

# mCoat™ IM Plus

## Product Technical Data

# MCOR™

# 1298

MCOR™ 1298 (mCoat™ IM Plus) is a two-component ultra-high chemical resistant phenolic novolac epoxy. Novolac technology is best-in-class for high chemical environments. Incorporating the latest advancements in monomer-phenolic chemistry, this modified novolac material provides high functional dense crosslinking with near-zero permeability for sustained protection in continuous chemical immersion. It has excellent resistance to concentrated acids, as well as alkalis, and most solvents and hydrocarbons.

mCoat™ IM Plus has been designed to specifically protect, seal, and outperform in environments which are immersed or experience flow or splash. Provides terrific seamless, monolithic lining to seal and provide barrier containment from environment. Excellent smooth film, high gloss, impact resistance, blush resistance, chemical resistance, and U.V. tolerance.

Because mCoat™ IM Plus can be applied by brush, roller, or spray; it provides applicators tremendous usability and ease of application. It is self-priming and it ties back into itself indefinitely for long-term sustainability.

### Applications

- Primary and secondary containments
- Interior tanks and vessels
- Coating immersion pumps and components
- Exposed assets vulnerable to splash or harsh corrosives
- Seamless and sealed environmental protective lining
- Other high chemical, industrial coating and lining

### Features

- 100% solids, no VOCs
- High density crosslink phenolic novolac
- Resistant to most concentrate chemicals
- Good heat and abrasion tolerance
- Surface tolerance
- Easy to apply by roller, brush or spray
- Self-priming
- Self-leveling
- High build

### Film Thickness & Theoretical Coverage

mCoat™ IM Plus is designed to be applied as a two-coat system. Applied at 410 microns (16 mils) minimum to 635 microns (25 mils) maximum by roller/brush or 1.27 mm (50 mils) maximum by spray, per coat.

mCoat™ IM Plus is a 100% solid coating that will not shrink. 1.85 m<sup>2</sup>/kg. at 0.5 mm DFT (20 ft<sup>2</sup>/kg. at 20 mils DFT). Actual coverage will depend on surface conditions, irregularities, and surface profile.

### 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.

**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 75 microns (3 mils); remove dust and debris by high compressive air or solvent cleaning (SSPC-SP1) may be require again. MCOR™ Primecoat™ MTE is advised as a primer should the substrate be susceptible to flash-rusting, to stripe coat any edges or bends in the metal for enhancing peak retention, or should the metal not possess the characteristics to achieve optimal profiling capability.

**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™ Primecoat™ SE is recommended to reduce the occurrences of pinholing. The MCOR™ Primecoat™ SE would also be advised for substrate surface conditioning and enhancement.

### 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; if not, use a calibrated scale to weigh out each component or use measuring cups to measure by volume, if volume ratio is provided. 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 21 °C (70 °F), raise its temperature slowly to above 24 °C (75 °F). For published working time to remain manageable, do not exceed 32 °C (90 °F). After the components have been measured, combine entire contents of cure with base and mix thoroughly with a power agitator or mixing stick. Mix for five (5) minutes until the mixture becomes uniform in color and viscosity with no visible streaks or lumps and be aware of pot life (higher temperature and mass accelerates pot life). When possible, MCOR™ recommends mCoat™ IM Plus as a two-coat system. Apply the mixture immediately (advanced curing agents are utilized to create strong crosslinking; hence, shortens pot life) with brush, roller, or spray.



3000 N 29 CT, Hollywood, FL 33020  
mcor.net | T: 888.961.MCOR (6267)

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 Intl, Inc. for any claims out of the manufacturer's use of sale of its products shall be for the buyer's purchase price.

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### Equipment

**Brush:** wide brush with short hair bristle. **Roller:** mohair or foam roller. **Spray:** MCOR™ recommends at minimal the use of a .023" orifice spray tip or greater, 64:1 spray pump or greater, 3/8" hoses, with 1/4" whip.

Note: Only use high quality Purdy® Golden Eagle™ brands or similar. Purge with MCOR™ #5 Cut & Clean.

### Volume Capacity & Color

A unit is two-component (base+cure). The volume capacity of a 1 kg of mixed mCoat™ IM Plus is 0.93 Liters.

mCoat™ IM Plus 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™ #5 Cut & Clean.

### Thinning

MCOR™ #1 Reduction not to exceed 1% by volume.

### Safety

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

### Technical Properties

Type:	Phenolic novolac epoxide	
Finish:	Gloss	
Mixing ratio (by weight)	2 : 1	
Solids by volume:	ASTM D2697	100%
Solvents (VOC) by volume:	0%	
Bond strength (steel):	ASTM D4541	100 Bar (1450 psi)
Pot life:	32 min. (25 °C / 200 g)	
Water absorption:	ASTM D1653	< 0.08 g/sq.m.
Tensile strength:	ASTM D638	68 MPa
Compressive strength:	ASTM D695	84 MPa
Hardness, Shore D:	ASTM D2240	82
Tensile elongation:	ASTM D2370	6%
Viscosity (mixed):	ASTM D2196	2,500 cps @ 25 °C
Complete cure:	72 hours (25 °C)	
Temperature exposure (max):	125 °C (257 °F)	
Recoat Time	when firm (min.)	
	4 hrs. @ 25 °C- min	
	72 hrs. max @ 25 °C- max	

### Limitations

Apply in good weather when air and surface temperatures are above 16 °C (60 °F). For optimum application properties, condition the material to 24 °C (75 °F) temperature range prior to mixing and application.

### Chemical Resistance (partial list, specific chemical rating requests are available upon request)

Acetic Acid, Glacial	B <sup>1</sup> -Good	Fuel Oils	A <sup>1</sup> -Excellent	Phenol (10%)	C-Fair
Acetone	B <sup>1</sup> -Good	Gasoline (high-aromatic)	A-Excellent	Phosphoric Acid (crude)	B-Good
Alcohols: Isopropyl	A-Excellent	Gasoline (leaded, ref.)	A <sup>2</sup> -Excellent	Potash (Potassium Carbonate)	A-Excellent
Ammonia 10%	A <sup>2</sup> -Excellent	Gasoline (unleaded)	A <sup>2</sup> -Excellent	Propane (liquefied)	A-Excellent
Ammonia, liquid	A <sup>1</sup> -Excellent	Grape Juice	A-Excellent	Sodium Hypochlorite	A-Excellent
Antifreeze	A-Excellent	Grease	A-Excellent	Sugar (Liquids)	A-Excellent
Arsenic Acid	A <sup>2</sup> -Excellent	Hydraulic Oil (Petro)	A-Excellent	Sulfuric Acid (75-100%)	B <sup>1</sup> -Good
Beer	A <sup>2</sup> -Excellent	Hydraulic Oil (Synthetic)	A-Excellent		
Benzene	B <sup>1</sup> -Good	Hydrofluoric Acid 75%	B <sup>1</sup> -Good		
Boric Acid	A <sup>1</sup> -Excellent	Hydrogen Peroxide 100%	A-Excellent		
Brine	A-Excellent	Hydrogen Sulfide (aqua)	A-Excellent		
Bromine	C-Fair	Iodine	B-Good		
Calcium Chloride	A <sup>1</sup> -Excellent	Jet Fuel (JP3, JP4, JP5)	A-Excellent		
Calcium Hypochlorite	A <sup>1</sup> -Excellent	Kerosene	A-Excellent		
Chlorine (dry)	C-Fair	Ketones	B-Good		
Chlorine Water	A <sup>1</sup> -Excellent	Lactic Acid	B <sup>1</sup> -Good		
Detergents	A <sup>1</sup> -Excellent	Lard	B-Good		
Diesel Fuel	A-Excellent	Milk	A-Excellent		
Ethanol	A <sup>2</sup> -Excellent	Naphtha	A-Excellent		
Ether	A <sup>1</sup> -Excellent	Nitric Acid (20%)	B <sup>1</sup> -Good		
Fatty Acids	A-Excellent	Oils: Citric	A-Excellent		
Fluorine	A <sup>1</sup> -Excellent	Oils: Diesel Fuel (20, 30, 40, 50)	A <sup>1</sup> -Excellent		
Formaldehyde 100%	A-Excellent	Oils: Fuel (1, 2, 3, 5A, 5B, 6)	A <sup>1</sup> -Excellent		
Formic Acid	B <sup>1</sup> -Good	Petroleum	A <sup>2</sup> -Excellent		

**Explanation of Footnotes**  
 1. Satisfactory to 110°F (43°C)  
 2. Satisfactory to 220°F (104°C)

**Ratings -- Chemical Effect**  
 A = Excellent.  
 B = Good -- Minor Effect, slight corrosion or discoloration.  
 C = Fair -- Moderate Effect, not recommended for continuous use. Softening, loss of strength, swelling may occur.  
 D = Severe Effect, not recommended for ANY use.  
 N/A = Information not available.

