

MCU MIOZINC[®] (NS)

Product and technology description

For service under immersion, splash zone and areas with permanent condensation, use MCU-Miozinc (NS).

Single component moisture cure polyurea primer, combining Zinc and Micaceous Iron Oxide (MIO) into our proprietary blend moisture cured resin. This primer is designed for outstanding protection of steel from corrosion in high humidity climates. The properties of the resin, high quality zinc and lamellar MIO, makes MCU-Miozinc (NS) the perfect primer that provides both barrier and galvanic protection simultaneously. In addition, MCU-Miozinc (NS) enhances superior abrasion & impact resistance with long term flexibility and prevents the penetration of moisture and other corrosive agent into the steel surface. MCU-Miozinc (NS) is proven more surface tolerant than any epoxy mastic coatings, and outperform inorganic zinc primers. It is a suitable universal primer for epoxy, PU and alkyd conventional coatings. It is excellent to be used for spot primer, overcoating and overlapping on existing coatings. Different than other zinc rich coatings MCU-Miozinc (NS) will not crack with high DFT's or blister when applied on surfaces with a low roughness profile.

Technology features

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

Suitable for maintenance and new construction.
Recommended for UHP WJ, power tool cleaning, dry/wet blasting.
Excellent performance to minimal surface preparation.
Tolerates flash rusting.
Good flow into pitting.
Higher tolerance to salts & chlorides.
No maximum recoat-window.
Wide DFT tolerance - up to 250 DFT acceptable.
Over-coatable by itself, intermediates or topcoats directly in 2 coat systems.
Recommended for immersion and atmospheric exposure.
VOC compliant.

Area of use

Substrates

Carbon steel - Cast Iron
Previously existing coating
Overlapping/touch up:
-Non-ferro
-Metalized
-Galvanised
-Aluminium

Possible 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
Water and Wastewater Treatment Facilities

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Specifications

Resin type: aromatic urethane
Pigment type: zinc & micaceous iron oxide
Sheen: flat
Colours: blue & purple
Volume solids: 62.0% ± 2.0
VOC: 328 g/L (2.7 lb/gal)

Theoretical coverage: 25 µm DFT: 24.4 m²/L
 1 mil DFT: 994 ft²/gal

Recommended film thickness

Wet: 120 - 240 µm (4.8 - 9.5 mils)-not thinned
Dry: 75 - 150 µm (3.0 - 6.0 mils)

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

Drying times and temperatures

Temperatures RH at 60 % *	Tack free	Recoat minimum	Full cured	
-20 °C / - 4 °F	20 hours	48 hours	---	without MCU-Quickcure
	---	10 hours	---	with MCU-Quickcure
-10 °C / 14 °F	15 hours	20 hours	---	without MCU-Quickcure
	---	4 hours	---	with MCU-Quickcure
0 °C / 32 °F	7 hours	12 hours	---	without MCU-Quickcure
	---	1,5 hour	---	with MCU-Quickcure
10 °C / 50 °F	30 min	4 hours	10 days	without MCU-Quickcure
	---	45 min	---	with MCU-Quickcure
25 °C / 77 °F	10 hours	3 hours	7 days	without MCU-Quickcure
	---	30 min	---	with MCU-Quickcure
40 °C / 14 °F	10 min	30 min	5 days	without MCU-Quickcure
	---	30 min	---	with MCU-Quickcure

Refer to MCU-Quickcure Product Data Sheet for additional information

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

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 °C (293 °F)
 Salt Spray (ASTM B117): +10.000 h (several systems)
 Test Norsok M-501 several systems: Passes
 ISO 12944 C5M high and C5I high: Passes in 2 layer system and 3 layer system

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Surface preparation

Ferrous Metal

Use SSPC-SP1 solvent cleaning to remove oil and grease or other contaminants prior to employing surface preparation methods. Blast Clean surfaces for immersion or severe service projects by ISO 8504-2 methods to ISO 8501-1 SA 2.5 or SSPC-SP10/NACE No. 2 (visual standard SSPC vis 1) Near White Metal finish OR by SSPC 12/Nace 5.0 High or Ultra High Pressure water jetting methods to WJ 2 M (visual standard SSPC vis 4/Nace vis 7) very thorough cleaning finish (not applicable for new steel) OR by SSPC-TR2/Nace 6G198 Wet abrasive blast cleaning methods to WAB 10 M (visual standard SSPC vis 5/Nace vis 9) Wet near white metal blast clean finish. Consult your MCU-Coatings representative for minimal surface preparation.

Prepare surfaces for non-immersion or atmospheric service projects by ISO 8504-2 methods to ISO 8501-1 SA 2 or SSPC-SP6/NACE No. 3 (visual standard SSPC vis 1) Commercial Blast Clean finish OR by SSP 12/Nace 5.0 High or Ultra High pressure water jetting methods to WJ 4 M (visual standard SSPC vis 4/Nace vis 7) OR by SSPC-TR2/Nace 6G198 Wet abrasive blast cleaning methods to WAB 6 M (visual standard SSPC vis 5/Nace vis 9) Wet commercial blast clean finish.

For minimum surface preparation, use conscientious hand and power tool cleaning methods in accordance with ISO 8504-3 or SSPC-SP 2 and 3 to remove corrosion and loose or failing paint to ISO 8501-1 St 2 or SSPC-SP 2 and 3 (visual standard SSPC vis 3). Feather-edges of sound, existing paint back to a firm edge.

Blast cleaning methods should produce a surface profile of 25-50 µm (1.0 - 2.0 mils).

Corten Steel

Prepare surfaces using SSPC-SP12/NACE No. 5 Low Pressure Water Cleaning methods. Supplement SSPC-SP 12 LPWC with ISO 8501-1 St 2 (SSPC-SP 2 or 3) hand or power tool cleaning where areas show excessive corrosion. Use SSPC-SP1 solvent cleaning to remove oil and grease prior to surface preparation methods.

Galvanized Metal

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. Supplement new galvanized surface cleaning with mechanical abrasion to impart surface profile and support mechanical adhesion.

Good Practices

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.

Areas of oxidation after surface preparation and prior to coating application, should be prepared to specified standard

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

Application information

MCU-Miozinc (NS) 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: 2400-2800 psi (170-200 bar)
Hose: 1/4" to 3/8"
Tip Size: .015-.023"
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: 1/2" 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.

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Application information

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 %*

*Use of MCU-Quickcure might be advised when relative humidity is 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 to 25 °C (40 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:	10 litre
Shelf life:	12 months from date of shipment when stored unopened at 24 °C (75 °F).
Flash point:	23 °C (73 °F)
Density:	2.45 ± 0.12 kg/L (20.44 lb/gal US)
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.

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

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.