



Capability Statement

An introduction to the many advantages of MCU-Coatings®
corrosion protection systems

MCU-Coatings® is the only protective coatings producer worldwide that has achieved “+25 years to first maintenance durability in a C5 VH environment” in accordance with ISO 12944-6 internationally accepted test standards with a 2-coat, 225µm DFT coating applied on weathered steel plates with a St 3 power tool surface preparation

The same system has also been tested and certified in accordance with Norsok-M501 and SHELL DEP 30.48.00.31, F1.3 and F.1.2.a test standards

About MCU-Coatings®

Ahead of the pack

MCU-Coatings® distributes a range of revolutionary, moisture cured urethane, protective coatings. They are single component, quick drying and surface tolerant, and react with atmospheric moisture to form polyurea linkages that bond tenaciously to both steel and concrete substrates

Moisture-cured protective coatings are well known as a generic, applicator friendly, range of protective coatings that have been available for over thirty years. Since acquiring their initial formulations in 2000, MCU-Coatings® has continued to work with the inventor of the technology to systematically upgrade and develop their formulations

The company's success and rise to prominence in the protective coatings market is directly attributable to this process of continuous improvement, and willingness to take advantage of technological advancements. These developments are now helping to redefine the market's expectations of MCU-Coatings® revolutionary new technology

In the last 30 years MCU-Coatings® have been applied onto millions of m² of steel and concrete, including a myriad of large and specialty projects, over five thousand bridges, and hundreds of major hydro, marine, wastewater, offshore, petrochemical, pipeline and military projects all across the globe

Combine this real case history, with all the independent test evaluations that have been conducted pursuant to international testing standards, and obvious application efficiencies, it is little wonder that moisture cure coatings are now making substantial inroads in the protective coatings market

Applicators' Competitive Advantage

2-Coat Systems For All Seasons

- ✓ Moisture cured urethane coatings can be applied outdoors all year round
- ✓ Single component
- ✓ 15 month shelf life
- ✓ Apply in 6% - 99% humidity
- ✓ Apply in -20°C to 50°C ambient temperatures
- ✓ Brush, spray, roll
- ✓ High surface tolerance (requires a minimum 25µm profile)
- ✓ 45 minute recoat intervals possible
- ✓ Immersible after 30 minutes
- ✓ Do not crack, peel or flake
- ✓ Adhere tenaciously to existing coatings

Are applied much thinner than most other coating systems, usually around 225µm DFT, are low risk, and are ideal for ongoing maintenance works as they only require a St 3 mechanical surface preparation

Our first 2-coat 220µm DFT coating, with a Sa 2½ surface preparation, was certified to ISO 12944-6 C5 I & M H in 2014



The best way to make a lasting impression and reduce the average cost of maintenance 20% - 50%

Asset Owners

Reduce your average cost of maintenance by up to 80%*

Asset owners usually bear the cost of weather events, temperature limitations and service disruptions. However, moisture cured urethanes are weather tolerant and can be applied all year round, irrespective of most weather limitations

Furthermore, when you only have to apply two coats, and you have faster drying times and fewer weather delays, operational efficiencies improve and service disruptions are kept to a minimum, thereby ensuring assets are returned to service far sooner than other protective coating systems

It is also possible to apply multiple coats in a day, and to complete routine maintenance and repair activities overnight, or during a single shift, thereby minimising service disruptions

Our moisture cured urethane coatings are designed to pass the test of time:

- ✓ Do not crack or embrittle over time
- ✓ Outstanding long-term adhesion
- ✓ Non-porous, so they seal and protect
- ✓ High abrasion and impact resistance
- ✓ Good chemical resistance
- ✓ Excellent UV resistance
- ✓ Excellent colour retention
- ✓ Low application risk

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An undeniable value proposition

* AS/NZS 2312.1:2014, Table 6.3 indicates that traditional coatings applied in a C5 environment using a St 3 surface preparation are expected to last 2-5 years, which is at least 80% less than the expected useful life of MCU-Coatings® 2-coat system (as confirmed in independent laboratory tests)

Validated Technologies

Revolutionary results

MCU-Coatings[®] technologies have been extensively tested and evaluated in accredited laboratories in Europe and around the world, and every one of those laboratory tests and field evaluations (most of which have been in accordance with Norsok and Shell testing standards), have shown that MCU-Coatings[®] outperform traditional coatings

Some of the more recent test approvals on our thin-film coatings are summarised below:

System:	MCU-Zinc [®] + MCU-Miotopcoat [®]
DFT:	150+75µm (225µm certification*)
Substrate:	Rusted steel
Surface Prep:	St 3
Approval:	ISO 12944-6, C5 VH ("Very high" +25 year durability) SHELL DEP 30.48.00.31, F1.3 and F.1.2.a NORSOK M501 System

* 9 of the 10 panels tested had an average DFT of 228µm

System:	MCU-Miozinc [®] + MCU-Miotopcoat [®]
DFT:	150+75µm (225µm certification)
Substrate:	Rusted steel
Surface Prep:	St 3
Approval:	SHELL DEP 30.48.00.31, F1.3 and F.1.2.a

System:	MCU-Miozinc [®] + MCU-Miotopcoat [®]
DFT:	140+80µm (220µm certification)
Substrate:	New steel
Surface Prep:	Sa 2½
Approval:	ISO 12944-6, C5 I & M H

System:	MCU-Miozinc [®] + MCU-Miomastic [®] + MCU-Miotopcoat [®]
DFT:	100+100+90µm (290µm certification)
Substrate:	Rusted steel
Surface Prep:	St 3
Approval:	SHELL DEP 30.48.00.31, F1.3 and F.1.2.a NORSOK M501 System 1

System:	MCU-Miozinc [®] + MCU-Miomastic [®] + MCU-Miotopcoat [®]
DFT:	100+125+75µm (300µm certification)
Substrate:	New steel
Surface Prep:	Sa 3
Approval:	SHELL DEP 70.48.11.30, code FC1-N/M (new and maintenance) NORSOK M501 System 1

Numerous tests have also been carried out on our individual products, with our zinc primers having survived in excess of 10,000 hours of salt spray testing, without showing any significant corrosion creep or loss of adhesion (Note: most testing standards have a 600 - 1,000 hour benchmark because the testing is so destructive)

These remarkable results confirm that MCU-Coatings[®] are special, that they have outstanding adhesion, maintain their >25% elasticity, are not porous, are highly resilient, they withstand under-creep corrosion and are not prone to embrittlement or cracking

When viewed in combination with our published case studies there is now an extensive body of independent evidence that validates the effectiveness of the technology in diverse and extreme environments

Product Suite

Protection you can rely on

PRIMERS

MCU-ZINC®

Best in class, zinc rich primer with high surface and DFT tolerance. Versatile, easy to use, corrosion resistant primer. Tolerates damp surfaces and fast immersion. For any type of surface prep including UHP, dry, wet abrasive, power and hand tool

MCU-MIOZINC®

Industries best MIO + zinc filled primer. Good surface and DFT tolerance. Tolerates damp surfaces. For any type of surface prep including UHP, dry, wet abrasive, power and hand tool

MCU-ALUPRIME®

Penetrating sealer or primer. Use as a universal primer on minimal prepared surfaces. Also works well as an intermediate barrier coating

SPECIALTY PRODUCTS

MCU-INSULAT®

Highly effective thermal insulation coating up to 200°C. Reflects or emits over 90% of radiant energy, protects personnel from burn hazards, prevents condensation and corrosion under insulation (CUI). Can be applied with or without MCU-Coatings primers, and directly onto hot surfaces when carrying our essential maintenance

MCU-ECODEGREASER®

A pH neutral dispersant for the removals off stubborn oil, grease and petroleum. Suitable for most substrates, including textile fabrics

MCU-ECOCLEANER®

Single component, water-based gel to remove hydroxides, metal oxides, mill scale, green algae, humus, barnacles and limestone deposits on corroding ferrous metals. Can be used on steel, stainless steel, masonry, stone and polyester. Is environmentally friendly, non-flammable, non-toxic and biodegradable

INTERMEDIATES

MCU-MIOMASTIC®

MIO-filled mastic intermediate and functional non-UV finish coating. Best choice for over-coating old and lead based coatings. Also used as a standard primer for concrete

MCU-MASTIC®

Approved potable water coating. Smooth universal intermediate coating and functional (non-UV) topcoat. Use over MCUs zinc primers. Also used as a standard primer for concrete and as an anti-carbonation barrier coat

MCU-FERROGUARD®

MIO filled functional coating. Replaces coal tar epoxies. Immerse in one hour. Cold weather cure. Primarily used for marine, offshore, wastewater, hydro applications exposed to salt/fresh water or sewage treatment

ADDITIVES

MCU-QUICKCURE®

100% solids additive designed to accelerate the cure of MCU Coatings up to 10 times faster. Also improves film build and inter-coat adhesion

MCU-THINNER®

Paint thinner used for clean-up, diluting the product and creating a vapour barrier in the drum that prevents products from curing

TOPCOATS

MCU-TOPCOAT®

Semi-gloss, aliphatic coating. Outstanding colour, gloss retention and chemical resistance. Used extensively on offshore marine and industrial structures and with MCU-Coatings' anti-carbonation system

MCU-MIOTOPCOAT®

Limited to low gloss colours. Longer life than 2-component PUs. High resistance to chalking and peeling. Highly durable and used extensively on bridges, offshore, marine and industrial applications. MIO modification greatly extends a coating's life and allows easy overcoating years later

MCU-ALUTOPCOAT®

Aluminium filled urethane. Durable, abrasion and water-resistant. Used extensively to recoat galvanized coatings. High impact resistance

MCU-CLEARCOAT®

High sheen, aliphatic clear coating. Excellent chemical resistance. UV resistant clear topcoat for use on special projects

MCU-SHIELDCOAT®

High gloss, aliphatic topcoat. Outstanding colour gloss retention and chemical resistance. Used extensively on offshore marine and industrial structures

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The economic benefits from a 2-coat MCU-Coatings® system, which lasts +25 years in a C5 VH environment, are extraordinary. They are testament to the quality of this new advanced technology

Market Sectors

With our product range we've got you covered

Coatings have to withstand extreme weathering conditions. They also need to be easy to apply and maintain in different climates, which is yet one more reason why MCU-Coatings® stand apart in this crowded space. Now if we also told you that MCU-Coatings® are good at overcoating most existing paints and galvanised surfaces that would just make them even better. So no matter what industry or market sector, there is absolutely no excuse for not using the best, most efficient and most resilient corrosion protection products on the market because they will save you money, reduce your service disruption and protect your valuable assets - and that is guaranteed

Utility Providers

- ✓ Roads – bridges, tunnels and overpasses
- ✓ Rail – bridges, overpasses, stations and rolling stock
- ✓ Water and waste-water treatment plants and pipelines
- ✓ Electrical transmission towers
- ✓ Hydro electricity plants
- ✓ Thermal electricity facilities
- ✓ Wind farms
- ✓ Telecommunication assets

Oil & Gas

- ✓ Tank farms
- ✓ Offshore rigs
- ✓ Pipelines

Marine

- ✓ Wharves, jetties
- ✓ Cranes
- ✓ Ferries, ships and workboats
- ✓ Aluminium vessels
- ✓ Superyachts

Mining

Industrial equipment

Anti-Carbonation

Concrete floors, tanks, swimming pools

Asbestos and lead encapsulation



Environmental Statement

Zinc

Our moisture cured zinc primers last at up to 10 times longer than conventional coatings. Independent testing has shown that as an overcoating system our 225 µm DFT coating survives “+25 years to first maintenance in a C5 VH environment with a St 3 surface preparation”, whereas in the Corrosion Association AS/NZ 2312 Standard it estimates that comparable coating systems in C5 environments are only expected to last 2-5 years. Our MCU-Coatings environmental footprint is therefore as much as 90% lower than traditional ‘zinc-rich’ protective coatings

VOC's

Our moisture cured urethane coatings have a low VOC footprint and are compliant with European and Australian / NZ industry regulations. Whilst our moisture cured urethanes have between 63%-72% solids they are usually applied 25%-35% thinner than conventional 2-pack coatings. They also protect and last up to 10 times longer, which means that their environmental footprint is as much as 90% lower than traditional 2-component, high-build coatings

Even with sand-blast surface preparation, if you compare the products used on the Auckland and Sydney Harbour Bridges over the last 20 years they run on a recoat interval of 10 years. Conversely, the first iteration of our inventor's moisture cured urethane coating applied on the Astoria Megler Bridge in Oregon U.S. back in 1987, had less than 0.01% corrosion after 30 years

Health & Safety

Isocyanates

Our moisture cured urethane coatings contain minimal isocyanates - below acceptable safety standards and less than most 2-part polyurethanes and polyureas

Independent testing has detected only negligible isocyanate traces immediately after our products have been applied because the isocyanates are effectively pre-polymerized in the factory and are held in solution

Carcinogens

Though our products contain hazardous materials the occupational risks are at the lower end of the scale because the hazardous materials are premixed

In contrast to 2-part epoxies, polyurethanes and polyureas our products require minimal stirring on-site, are not heated prior to application and are touch-dry within minutes of being applied

Even so, our health and safety recommendation stipulates that all applicators must wear face mask respirators, overalls and gloves to guarantee that people who apply our products do not come into harm's way

In over 35 years of use MCU-Coatings® has not been made aware of any issues relating to occupational allergens, reactive diluents or volatile hardeners

Contact Us

Australia : 1800 325 041

New Zealand : +64 021 955 501

Email : info@mcu-coatings.com.au

Website : www.mcu-coatings.com.au

The Dream

Bill Brinton had a dream that he could make a protective coating that would last more than 50 years in a C5 environment. He spent years researching and analysing the reasons why protective coatings were failing before developing his own unique, moisture cured urethane formulations

When you take a closer look at the myriad of technical challenges associated with designing a protective coating it is only then that you see the totality of Bill's innovative solutions, and start to understand why he chose to use moisture cured urethanes for his resin backbone, and the simple elegance of his innovations

In 1986, soon after he commercialised his protective coatings business Bill secured a trial on the Astoria Megler bridge, conducted by the U.S. Federal Highways and Oregon Dept of Transportation, alongside 10 other 'best of breed' traditional coating systems. His moisture cured urethane was the only coating that displayed less than 0.01% corrosion after 6 months and within 6 years his coating system was being used on 60% of bridge maintenance projects in the U.S.A.

Bill spent 15 years manufacturing and commercialising his technology before selling his business outside of the U.S. to MCU-Coatings®. Interestingly, he then went back into the laboratory and was involved in MCU-Coatings® ongoing research and development for the next 20 years, to refine and improve his formulations. His work with MCU-Coatings® chemists resulted in the development of a new base resin and use of even better quality and more refined technologies

In 2019 these improvements culminated in an independent test of MCU-Coatings 2-coat, 225 µm coating (150 µm MCU-Zinc® and 75 µm MCU-Miotopcoat®), which achieved "+25 years to first maintenance in a C5 VH environment after being applied to weathered steel plates that had a St 3 (power tool) surface preparation. This was a huge step forward when you consider that traditional coatings, with the same surface preparation, are only expected to last 2-5 years

Interestingly, MCU-Coatings® zinc-based primers have now survived over 10,000 hours of salt spray testing. When you consider that the test requirement is only 4,200 hours to achieve '+25 years to first maintenance in a C5 VH environment, there is no reason to believe why the new generation of MCU Coatings® cannot last 40, or even 50 years!

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In 1999 Bill Brinton was quoted in the Seattle Times, "We came in with an automobile into the horse-and- buggy industry."



