

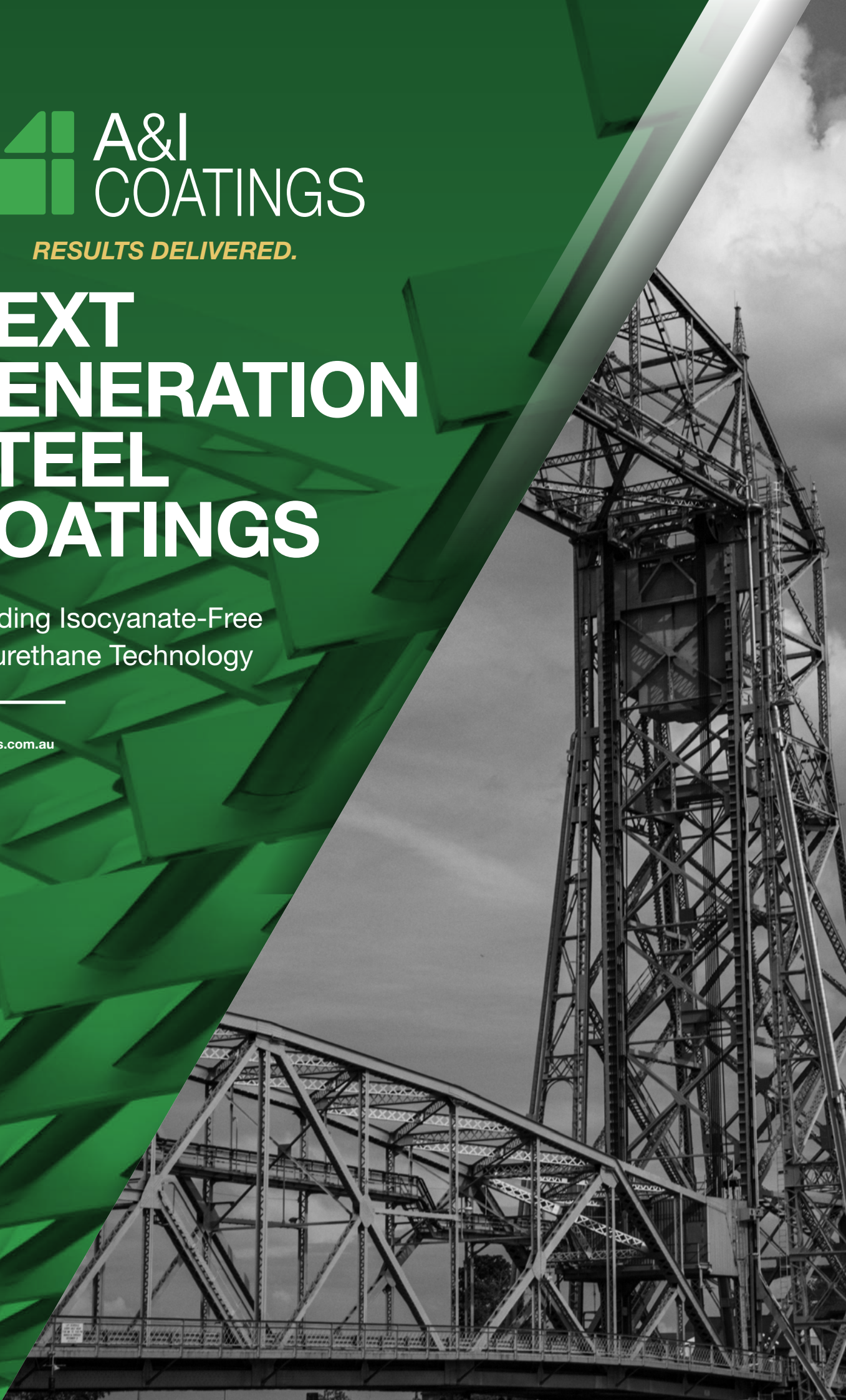


RESULTS DELIVERED.

NEXT GENERATION STEEL COATINGS

Including Isocyanate-Free
Polyurethane Technology

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Protecting Steel for Long-Term Performance

At A&I Coatings, we utilise proven three-coat systems designed for long-term protection in harsh industrial, marine, commercial, and infrastructure environments:

1. Zinc-Rich Primer

The first line of defence against corrosion. Zinc-rich primers provide sacrificial galvanic protection, meaning the zinc corrodes preferentially to protect the underlying steel. They also deliver excellent adhesion for subsequent coating layers.

2. Intermediate / Barrier Coat

Typically a surface-tolerant epoxy, this layer provides additional barrier protection, chemical resistance, and durability. It plays a vital role in enhancing the overall performance of the coating system.

3. High-Performance Topcoat

Finished with an isocyanate-free polyurethane or fluoropolymer coating, the topcoat provides UV resistance, colour and gloss retention, weatherability, chemical resistance, and long-term aesthetic appeal.

By combining the correct level of surface preparation with a high-performance coating system, steel structures can achieve exceptional durability, reduced maintenance costs, and reliable protection for decades to come. A&I Coatings partners with leading coating manufacturers to deliver solutions tailored to the environmental and performance demands of every project.



By following the recommendations outlined in this guide, selecting the appropriate surface preparation standard, and applying the correct coating system for the intended environment, asset owners can maximise coating performance, extend service life, and reduce long-term maintenance costs. A&I Coatings is committed to providing proven solutions and technical expertise to help ensure the best possible outcome for every project.

Atmospheric Corrosivity Categories Based on AS/NZS 2312.1:2014

Category	Corrosivity	Description*
C1	Very Low	Environments in this category are most commonly found inside heated or air-conditioned buildings with clean atmospheres, such as most commercial buildings. They may also be found in semi-sheltered locations remote from marine or industrial influence and in unheated or non-airconditioned buildings
C2	Low	Dry, rural areas and other regions remote from the coast or sources of pollution, and most areas of Australia and New Zealand beyond at least 50 km from the sea. Can extend as close as one kilometre from seas that are sheltered. Typical areas occur in arid and rural inland regions, most inland cities and towns, and suburbs of cities on sheltered bays.
C3	Medium	Coastal areas with low salinity. Varies significantly with factors such as winds, topography, and vegetation. Extends beyond about 50 m from the shoreline to about one kilometre inland around sheltered seas. For less sheltered bays, this category extends from 100 m from the shoreline to about 3 to 6 km inland.
C4	High	Coastal areas with moderate salinity. Extends from about 50 m to several kilometres inland around moderately sheltered seas. For less sheltered bays, this category extends from about 100 m to several kilometres inland. Typical areas occur in coastal cities and towns such as Sydney, Brisbane, Perth, and Auckland.

Atmospheric Corrosivity Categories Based on AS/NZS 2312.1:2014

Category	Corrosivity	Description
C5-I	Very High - Industrial	This classification can be located within highly active industrial zones, where the surroundings could be acidic, registering a pH below 5. Instances of dampness and/or contamination typically associated with Category C4 may occasionally overlap with this classification.
C5-M	Very High - Marine	Coastal areas with high salinity. Extends up to about 50 m inland around unsheltered seas or within surf zones. For less sheltered bays, this category extends up to about 100 m inland. Typical areas occur near beachfront and near chemical plants.
CX	Extreme	This classification is frequently observed in areas adjacent to coastal surf beaches, characterized by substantial salt accumulation or harsh acidic industrial settings.
T	Inland Tropical	The coastal regions of northern Queensland, the Northern Territory, northwestern Western Australia, Papua New Guinea, and the Pacific Islands are included, except for areas affected by salinity. Corrosiveness in inland areas typically remains low, akin to Category C2, yet the environment's propensity to degrade organic coatings implies reduced durability compared to Category C2.

Surface Preparation Standards Explained – SSPC/NACE & ISO 8501



Solvent Cleaning

SP 1 / ISO 8504

Loosely-adhering material: **100%**
Tightly-adhering material: **100%**
Stains, streaks, shadows: **100%**

SSPC-SP 1 focuses on removing surface contaminants such as oil, grease, dirt, and other materials that may interfere with coating adhesion. Cleaning is typically performed using solvents, detergents, steam, or similar methods. This standard is often the first step in surface preparation and is used before more intensive cleaning methods.



Brush Off

SP 7 / Nace #4 / Sa 1

aka Light Blast Cleaning, sweep blast
Loosely-adhering material: **0%**
Tightly-adhering material: **100%**
Stains, streaks, shadows: **100%**

SPC-SP 7 uses abrasive blasting to remove loose contaminants and create a surface profile for coating adhesion while leaving tightly adhered coatings, rust, and mill scale in place. It is primarily intended for maintenance coating projects where complete removal of existing materials is unnecessary. This approach provides a practical balance between surface preparation and project cost.



Industrial Blast Cleaning

SP 14 / Nace #8

Loosely-adhering material: **0%**
Tightly-adhering material: **10%**
Stains, streaks, shadows: **100%**

SSPC-SP 14 achieves a higher level of surface cleanliness than commercial blasting, while not being as demanding as near-white metal blasting. The process involve abrasive blasting the majority of rust, old coatings, mill scale, and other surface contaminants, leaving only small amounts of tightly adhered staining or discoloration. It is often selected for structures and equipment that require a durable coating system and improved long-term protection without the additional cost associated with more stringent blast cleaning standards.

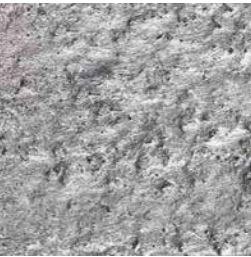


Commercial Blast Cleaning

SP 6 / Nace #3 / Sa 2

aka Thorough Blast Cleaning
Loosely-adhering material: **0%**
Tightly-adhering material: **0%**
Stains, streaks, shadows: **33%**

SSPC-SP 6 requires abrasive blasting to remove most rust, mill scale, and existing coatings. Minor discoloration or staining is permitted in limited areas, but the majority of the surface must be cleaned to bare metal. This standard is widely used for industrial structures and equipment where a high level of cleanliness is desired without the cost of white metal blasting.



Near White Blast Cleaning

SP 10 / Nace #2 / Sa 2.5

aka Very Thorough Blast Cleaning
Loosely-adhering material: **0%**
Tightly-adhering material: **0%**
Stains, streaks, shadows: **SP 10 5%, Sa 2 ½ 15%**

SSPC-SP 10 is an abrasive blasting standard designed to remove virtually all visible rust, mill scale, old coatings, and surface contamination from steel. The finished surface should be almost completely clean, with only minor traces of staining allowed in isolated areas. This level of preparation is commonly used when coatings must withstand harsh operating conditions and provide long-term corrosion protection. It offers an excellent balance between surface cleanliness, coating performance, and project cost.



White Metal Blast Cleaning

SP 5 / Nace #1 / Sa 3

aka Blast Clean to Visibly Clean Steel
Loosely-adhering material: **0%**
Tightly-adhering material: **0%**
Stains, streaks, shadows: **0%**

SSPC-SP 5 is the most stringent abrasive blast cleaning standard and requires the complete removal of all visible rust, mill scale, coatings, and surface contaminants. The finished surface should display a consistent metallic appearance with no visible staining. This level of cleanliness is typically specified for severe service environments where maximum coating performance is required.



V586 VITREZINC® Zinc-Rich Primer

A&I Coatings V586 VITREZINC® is a high-performance two-pack zinc-rich primer designed for blast-cleaned steel, providing excellent adhesion, abrasion resistance, and long-term corrosion protection. Its high zinc content delivers effective cathodic protection, helping safeguard steel in demanding industrial and infrastructure environments. Ideal for structural steel, power plants, refineries, mining operations, and transport applications, V586 forms the essential foundation of a durable coating system and can be overcoated with epoxy intermediate and polyurethane or fluoropolymer topcoats for maximum service life and asset protection.



V416 MIOX VITRESET® Epoxy Intermediate Coat

A&I Coatings V416 MIOX VITRESET® is a high-performance epoxy intermediate coating formulated with Micaceous Iron Oxide (MIO) to provide exceptional corrosion barrier protection and long-term durability. Designed as the critical middle layer in a multi-coat protective system, it enhances resistance to moisture ingress, environmental exposure, and normal substrate movement, helping to extend the service life of steel structures. Ideal for bridges, marine environments, chemical plants, water treatment facilities, factories, and industrial infrastructure, V416 MIOX delivers proven protection in demanding service conditions while meeting relevant Australian standards.



V419 VITRESET® Surface-Tolerant Epoxy Intermediate Coat

A&I Coatings V419 VITRESET® is a high-build, high-solids surface-tolerant epoxy coating designed to provide exceptional adhesion and long-term barrier protection for steel and concrete infrastructure. Acting as either a primer or intermediate coat within a heavy-duty protective system, V419 delivers outstanding resistance to water, oxygen, and aggressive environments, making it ideal for industrial, marine, wastewater, and chemical exposure conditions. When combined with a VITRETHANE® or VITREFLON® topcoat, V419 forms part of a highly durable coating system that extends asset life and reduces maintenance requirements.



V650IF VITRETHANE® Isocyanate-Free Polyurethane Topcoat

A&I Coatings V650IF VITRETHANE® is a premium two-pack, isocyanate-free polyurethane topcoat that delivers exceptional durability, weather resistance, colour retention, and brilliant gloss. Designed as a safer alternative to conventional polyurethane coatings, it offers excellent application properties, fast cure times, and long-term performance across a wide range of industrial, mining, transport, and structural steel applications. Australian made and compliant with AS3750.6 requirements, V650IF provides a high-quality, durable finish available in an unlimited range of colours.



V790 Vitreflon® Fluoropolymer FEVE Topcoat

A&I Coatings V790 Vitreflon® is a premium high-solids, two-pack fluoropolymer topcoat designed to deliver exceptional long-term protection and aesthetics for steel structures. Utilising advanced FEVE technology, it provides outstanding UV resistance, weatherability, colour and gloss retention, chemical resistance, and graffiti resistance, helping to reduce maintenance costs throughout the asset lifecycle. Ideal for bridges, facades, structural steel, chemical plants, and other high-value infrastructure, V790 forms the final protective layer in a high-performance coating system for lasting durability in demanding environments.



VITREGUARD 840 - Two Pack Polysiloxane Coating

A & I Coatings VITREGUARD 840 is a two- pack acrylic polysiloxane topcoat. This technology lowers the lifetime maintenance cost of coatings in a variety of environments, as it combines the benefits of epoxy corrosion resistance and 3rd generation polysiloxane technology, with the benefit of no isocyanate.



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