

MCU SHIELDCOAT®

Product and Technology Description

Single component moisture cure polyurea coating. MCU-SHIELDCOAT is a high gloss aliphatic topcoat available in all custom colours. MCU-SHIELDCOAT has excellent colour retention, and UV, weathering, abrasion and impact resistance and outperforms 2 component polyurethane technology products.

Technology Features

1 component
No pot life limitations
No induction time restrictions
Applicable in 6 % to 99 % relative humidity
Cures quickly, even at -20 °C
Excellent adhesion to most substrates and old coatings
Moisture resistant after 30 minutes

No maximum recoat window
No cracking, flaking, or peeling
Good chemical resistance
High resistance to blistering
Excellent abrasion resistance
Suitable for use in temperatures up to 145 °C (in extreme environments the resistance will diminish over time)

Areas of Use

Substrates

Ferrous – mild steel / cast iron
Non-ferrous metals
Metallized coatings
Galvanised
Aluminium
Stainless steel
FRP
Wood

Possible uses

Yachts
Structural steel
Work boats / ships
Offshore platforms
Marine / port facilities
Material handling equipment
General industrial

(and most sound existing coatings)

Specifications

Resin type: Aliphatic polyurea
Pigment type: Colour agents
Sheen: High gloss
Colours: 3500 RAL colours
Volume solids: 60.0% ± 2.0%
VOC: 360 g/l

Theoretical coverage: 25 µm DFT: 24 m²/l

Recommended film thickness:

Wet: 83 - 117 µm -no thinners
Dry: 50 - 70 µm

Shipping Information

Packaging size: 15 litres
Shelf life: 15 months from date of manufacture if stored unopened between -5 °C and 30 °C in a dry cool place
Density: 1.07 ± 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

*at 60 % RH	10 °C		24 °C		35 °C	
	without MCU-Quickcure	with MCU-Quickcure	Without MCU-Quickcure	with MCU-Quickcure	Without MCU-Quickcure	with MCU-Quickcure
Tack free	1 hour	45 min	45 min	30 min	30 min	25 min
Recoat minimum	10 hours	1 hour	1 hour	45 min	45 min	30 min
Full cure	10 days	7 days	7 days	6 days	7 days	6 days

Refer to MCU-QUICKCURE Technical Data Sheet for additional information

*Humidity, temperature and coating thickness >100µm DFT will affect drying and curing times

Surface Preparation

Ferrous Metal

Must only use a MCU-Coatings recommended primer.

Apply MCU-Coatings recommended primers to clean, dry surfaces. Refer to the Technical Data Sheet for additional information.

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 the edges of sound, existing paint back to a firm edge.

Blast cleaning methods should produce a surface profile of 25-50 µm.

Aluminium/Galvanised/Non-Ferrous Metals

Must only use a MCU-Coatings recommended primer.

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-SP 2 and 3 hand and power tool cleaning to remove excessive corrosion and create a surface profile on the bare metal. Spot prime clean bare metal with the MCU-Coatings recommended primer. Supplement new galvanised surface cleaning with mechanical abrasion to create a surface profile to support mechanical adhesion.

Concrete/Concrete Block

Must only use a MCU-Coatings recommended sealer coat.

The surface must be touch 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 impart 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 create a profile. Apply a test sample to a small area to determine coating compatibility.

Best Practice

MCU-SHIELDCOAT is designed for application to a variety of primers and tightly adhering, 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-SHIELDCOAT 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 above the dew point before opening and agitating. Power mix thoroughly prior to application. Do not keep under constant agitation.

Apply an 85-170 ml solvent float over material to prevent moisture intrusion and cover the pail.

Reducer

Typically not required. If necessary, thin up to 10% with only with MCU-MCU-THINNERS. See Technical Data Sheet for additional information.

Brush/Roller

Brush:	Natural fibre
Roller:	Natural or synthetic fibre cover
Nap:	5 to 10 mm (high nap for thick application)
Core:	Phenolic

Airless Spray

Pump Ratio:	28-40:1
Pressure:	165 - 193 bar (2400 – 2800 psi)
Hose:	6 to 9 mm
Tip Size:	0.011-0.019
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

Clean-up

MCU-THINNER, MCU-THINNER 25 and MCU-THINNER 50. If MCU-Coatings thinner is not available, use MEK, MIBK, Xylene, a 50:50 blend of Xylene and MEK or MIBK, or even acetone for clean-up only. Do not add unauthorised solvents to MCU-Coatings.

Application Conditions

Temperature: -20 °C to 75 °C

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 humidity is below 30%.

Coating Accelerator: MCU-QUICKCURE. 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.

Warranty

MCU-Coatings warrants its products to be free from defects in materials. MCU-Coating's sole obligation, and Buyer's exclusive remedy in connection with the products, shall be limited, at MCU-Coating's 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,

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 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.