

### Product and Technology Description

MCU-Miomastic is a single component, moisture cure polyurea coating that is used: a) as a primer for non-ferrous substrates; b) as an intermediate barrier coat (because it is filled with micaceous iron oxide (MIO) platelets); and c) 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. MCU-Miomastic is ideal for use as a tie coat over most existing coatings and can be used in red lead encapsulation systems. MCU-Miomastic is also a standard sealer coat for concrete and is 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  
Cures quickly, even at -20 °C  
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  
No cracking, flaking or peeling  
Moisture resistant after 30 minutes  
High resistance to blistering  
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  
(and most sound old coatings)

#### Possible uses

Structural steel  
Bridges  
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 polyurea  
Pigment type: MIO  
Sheen: Matt  
Colour: Light and dark grey  
Volume solids: 72%±2.0%  
VOC: 249 g/l

**Theoretical coverage:** 25µm DFT: 28.8 m<sup>2</sup>/l

#### Recommended film thickness:

Wet: 104 – 208 µm - no thinners  
Dry: 75 - 150 µm

#### Performance test data:

Adhesion (ASTM D4541) : 14 MPa (2030 PSI)  
Abrasion Resistance (ASTM D4060): CS17 wheel 1,000 cycles/ kg : 135 mg loss  
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 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**

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 & 96 hours	10 & 96 hours	**	**
-10 °C	15 hours	10 hours	24 & 72 hours	6 & 72 hours	**	**
0 °C	7 hours	5 hours	12 & 72 hours	1.5 & 72 hours	**	**
10 °C	30 minutes	20 minutes	4 & 48 hours	1 & 48 hours	10 days	10 days
25 °C	10 minutes	10 minutes	3 & 48 hours	45 minutes & 48 hours	7 days	7 days
40 °C	10 minutes	10 minutes	3 & 48 hours	45 minutes & 48 hours	5 days	5 days

Refer to MCU-Quickcure Technical Data Sheet for additional information

\* Best practice recoat time should be within 48hrs but not exceeding the full cure time

\* Humidity, temperature, and coating thicknesses >100µm DFT will affect drying and curing times

\*\* Product is serviceable but will cure slowly and remain soft for a long period

**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 designed 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 a 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, roll, airless spray, and conventional spray methods (one grade only). Follow proper mixing instructions before applying.

### Mixing

Material temperature must be 3 °C above the dew point before opening and agitating. Power mix thoroughly prior to application. Do not keep under constant agitation.

Apply a solvent float over the material to prevent moisture intrusion and cover the material (approx. 2mm).

### Reducer

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

### 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:	0.013-0.019
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, or acetone.

Do not add unauthorised solvents to MCU-Coatings.

### Application

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

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.