# MCU ALUPRIME® (NS)

## Product and technology description

MCU-Aluprime (NS) 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 (NS) can be used as surface tolerant primer, intermediate or finish coat as well for atmospheric as in immersion-, splash zone or areas with permanent condensation. MCU-Aluprime (NS) 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.
Applies to damp substrates.
Resistant to moisture within 45 min. of application.
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.

## 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 urethane |
| ***Pigment type:*** | Aluminium |
| ***Sheen:*** | Medium gloss |
| ***Colours:*** | Aluminium |
| ***Volume solids:*** | 63.0% ± 2.0 |
| ***VOC:*** | <332 g/L |

***Theoretical coverage:*** 25 µm DFT: 25,2 $m^2$/L
1 mil DFT: 1027 $ft^2$/gal

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

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

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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

## Performance test data

| | |
|---|---|
| Adhesion (ASTM D4541): | >19 MPa (2755 PSI) |
| Abrasion resistance (ASTM D4060): | CS17 wheel 1000 cycles/kg, 95 mg loss |
| Impact (ASTM 2794): | direct 175; reverse 30 |
| Prohesion (ASTM G85 5000 hours): | scribe rate 9.5; blistering: none |
| Dry heat resistance: | continous 145 °C (293 °F) |
| Salt Spray (ASTM B117): | +4.500 h (several systems) |
| Test Norsok M-501 system 1 and 3: | Passes |
| ISO 12944 C5M and C5I: | Passes |

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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 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 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 SSPC 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 St2 (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 ISO 8501-1 St 2 (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-Aluprime (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 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.

### 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: | 1800-2000 psi (125-140 bar) |
| Hose: | 1/4" to 3/8" |
| Tip Size: | .011-.015'' |
| 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. (20-34 kg) |
| Fluid Pressure: | 15-20 lbs. (7-9 kg) |
| 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.

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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%-99%***
MCU-Quickcure is advised when relatives 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 - 25 °C (40 °F - 77 °F). Containers must be kept sealed when not in use. Use a solvent float to reseal partial containers.

## Ordering and shipping information

| | |
|---|---|
| ***Standard Packaging size:*** | 15 and 20 litres |
| ***Shelf life:*** | 12 months from date of shipment when stored unopened at 25 °C (77 °F) |
| ***Flash point:*** | 23 °C (73 °F) |
| ***Density:*** | 1.12 ± 0.12 kg/L (9.53 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 for further recommendations..

## 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.