

Product and Technology Description

MCU-Clearcoat® is a single component, moisture cure urethane coating. It is a transparent, aliphatic topcoat with a high gloss finish that provides excellent UV, weathering and abrasion resistance. Its moisture cured properties allow for application in various service environments and substrates. It is extremely durable and adheres to most surfaces and existing coatings.

Technology Features

1 component – minimal preparation and no pot-life limitations
 Can be applied in 6 % to 99 % relative humidity
 Dew point restrictions do not apply, or affect durability
 Cures quickly, even at -20 °C, 45 minute recoat possible
 Can be applied at ambient temp. to 50°C & steel to 75°C
 High surface tolerance
 Exceptional corrosion resistance
 Excellent abrasion resistance
 Good chemical resistance
 Superior Flexibility - No cracking, flaking or peeling
 Moisture resistant after 30 minutes
 Typical service temperatures -45°C to 145°C *

Excellent adhesion to most substrates and sound aged coatings
 UHP WJ, dry/wet blasting & power tool cleaning

Product Specific Features

Excellent wetting properties
 Suitable for immersion & atmospheric exposure
 Excellent impact resistance
 Anti-Carbonation system clearcoat

Areas of Use

Substrates

Ferrous – mild steel / cast iron
 Non-ferrous metals, stainless steel
 Wood
 FRP
 (and most sound old coatings)

Possible uses

High-gloss finishes on timber, concrete, steel
 Structural steel
 Aluminium vessels, pleasure craft
 Material handling equipment
 Concrete floors & structures - to seal and waterproof

Specifications

Resin type: Aliphatic urethane
 Pigment type: Clear
 Sheen: High-gloss
 Colour: Transparent
 Volume solids: 52%±2.0%
 VOC: 412 g/l

Theoretical coverage: 20.8 m²/l @35µm DFT

Recommended film thickness:

Wet: 48-77 µm
 Dry: 25-40 µm

Shipping Information

Shelf life: 15 months from date of manufacture if stored unopened between -5 °C & 30 °C in a cool, dry place
 Density: 1.0 ± 0.12 kg/l
 Flash point: 38.5 °C
 UN proper shipping name: UN 1263, PAINT, Class 3, Packaging Group III

Drying Times and Temperatures – 40µm DFT

Temperatures RH at 60% *	Tack free		Recoat minimum & maximum *		Full cure	
	without MCU-Quickcure	with MCU-Quickcure	without MCU-Quickcure	with MCU-Quickcure	without MCU-Quickcure	with MCU-Quickcure
10 °C	1.5 hours	1 hour	10 hours / 48 hours	1 hour / 48 hours	10 days	10 days
24 °C	45 minutes	30 minutes	5 hours / 48 hours	1 hour / 48 hours	7 days	7 days
35 °C	30 minutes	25 minutes	4 hours / 48 hours	45 Min / 48 hours	7 days	7 days

Refer to MCU-Quickcure® Technical Data Sheet for additional information

* 95% of cure is reached within the recoat time

* Best practice recoat time should be within 48hrs and prior to full cure time Abrade as required if past full cure. If in doubt conduct an adhesion test

* Humidity, temperature, and coating thickness >40µm DFT will affect drying and curing times

Surface Preparation

Ferrous Metal

Must use a MCU-Coatings® recommended primer when required.

In case of direct application to the substrate: apply MCU-Coatings® recommended primer to clean, dry surface. Refer to the Product Data for additional information.

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 the edges of sound, existing paint back to a firm edge. Consult your MCU-Coatings® Representative for additional information.

Blast cleaning methods should produce a minimum surface profile of 20-50 µm.

Aluminium / Galvanised / Non-Ferrous Metals

Only use a MCU-Coatings® recommended primer when required.

In case of direct application to the substrate: Prepare surfaces using SSPC-SP1 Solvent Cleaning and SSPC-SP12/NACE No.5 Low Pressure Water Cleaning methods to remove surface contamination.

Supplement weathered galvanised surface preparation SSPC-SP2 and SSPC-SP3 hand and power tool cleaning to remove excessive corrosion and create a surface profile on bare metal. Spot prime clean bare metal with MCU-Coatings® recommended primer.

Supplement new galvanised surface cleaning with mechanical abrasion to create a surface profile and support mechanical adhesion.

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.

Concrete/Concrete Block

Must use a MCU-Coatings® recommended sealer coat when required.

In case of direct application to the substrate: The surface must be dry, free of surface contaminants, and in sound condition. Grease and oil should be removed by ASTM D4258-83 (Re approved 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 create a sufficient surface profile for mechanical adhesion to occur. Ensure surface is thoroughly rinsed and dry prior to coating application. Allow a minimum 7 days cure time for new concrete prior to preparation and application (10 days in cold conditions).

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 water-jetting 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.

Best Practice

MCU-Clearcoat® is designed for application to a variety of primers and tightly adhering, sound existing coatings.

Apply a test sample to a small area to determine coating compatibility. Spot prime any areas cleaned to bare metal with 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.

Application Information

MCU-Clearcoat® can be applied by brush, roller, airless spray, pressure pot, and conventional spray methods. Follow proper mixing instructions before applying.

Thinner / Reducer

Typically not required. If necessary, thin up to 10% with a recommended MCU-Thinner®. See Technical Data Sheet for additional information.

Mixing

Power mix thoroughly prior to application. Do not keep under constant agitation.

If required, apply a solvent float over the material (approx. 2mm) to prevent moisture intrusion, then cover the can.

Brush/Roller

Brush:	Natural fibre
Roller:	Natural or synthetic fibre cover
Nap:	5 to 10 mm (higher nap, thicker coat)
Core:	Phenolic

Airless Spray

Pump Ratio:	28-40:1
Pressure:	165-193 bar (2400 – 2800 psi)
Hose:	5 to 10 mm (1/4" to 3/8")
Tip Size:	0.18 - 0.33mm (0.007-0.013in)
Filter Size:	60 mesh (250 µm)

Conventional Spray

Fluid Nozzle:	E Fluid Tip
Air Cap:	704 or 765
Atomizing Air:	3.1 - 5.2 bar
Fluid Pressure:	1 - 1.4 bar
Hose:	12mm ID; Max 16 metres

Warranty

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

Clean-up

MCU-Thinner®, MCU-Thinner® 25, and MCU-Thinner® 50. If MCU-Thinners are not available for cleaning up, use MEK, MIBK, Xylene, a 50:50 blend of Xylene and MEK or MIBK.

Do not add other solvents to MCU-Coatings® products.

Application

Temperature: - ambient temp. -20°C to 50°C & steel to 75°C

Substrate must be visibly dry.

* In extreme environments the resistance will diminish over time

Relative Humidity: 6% to 99%

MCU-Quickcure is advised when relative humidity is below 40%

Coating Accelerator:

See MCU-Quickcure Technical Data Sheet for information.

Storage

Store off the ground in a dry, protected area in temperature between -5 °C to 30 °C. Containers must be kept sealed when not in use. Use a solvent float to reseal partially used containers.

Safety Precautions

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

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 the requisite skill and know-how in the industry, and therefore the Buyer must satisfy itself as to the suitability of the products for their own particular use, and it shall be deemed that Buyer has done so at its sole discretion and risk. Variations 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 gave rise to the claim. In no event shall MCU-Coatings® be liable for consequential or incidental damages. Published Technical Data Sheets are subject to change without notice. Contact your MCU-Coatings® representative for the most up to date Technical Data Sheets.