

## Product and technology description

MCU-ALUPRIME is a single component moisture cure polyurea coating, based on aluminium pigments. It is a primer for ferrous and non-ferrous metal substrates with outstanding barrier protection against corrosive elements. MCU-ALUPRIME can be used as surface tolerant primer, intermediate or finish coat as well for atmospheric as in immersion-, splash zone areas. MCU-ALUPRIME has unmatched adhesion and wetting characteristics to marginally prepared surfaces. It is ideal for use as a tie coat over most existing coatings and can be used in red lead encapsulation systems.

## Technology features

Applies in 6 % to 99 % relative humidity  
Cures fast, even at -20 °C  
1 component  
No pot life  
No induction time  
Superior adhesion to various substrates  
No short or long term cracking

High chemical resistance  
High resistance to blistering  
Excellent abrasion resistance  
Good flow into pitting  
Compatible with most conventional and old coatings  
Suitable for maintenance and new construction  
Resist operation temperatures up to 145 °C

## Area of use

### Substrates

Carbon steel- cast iron  
Previously existing coating  
Overlapping/touch up:  
• Non-ferro  
• Metalized  
• Galvanised  
• Aluminium  
• Copper, brass  
• GRP  
• Concrete

### Possible uses

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

## Specifications

**Resin type:** Aromatic polyurea  
**Pigment type:** Aluminium  
**Sheen:** Medium gloss  
**Colours:** Aluminium  
**Volume solids:** 63.0% ± 2.0  
**VOC:** 324 g/L

**Theoretical coverage:** 25 µm DFT: 25,2 m<sup>2</sup>/L  
1 mil DFT: 1027 ft<sup>2</sup>/gal

### recommended film thickness

**Wet:** 80 - 120 µm (3.1 - 4.7 mils)-not thinned  
**Dry:** 50 - 75 µm (2.0 - 3.0 mils)

### Performance test data

Adhesion (ASTM D4541): >19 MPa (2755 PSI).  
Impact (ASTM 2794): direct 175; reverse 30.  
Prohesion (ASTM G85 5000 hours): scribe rate 9.5; blistering: none.  
Dry heat resistance: continuous 145 °C (293 °F).  
Salt Spray (ASTM B117): +4.500 h (several systems).  
Norsok M-501 system 1 and 3: Passes  
ISO 12944 C5M and C5I: Passes

## Shipping information

**Packaging size:** 15 litres  
**Shelf life:** 15 months from date of shipment when stored unopened at 30 °C (86 °F)  
**Density:** 1.08 ± 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 & maximum		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		72 & 96 hours	12 & 24 hours		
-10 °C (14 °F)	15 hours		24 & 48 hours	8 & 24 hours		
0 °C (32 °F)	7 hours		18 & 48 hours	2 & 24 hours		
10 °C (50 °F)	30 minutes		10 & 24 hours	1,5 & 24 hours	10 days	
25 °C (77 °F)	10 minutes		5 & 24 hours	45 minutes & 24 hours	7 days	
40 °C (104 °F)	10 minutes		3 & 24 hours	30 minutes & 24 hours	5 days	

Refer to MCU-Quickcure Product Data Sheet for additional information  
 \* Humidity, temperature and coating thickness will affect drying and curing times

## 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 SSPC-SP10/NACE No. 2 (ISO Sa 2.5) Near-White Blast Cleaning, visual standard SSPC vis 1, or by SSPC-SP12/NACE No. 5 high- and Ultra High Pressure Water Jetting to WJ 2M, 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 10M, visual standard SSPC vis 5/NACE vis 9 Wet near white metal blast clean finish.

Prepare surfaces for non-immersion or atmospheric service projects by ISO 8504-2 methods to SSPC-SP6/NACE No. 3 (ISO Sa2) Commercial Blast Cleaning, visual standard SSPC vis 1, or by SSPC-SP12/NACE No. 5 high- and Ultra High Pressure Water Jetting 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 6M, 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 SSPC-SP2 and SSPC-SP3 (ISO St2 or St3) Hand Tool Cleaning, visual standard SSPC vis 3 to remove corrosion, loose or failing paint to St2 or St3. Feather-edges of sound, existing paint back to a firm edge. Consult your MCU-Coatings Representative for additional information.

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 8504-3/SSPC-SP2 or SSPC-SP3 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 ISO 8504-3/SSPC-SP2 and SSPC-SP3 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 reference standards, SSPC-PA1 and your MCU-Coatings Representative for additional information and/or recommendations.

## Application information

MCU-ALUPRIME 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:	1800-2000 psi
Hose:	1/4" to 3/8"
Tip Size:	0.011" to 0.015"
Filter Size:	60 mesh (250 µm)

### Conventional Spray

Fluid Nozzle:	E Fluid Tip
Air Cap:	704 or 765
Atomizing Air:	45-75 lbs. (20-34 kg)
Fluid Pressure:	15-20 lbs. (7-9 kg)
Hose:	1/2" 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.

### 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 4 °C to 30 °C (40 °F to 86 °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.

## 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.