

Product and technology description

Single component, moisture cured polyurea, Micaceous Iron Oxide (MIO) filled intermediate and finish coating for non-UV exposure for new construction and maintenance projects that provides outstanding barrier performance when used for atmospheric exposures, areas under immersion, splash zones and with permanent condensation. It can also be applied as a topcoat on new construction and maintenance projects that do not require UV protection. MCU-MIOMASTIC is available in light grey colours to facilitate interior tank inspections. MCU-MIOMASTIC is also used to encapsulate red lead and as a standard primer on non-ferrous and concrete substrates. It is ideal for use as a tie coat over most existing coatings.

Technology features

Applies in 6 % to 99 % relative humidity
Applies to damp substrates
Resistant to moisture within 45 min. of application
Cures fast, even at -20 °C
1 component
No potlife
No induction time
Resist operation temperatures up to 145 °C

Superior adhesion to various substrates
No recoat time limit
No short or long term cracking
Higher chemical resistance
High resistance to blistering
Excellent abrasion resistance
Compatible with most conventional coatings
Suitable for maintenance and new construction

Areas of use

Substrates

Ferro
Non-ferro
Concrete
Metalized
Galvanised
Aluminium
Stainless steel surfaces
Previously existing coating
GRP

Possibles uses

Ballast Tanks
Bridges
Structural Steel
Tanks interiors
Work Boats
Offshore Platforms
Marine/Port Facilities
Material Handling Equipment
Refineries
Pulp and Paper Mills
Pipes
Chemical Processing Facilities
Floors
Hydropower Facilities, Oil and Gas, Energy
Water and Wastewater Treatment Facilities

Specificacions

Resine type: Aromatic Polyurea
Pigment type: Micaceous Iron Oxide (MIO)
Sheen: Matt
Colours: Light and dark grey
Volumem solidas: 63.0% ± 2.0
VOC: 330 g/l (2.08 lb/gal)

Theoretical coverage: 25 µm DFT: 25,2 m²/L
1 mil DFT: 1026 ft²/gal

Recommended film thickness

Wet: 120 - 238 µm (4.7 - 9.3 mils)-not thinned
Dry: 75 - 150 µm (3.0 - 5.9 mils)

Performance test data

Adhesion (ASTM D4541): 14 MPa (2030 PSI)
Impact (ASTM 2794): direct 160; reverse 25
Prohesion (ASTM G85 5000 hours): scribe rate 9.5; blistering: none
Dry heat resistance: continuous 145 °C (293 °F)
Salt Spray (ASTM B117): +10.000 h (several systems)
Test Norsok M-501 several systems: Passes (2 and 3 layers systems)
ISO 12944 C5M high and C5I high: Passes (2 and 3 layers systems).

Shipping information

Packaging size: 15 litres
Shelf life: 15 months from date of shipment when stored unopened between -5 °C and 35 °C in a dry cool place
Density: 1.64 ± 0.12 kg/L
Flash point: 25 °C (77 °F)
UN Proper Shipping Name: UN 1263, PAINT, Class 3, Packaging Group III

Drying times and temperatures

Temperatures RH at 60% *	Tack free		Recoat minimum		Full cured	
	<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 (-4 °F)	20 hours		48 hours	10 hours		
-10 °C (14 °F)	15 hours		24 hours	6 hours		
0 °C (32 °F)	7 hours		12 hours	1,5 hour		
10 °C (50 °F)	30 minutes		4 hours	1 hour	10 days	
25 °C (77 °F)	10 minutes		3 hours	45 minutes	7 days	
40 °C (104 °F)	10 minutes		3 hours	45 minutes	5 days	

Refer to MCU-Quickcure Product Data Sheet for additional information

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

Surface preparation

Non-UV Exposures Ferrous Metal

Use SSPC-SP1 solvent cleaning to remove contaminants prior to employing surface preparation methods.

Blast Clean surfaces for immersion or severe service projects to SSPC-SP10/NACE No. 2 Near White Metal finish.

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 25-51 µm (1.0 - 2.0 mils).

Aluminum/Galvanized/Non-Ferrous Metals

Prepare surfaces using SSPC-SP1 Solvent Cleaning and SSPC-SP12/NACE No.5 Low Pressure Water Cleaning methods to remove surface contamination. Supplement weathered galvanized 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 galvanized surface cleaning with mechanical abrasion to impart surface profile and support mechanical adhesion.

Concrete/Concrete Block

The surface must be 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 - 14 days cure time for new concrete prior to preparation and application.

Previously 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 and 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 waterjetting to WJ 4. Spot prime clean, bare metal with MCU-Coatings recommended primer. Sand glossy surfaces to provide profile. Apply a test sample to a small area to determine coating compatibility.

Good Practices

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 5 °F (3 °C) above the dew point before opening and agitating. Power mix thoroughly prior to application. **Do not keep under constant agitation.**

Apply a 3-6 oz (9-18 cl) solvent float over material to prevent moisture intrusion and cover pail.

Reducer

Typically not required. If necessary, thin up to 10% with **recommended thinner of MCU-Coatings**. See technical data sheet MCU-Thinners for additional information.

Brush/Roller

Brush:	Natural Fiber
Roller:	Natural or synthetic fiber cover
Nap:	1/4" to 3/8"
Core:	Phenolic

Airless Spray

Pump Ratio:	28-40:1
Pressure:	2400-2800 psi
Hose:	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:	45-75 lbs.
Fluid Pressure:	15-20 lbs.
Hose:	½" ID; 50' Max

Warranty

MCU-Coatings warrants its products to be free from defects in materials. MCU-Coatings's sole obligation and Buyer's exclusive remedy in connection with the products shall be limited at MCU-Coatings's option to either replacement of products not conforming with this warranty or to credit the Buyer's account 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.

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 give rise to the claim. In no event shall MCU-Coatings be liable for consequential or incidental damages. Published Product Data Sheets are subject to change without notice. Contact your MCU-Coatings Representative for current Product Data Sheets.

Clean up

MCU-Thinner, MCU-Thinner 25 and MCU-Thinner 50. If MCU-Coatings thinners are not available, use MEK, MIBK, Xylene, a 50:50 blend of Xylene and MEK or MIBK, or acetone for clean up only. Do not add unauthorized solvents to a coating of MCU-Coatings.

Application Conditions

Temperature: -20 °C to 75 °C (-4 °F to 167 °F)

This temperature range should be achieved for ambient, surface and material temperature. Substrate must be visibly dry.

Relative Humidity: 6% to 99%*

MCU-Quickcure is advised when relative humidities are below 40%

Coating Accelerator: MCU-Quickcure. See MCU-Quickcure Product Data for information.

Storage

Store off the ground in a dry, protected area in temperature between -5 °C to 35 °C (23 °F to 95 °F). Containers must be kept sealed when not in use. Use a solvent float to reseal partial containers.

Safety precautions

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

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