MCU MIOTOPCOAT

Product and technology description

Single component moisture curing polyurea coating.
MCU-Miotopcoat is a Micaceous Iron Oxide (MIO), aliphatic, matte-finish topcoat. It provides superior resistance to UV, weathering, atmospheric chemicals and abrasion. The MIO in this topcoat gives outstanding barrier protection and reinforces its film strenght, enhacing its inter and intra-coat adhesion properties. MCU-Miotopcoat effectively exceeds typical coating system service life while retaining its aesthetic appearance, even in harsh enviroments.
For service under splash zone and areas with permament condensation use MCU-Miotopcoat (NS).

Technology features

Applies in 6 % to 99 % relative humidity.
Resistant to moisture within 30 min. of application.
Cures fast, even at -20 °C.
1 component.
No pot life.
No induction time.
Superior adhesion to various substrates.
No recoat time limitation.
No short or long term cracking.
High chemical resistance.
High resistance to blistering.
Excellent abrasion resistance.
Compatible with most conventional coatings.
Suitable for maintenance and new construction.

Area of use

Substrates
Ferro
Non-ferro
Metalized
Galvanised
Aluminium
Stainless steel surfaces
Previously existing coating
Mild steel
Cast iron
GRP
New Wood

Possible uses
Bridges
Structural Steel
Work Boats
Offshore Platforms
Marine/Port Facilities
Material Handling Equipment
Refineries
Pulp and Paper Mills
Pipes
Chemical Processing Facilities
Floors
Hydropower Facilities
Water and Wastewater Treatment Facilities

Specifications

Resin type:	Aliphatic urethane
Pigment type:	Coloring
Sheen:	Matt
Colours:	Standard colours
Volume solids:	62.0% ± 2.0
VOC:	<2.8 lb/gal (340 g/l)

Theoretical coverage:	25 µm DFT: 24.8 m^2/L 1 mil DFT: 1010 ft^2/gal

Recommended film thickness
Wet: 80 - 160 µm (3.1 - 6.3 mils)-not thinned
Dry: 50 - 100 µm (2.0 - 4.0 mils)

For thinning use only MCU-Thinners of MCU-Coatings.

Performance test data

Adhesion (ASTM D4541):	>15 MPa (2175 PSI)
Abrasion resistance (ASTM D4060):	CS17 wheel 1000 cycles/kg,135 mg loss
Impact (ASTM 2794):	direct 160; reverse 20
Prohesion (ASTM G85 5000 hours):	scribe rate 9.5; blistering: none
Dry heat resistance:	continous 145 ºC (293 ºF)
Salt Spray (ASTM B117):	+10.000 h (several systems)
Test Norsok M-501:	Passes
ISO 12944 C5M and C5I:	Passes

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Drying times and temperatures

Temperatures RH at 60 % *	Tack free	Recoat minimum	Full cured	
-20 °C / - 4 °F	20 hours	72 hours	---	***without*** *MCU-Quickcure*
	---	12 hours	---	*with MCU-Quickcure*
-10 °C / 14 °F	15 hours	24 hours	---	***without*** *MCU-Quickcure*
	---	8 hours	---	*with MCU-Quickcure*
0 °C / 32 °F	7 hours	18 hours	---	***without*** *MCU-Quickcure*
	---	2 hours	---	*with MCU-Quickcure*
10 °C / 50 °F	30 min	10 hours	10 days	***without*** *MCU-Quickcure*
	---	1,5 hour	---	*with MCU-Quickcure*
25 °C / 77 °F	10 min	5 hours	7 days	***without*** *MCU-Quickcure*
	---	45 min	---	*with MCU-Quickcure*
40 °C / 14 °F	10 min	3 hours	5 days	***without*** *MCU-Quickcure*
	---	30 min	---	*with MCU-Quickcure*

Refer to MCU-Quickcure Product Data Sheet for addional information

* Humidity, temperature and coating thickness will affect drying and curing times

Surface preparation

Ferrous Metal

Apply to clean, dry, recommended primers of MCU-Coatings. Refer to the primer Product Data for additional information.

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 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 the recommended primer of MCU-Coatings. 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-SP 12 LPWC with SSPC-SP1 Solvent Cleaning and SSPC-SP 2 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-Miotopcoat 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 compatibility. Spot prime any areas cleaned to bare metal with a MCU-Coatings' recommended 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 defects exposed by surface preparation 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.

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Application information

MCU-Miotopcoat 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 (5 °F) 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.

Brush/Roller

Brush:	Natural Fiber
Roller:	Natural or synthetic fiber cover
Nap:	1/4" to 3/8"
Core:	Phenolic
Reduction:	Typically not required. If necessary, reduce with recommended thinner of MCU-Coatings.

Airless Spray

Pump Ratio:	28-40:1
Pressure:	2100-2800 psi (145-200 Bar)
Hose:	1/4" to 3/8"
Tip Size:	.011-.021''
Filter Size:	60 mesh (250 µm)
Reduction:	Typically not required. If necessary, reduce with recommended thinner of MCU-Coatings.

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
Reduction:	Typically not required. If necessary, reduce with recommended thinner of MCU-Coatings.

Reducer

MCU-Thinner, MCU-Thinner 25 and MCU-Thinner 50. Reduction is typically not required. If necessary, thin up to 10% with recommended thinner of MCU-Coatings. See MCU-Thinner Product Data Sheet for additional information.

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 MCU-Coatings coating.

Application Conditions

Temperature: -20 °C to 50 °C (-4 °F to 122 °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 4 °C to 25 °C (40 °F to 77 °F). Containers must be kept sealed when not in use. Use a solvent float to reseal partial containers.

Ordering and shipping information

Packaging size:	15 litre
Shelf life:	12 months from date of shipment when stored unopened at 25 °C (77 °F)
Flash point:	23 °C (73 °F)
Density:	1.45 ± 0.20 kg/L (12.09 ± 1.0 lb/gal)

UN No.:	1263
Proper Shipping Name:	PAINT
Class:	3
Packaging Group:	III

Safety precautions

This product is for industrial use only.

WARNING: Vapour and spray mist is harmful. Use an approved respirator when applying this product. Protect skin and eyes from contact. Consult the Material Safety Data Sheet for further recomendations.

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.
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 requisite skill and know-how in the industry, and therefore it is for Buyer to satisfy itself of the suitability of the products for its own particular use and it shall be deemed that Buyer has done so at its sole discretion and risk. Variation 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 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.