & Handling

Shelf life: 24 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:		Polyamide Epoxy
Finish:		Slurry
Solids by volume:	ASTM D2697	100%
Solvents (VOC) by volume:		0%
Bond strength (concrete):	ASTM D4541	Substrate failure
Bond strength (steel):	ASTM D4541	103 Bar (1500 psi)
Slant shear (bond) strength:	ASTM C882	52 MPa (7,600 psi)
Abrasion Resistance	Taber (1000 cycle/g)	0.5
Tensile strength:	ASTM C307	15 MPa (2,150 psi)
Flexural strength:	ASTM C580	26 MPa (3,790 psi)
Compressive strength:	ASTM C579B	58 MPa (8,500 psi)- 24 hrs. 123 MPa (17,800 psi)- 7 days
Coefficient of thermal expansion:	ASTM C531	14.8 X 10 ⁻⁶ in./in./°F (@ 74° to 210°F)
Modulus of elasticity:	ASTM C580	12,411 MPa (1,800,000 psi)
Peak exotherm:	ASTM D2471	121 °C (250 °F)
Linear shrinkage @ 7 days:	ASTM C531	< 0.025%
Thermal compatibility:	ASTM C884	Passed
Flowability and bearing:	ASTM C1339	> 90% contact area
Pot life:		20 min. @ 20 °C (500g mass)
Gel time:		2 hrs. @ 20 °C (500g mass)
Minimum cure (return-to-service) @ 20 °C (500g mass):		
* Light Traffic		12 hrs.
* Industrial Traffic		48 hrs.
* Max Chem. Resistance/Full cure		7 days



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