

## Product and Technology Description

MCU-Mastic® is a single component moisture cure urethane coating for use as a primer, intermediate and finish coat for non-UV exposure with outstanding barrier performance, for atmospheric exposures or immersed environments. MCU-Mastic® has a smooth finish and is ideal for interior applications as a finish coat. Available in light & dark grey colours to facilitate tank interior inspections. AS 4020 approved for potable water to 45,000 mm<sup>2</sup>/lt.

MCU-Mastic® is an outstanding primer for non-ferrous substrates and is the preferred sealer coat in our Anti-Carbonation system acting as the primary sealer and barrier coat to enhance long-term protection..

## 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

AS 4020 potable water approved and food contact  
Primer for ferrous & non-ferrous  
Primer for buried and exposed concrete  
Lead encapsulation  
Excellent wetting properties  
Suitable for immersion & atmospheric exposure (excl. UV)  
Recommended for splash zones  
Light grey for tank internals  
Anti-Carbonation barrier coat primer  
Barrier coat for timber/steel to acetic acid  
Very low water vapour transmission rate

## 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 / atmospheric zones  
Bridges, transmission towers  
Oil & gas storage / offshore platforms / refineries  
Port facilities / ships / wharves / jetties  
Material handling equipment  
Wind energy / hydropower  
Pipes / pumps / valves  
Steel tanks (interior / exterior)  
Concrete and steel floors  
Water and wastewater treatment sites  
Food industry

## Specifications

Resin type:	Aromatic urethane
Pigment type:	Colouring & anticorrosive
Sheen:	Matt
Colour:	Light Grey and Beige
Volume solids:	63%±2.0%
VOC:	325 g/l
<b>Theoretical coverage:</b>	8.4 m <sup>2</sup> /l @75µm DFT
<b>Recommended film thickness:</b>	
Wet:	96 – 145µm
Dry:	60 - 90µm

## Performance test data:

Adhesion (ASTM D4541): 15 MPa (2175 PSI)  
Impact (ASTM 2794): direct 145; reverse 20  
Prohesion (ASTM G85 5,000 hours): scribe rate 9.5; blistering: none  
Flexibility (AST D522): 1 ½" to 1/8" Mean Elongation: 32%  
Dry Heat Resistance: continuous 145 °C  
Salt Spray (ASTM B117): +10,000 hours (several systems)  
Norsok M-501: Passes - both 2 & 3 coat systems  
ISO 12944-6 C5M and C5I: Passes - both 2 & 3 coat systems  
AS 4020 potable water approved and food contact

## 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:	1.38 ± 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	6 hrs / Extended	1.5 hrs / Extended	10 days	10 days
25 °C	10 minutes	10 minutes	4 hrs / Extended	1 hrs / Extended	7 days	7 days
40 °C	10 minutes	10 minutes	3 hrs / Extended	45 min/Extended	5 days	5 days

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

\* 95% of cure is reached within the recoat time

\* Best practice recoat time should be within 48hrs and prior to full cure time. Abrade as required if past full cure. If in doubt conduct an adhesion test

\* 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 Near White Metal (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.

Prepare surfaces using SSPC-SP1 Solvent Cleaning and SSPC-SP12/NACE No.5 Low Pressure Water Cleaning or with MCU-Ecocleaner to remove surface contamination.

Supplement weathered galvanised surface preparation with SSPC-SP2 and SSPC-SP3/ISO 8501-1 (St2) Hand and Power tool cleaning to remove excessive corrosion and create a surface profile.

Supplement new galvanised surface cleaning with either MCU-Ecocleaner or 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) or with MCU-Degreaser®.

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 the 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.

**Best Practice**

MCU-Mastic® 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 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-Mastic® 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:	0.33 - 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.