

Product and Technology Description

MCU-Miomastic® is a single component, moisture cure urethane coating for use as a primer for non-ferrous substrates and as an intermediate barrier coat, containing micaceous iron oxide (MIO) platelets, also suitable as a non-UV topcoat in both new construction and maintenance projects.

MCU-Miomastic® has proven outstanding barrier performance when immersed, in splash zones or atmospheric environments. Ideal for use as a tie coat over most existing coatings and can be used in red lead encapsulation systems and available in light colours to facilitate interior tank inspections.

Technology Features

1 component – minimal preparation and no pot-life limitations
 Can be applied in 6 % to 99 % relative humidity
 Dew point restrictions do not apply, or affect durability
 Cures quickly, even at -20 °C, 45 minute recoat possible
 Can be applied at ambient temp. to 50°C & steel to 75°C
 High surface tolerance
 Exceptional corrosion resistance
 Excellent abrasion resistance
 Good chemical resistance
 Superior Flexibility - No cracking, flaking or peeling
 Moisture resistant after 30 minutes
 Typical service temperatures -45°C to 145°C *

Excellent adhesion to most substrates and sound aged coatings
 UHP WJ, dry/wet blasting & power tool cleaning

Product Specific Features

Intermediate coat
 Primer for non-ferrous
 Lead encapsulation
 Wide DFT Tolerance
 Excellent wetting out properties
 Suitable for immersion & atmospheric exposure (excl. UV)
 Recommended for splash zones

Areas of Use

Substrates

Ferrous – mild steel / cast iron
 Non-ferrous metals
 Metallized coatings
 Galvanised metal
 Aluminium
 Stainless steel
 Concrete
 FRP, wood
 (and most sound old coatings)

Possible uses

Structural steel
 Bridges, transmission towers
 Oil & gas storage / offshore platforms / refineries
 Port facilities / ships / wharves / jetties
 Material handling equipment
 Wind energy / hydropower / transmission tower sectors
 Pipes / pumps / valves
 Chemical processing plants / paper mills
 Steel tanks (interior and exterior)
 Water and wastewater treatment sites

Specifications

Resin type: Aromatic urethane
 Pigment type: MIO
 Sheen: Matt
 Colour: Light Grey and Beige
 Volume solids: 72%±2.0%
 VOC: 249 g/l

Theoretical coverage: 8.4 m²/l @75µm DFT

Recommended film thickness:

Wet: 104 – 208 µm
 Dry: 75 - 150 µm

Performance test data:

Adhesion (ASTM D4541): 14 MPa (2030 PSI)
 Impact (ASTM 2794): direct 160; reverse 25
 Prohesion (ASTM G85 5,000 hours): scribe rate 9.5; blistering: none
 Dry Heat Resistance: continuous 145 °C
 Salt Spray (ASTM B117): +10,000 hours - several systems
 Norsok M-501: Passes - several 2 & 3 coat systems
 ISO 12944-6 C5 I & M High: Passes - several 2 & 3 coat systems

Storage and Shipping Information

Shelf life: 15 months from date of manufacture if stored unopened between -5 °C & 30 °C in a cool, dry place
 Density: 1.64 ± 0.12 kg/l
 Flash point: 37.5 °C
 UN proper shipping name: UN 1263, PAINT, Class 3, Packaging Group III

Drying Times and Temperatures – 75µm DFT (allow additional time for higher film builds)

Temperatures RH at 60% *	Tack free		Recoat minimum & maximum *		Full cure	
	<i>without MCU-Quickcure</i>	<i>with MCU-Quickcure</i>	<i>without MCU-Quickcure</i>	<i>with MCU-Quickcure</i>	<i>without MCU-Quickcure</i>	<i>with MCU-Quickcure</i>
-20 °C	20 hours	15 hours	48 hrs / Extended	10 hrs / Extended	**	**
-10 °C	15 hours	10 hours	24 hrs / Extended	6 hrs / Extended	**	**
0 °C	7 hours	5 hours	12 hrs / Extended	2 hrs / Extended	**	**
10 °C	30 minutes	20 minutes	5 hrs / Extended	1 hr / Extended	10 days	10 days
25 °C	10 minutes	10 minutes	4 hrs / Extended	45 min / Extended	7 days	7 days
40 °C	10 minutes	10 minutes	3 hrs / Extended	30 min / Extended	5 days	5 days

Refer to MCU-Quickcure® Technical Data Sheet for additional information

* Best practice recoat time should be within 48hrs and prior to full cure time. Abrade as required if past full cure

* 95% of cure is reached within the recoat time

* Humidity, temperature, and coating thicknesses >75µm DFT will affect drying and curing times

** Product is serviceable, will cure slowly, taking longer to reach full cure

Surface Preparation

Ferrous Metal

Use SSPC-SP1 solvent cleaning and/or MCU-Ecodegreaser® to remove oil and grease and other contaminants prior to employing surface preparation methods.

Blast Clean surfaces for immersion / severe service projects to SSPC-SP10/NACE No. 2 (ISO Sa 2.5)

Prepare surfaces for non-immersion or atmospheric service projects to SSPC-SP6/NACE No. 3 Commercial Blast Clean finish. For minimum surface preparation use conscientious power tool cleaning methods in accordance with SSPC-SP3. Blast cleaning methods should produce a surface profile of 25-50 µm.

Aluminium/Galvanised/Non-Ferrous Metals

Must use MCU-Coatings® recommended primers.

In case of direct application to the substrate: Prepare surfaces using SSPC-SP1 Solvent Cleaning and SSPC-SP12/NACE No.5 Low Pressure Water Cleaning methods to remove surface contamination. Supplement weathered galvanised surface preparation with SSPC-SP 2 and 3 hand and power tool cleaning to remove excessive corrosion and impart surface profile on bare metal. Spot prime clean bare metal with MCU-Coatings® recommended primer. Supplement new galvanised surface cleaning with mechanical abrasion to create a surface profile to support mechanical adhesion.

Concrete/Concrete Block

The surface must be touch dry, free of surface contaminants, and in sound condition. Grease and oil should be removed by ASTM D4258-83 (Reapproved 1999) and release agents should be removed by ASTM D4259 - 88 (Reapproved 1999). Refer to SSPC-SP13/NACE No 6 mechanical or chemical surface preparation methods for preparing concrete to suitable cleanliness for intended service. Surface preparation methods should impart sufficient surface profile for mechanical adhesion to occur. Ensure surface is thoroughly rinsed and dry prior to coating application.

Allow a minimum 7 days cure time for new concrete prior to preparation and application (10 days in cold climates).

Add up to 25% MCU-Thinners® when sealing concrete

Existing Coatings

Prepare surfaces using SSPC-SP12/NACE No.5 Low Pressure Water Cleaning methods to remove surface contamination.

Supplement SSPC-SP12 LPWC with SSPC-SP1 Solvent Cleaning, MCU-Ecocleaner and/or SSPC-SP2 and 3 Hand and Power Tool clean areas of corrosion and loose or flaking paint (feather edges of sound, existing paint back to a firm edge). OR prepare surfaces using SSPC-SP 12/Nace No.5 High or Ultra High-Pressure water-jetting to WJ 4.

Spot prime clean, bare metal areas with MCU-Coatings® recommended primer. Sand glossy surfaces to create a profile.

Apply a test sample to a small area to determine coating compatibility.

Best Practice

MCU-Miomastic® is formulated for application to a variety of substrates and tightly adhering, previously existing coatings. Apply a test sample to a small area to determine coating adhesion and/or compatibility. Spot prime any areas cleaned to bare metal with an MCU-Coatings® recommended primer. For immersion or severe environments, apply over a recommended MCU-Coatings® primer.

The surface to be coated must be dry, clean, dull, and free from dirt, grease, oil, rust, mill scale, salts or any other surface contaminants that interfere with adhesion.

Ensure welds, repair areas, joints, and surface are properly cleaned and treated prior to coating application.

Consult the referenced standards, SSPC-PA1 and your MCU-Coatings® representative for additional information or recommendations.

Application Information

MCU-Miomastic® can be applied by brush, roller, airless spray, pressure pot, and conventional spray methods. Follow proper mixing instructions before applying.

Thinner / Reducer

Typically not required. If necessary, thin up to 10% with a recommended MCU-Thinner®. See Technical Data Sheet for additional information.

Mixing

Power mix thoroughly prior to application. Do not keep under constant agitation.

If required, apply a solvent float over the material (approx. 2mm) to prevent moisture intrusion, then cover the can.

Brush/Roller

Brush:	Natural fibre
Roller:	Natural or synthetic fibre cover
Nap:	5 to 10 mm (higher nap, thicker coat)
Core:	Phenolic

Airless Spray

Pump Ratio:	28-40:1
Pressure:	165-193 bar (2400 – 2800 psi)
Hose:	5 to 10 mm (1/4" to 3/8")
Tip Size:	0.23 - 0.48mm (0.013-0.019 in)
Filter Size:	60 mesh (250 µm)

Conventional Spray

Fluid Nozzle:	E Fluid Tip
Air Cap:	704 or 765
Atomizing Air:	3.1 - 5.2 bar
Fluid Pressure:	1 - 1.4 bar
Hose:	12mm ID; Max 16 metres

Clean-up

MCU-Thinner®, MCU-Thinner® 25, and MCU-Thinner®50. If MCU-Thinners® are not available for cleaning up, use MEK, MIBK, Xylene, a 50:50 blend of Xylene and MEK or MIBK.

Do not add other solvents to MCU-Coatings® products.

Application

Temperature: - ambient temp. -20°C to 50°C & steel to 75°C

The substrate must be visibly dry.

* In extreme environments the resistance will diminish over time

Relative Humidity: 6% to 99%

MCU-Quickcure® is advised when relative humidity is below 40%.

Coating Accelerator:

See MCU-Quickcure® Technical Data Sheet for information.

Storage

Store off the ground in a dry, protected area in temperature between -5 °C to 30 °C. Containers must be kept sealed when not in use. Use a solvent float to reseal partially used containers.

Safety Precautions

This product is for industrial and professional use only. Consult the Safety Data Sheet.

Warranty

MCU-Coatings® warrants its products to be free from defects in materials. MCU-Coatings® sole obligation, and Buyer's exclusive remedy, in connection with the products shall be limited, at MCU-Coatings® option to either replace the products not conforming with this warranty, or to credit the Buyer's account with the invoiced amount of the non-conforming products. Any claim under this warranty must be made by Buyer to MCU-Coatings® in writing within five (5) days of Buyer's discovery of the claimed defect, but in no event later than the expiration of the applicable shelf- life, or six months from the delivery date, whichever is earlier. Buyer's failure to notify MCU-Coatings® of such non-conformance as required herein shall bar Buyer from recovery under this warranty.

MCU-Coatings® makes no other warranties concerning the products. No other warranties, whether expressed,

implied, or statutory, such as warranties of merchantability or fitness for a particular purpose, shall apply. In no event shall MCU-Coatings® be liable for consequential or incidental damages.

Any recommendations or suggestions relating to the use of the products made by MCU-Coatings®, whether in its technical literature, or in response to specific inquiry, or otherwise, is based on data believed to be reliable; however, the products and information are intended for use by Buyers having the requisite skill and know-how in the industry, and therefore the Buyer must satisfy itself as to the suitability of the products for their own particular use, and it shall be deemed that Buyer has done so at its sole discretion and risk. Variations in environment, changes in procedures of use or extrapolation of data may cause unsatisfactory results.

Limit of Liability

MCU-Coatings® liability on any claim of any kind, including claims based upon MCU-Coatings® negligence or strict liability for any loss or damage arising out of, connected with, or resulting from the use of the products, shall in no case exceed the purchase price allowable for the products or part thereof that gave rise to the claim. In no event shall MCU-Coatings® be liable for consequential or incidental damages. Published Technical Data Sheets are subject to change without notice. Contact your MCU-Coatings® representative for the most up to date Technical Data Sheets.