mCoat™ IM 61
Product Technical Data

MCOR™ 1161 (mCoat™ IM 61) is a leveling hybrid coating blended urethane-modified-epoxy (UME) designed primarily for immersion and protection within water environments (mCoat™ IM 61 is certified to NSF/ANSI Standard 61 for contact with potable drinking water).

Utilizing dense fillers with epoxy creates a liner that is highly sealed and cross-linked. Due to the unique formulation, MCOR™ places the material for selections requiring moderate abrasion resistance for internal components of pumps and equipment (similar to a 2000 Series | mPlait™ product), while still being a candidate for general exterior immersion coating projects as a 1000 Series | mCoat™ solution. Although certified for potable water, because of the properties of the mCoat™ IM 61, this material can protect as a general high performance coating and line in many water processing environments and industrial settings where chemical, abrasion, and other corrosives are present.

Applications

- Water storage tanks
- Water treatment and process vessels
- Fluid flow pumps and impellers
- Fluid flow troughs
- Immersed mechanical areas

Features

- 100% solids, no VOCs – NSF Certified
- High impact strength and vibration tolerance
- Surface tolerant
- Excellent chemical & abrasion resistance
- Easy to apply by roller, brush or spray
- Self-priming
- Self-leveling
- Gloss finish

Film Thickness & Theoretical Coverage

mCoat™ IM 61 is designed to be applied as a two-coat system. Applied at 355 microns (14 mils) minimum to 635 microns (25 mils) maximum by roller/brush or 1.27 mm (50 mils) maximum by spray, per coat. mCoat™ IM is a 100% solid coating that will not shrink. 2.0 m2/kg. at 0.5 mm DFT (21 ft2/kg. at 20 mils DFT). Actual coverage will depend on surface conditions, irregularities, and 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

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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 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, 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 61 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.

Equipment

Brush: short hair bristle. Roller: mohair, nap or foam roller (only use high quality shed-resistant rollers) Spray: MCOR™ recommends at minimal the use of a .016" orifice spray tip or greater, 45:1 spray pump or greater, 3/8" hoses, with 1/4" whip. Purge with MCOR™ #5 Cut & Clean.

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Volume Capacity & Color

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

The volume capacity of a 1 kg of mixed mCoat™ IM 61 is 0.98 Liters.

mCoat™ IM 61 is available in:

- Tan (T)

Storage & Handling

Shelf life: 24 months, sealed.

Store in a dry area away from direct sunlight. The material should be conditioned to between 22 °C (72 °F) and 32 °C (92 °F) before use.

Clean tools with MCOR™ #5 Cut & Clean.

Thinning

Do not thin material.

Limitations

Apply in good weather when air and surface temperatures are above 13 °C (55°F). For optimum application properties, condition the material to 22 °C (72 °F) temperature range prior to mixing and application.

Technical Properties

Type:		Urethane-modified-epoxy
Finish:		Gloss
Mixing ratio (by volume)		1 :1
Mixing ratio (by weight)		1.4 :1
Solids by volume:	ASTM D2697	100%
Solvents (VOC) by volume:		0%
Bond strength (steel):	ASTM D4541	100 Bar (1450 psi)
Pot life:		30 min. (25 °C / 200 g)
Water absorption:	ASTM D1653	< 0.1 g/sq.m.
Tensile strength:	ASTM D638	53 MPa
Hardness, Shore D:	ASTM D2240	80
Tensile elongation:	ASTM D2370	15%
Viscosity (mixed):	ASTM D2196	1,150 cps @ 25 °C
Complete cure:		72 hr (25 °C)
Temperature exposure (dry):		-26 °C – 76 °C (-15 °F - 170 °F)
Temperature exposure (wet):		80 °C (175 °F)- max
Recoat Time		6 hr. (25 C) – 72 hrs.

Safety

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

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