EonCoat V6.5 Coating
Technical Data Sheet – Maintenance & Preservation
AUS – Document Version 1- Last Updated May-2026

PRODUCT DESCRIPTION

Two components, non-toxic water based inorganic cementitious ceramic surface treatment. It's specifically developed for clients' maintenance operating in extreme ambient temperatures with severe atmospheric corrosive conditions, including some abrasive mining products (salt). This technology is immune to chlorides and designed to combat the chloride induced cracking risks in carbon steel rail lines by spraying over surfaces with reduced surface preparation including damp well bonded corrosion pitting (no oil contamination).

This technology is intended to provide at least 30 years of service. The cementitious layer serves as a phosphate reservoir, delivering phosphate ions to carbon steel during the coating's lifespan. It performs very effectively on surfaces prepared with UHP-water jetting, offering a notable cost and schedule savings.

Application parameters must be strictly followed by a trained and endorsed applicator.

INTENDED USES

Carbon steel and concrete, regularly used on uncoated aged steelwork to extend the corrosion resistance of structures, it is possible with reduced abrasive blasting or just HP water washing if the surface is suitable, new steel without a profile is not suitable. Recommended service temperature - (-155°C through 400°C) -250F to 750°F.

1. **Mining** & **storage tanks** maintenance situations, often reduced surface preparation (preservation) can be implemented.
2. **Marine - Bridge Structures** and Offshore Splash zone applications, including. Emergency walkways after UHP jetting.
3. **Hypersaline, industrial operational environments (wet)** where abrasive blasting or water jetting is difficult to perform.
4. **High temperature service environments**, ranging from -155°C to 400°C,
5. **Cementitious** work scopes re-bar reification.

EonCoat should not be applied to steel that is exposed to high pH (≥ pH 11.0). Acidic resistance topcoats maybe be considered.

Water washing (LPWW) between 3,500-5000psi to suitable cleaning and degreasing and high-pressure water washing (HPWW) from 5000 to 10,000psi are suitable to provide a tightly adherent bonded residue of rust. Previously hydrocarbon based contaminates will require a suitable water-based degreaser followed by low pressure water washing, high-pressure water-jetting (HPWJ) or ultra-high-pressure water-jetting (UHPWJ). Always remember EonCoat application is sensitive to surface contaminations like oils extra care should be taken for inspection for contamination inspection before application.

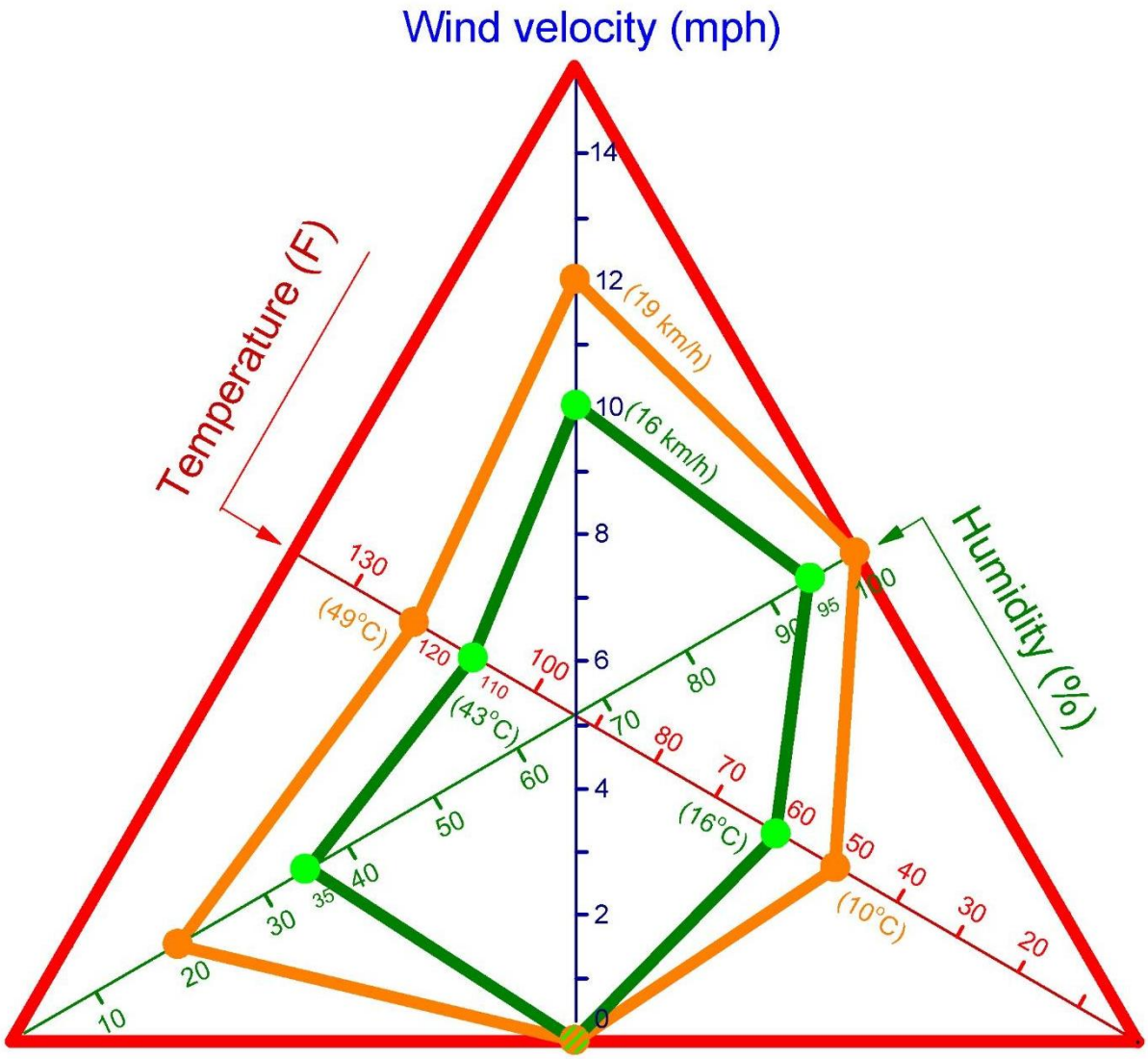
PRACTICAL INFORMATION FOR EONCOAT

Colour Gloss Level	White / Light Grey Flat
Volume Solids	95% ± 5%
Volume size of container's	Part A: ~9.46 liters (2.5 gallons) Part B: ~9.46 liters (2.5 gallons)
Ratio	1:1
Pot Life	Not Applicable (mixing at the gun during spraying)
Typical Thickness (DFT)	400 microns DFT (15.7 mils)
Theoretical Coverage	Theoretical Coverage: (~2.38 m^2/liter @ DFT of 400 micron) (96 ft^2/gallon @ 15.75 mils)
Practical Coverage	~2.38 m2/liter @ 400 micron with overspray loss factor to be calculated

	Method of Application		Cartridge Gun & Modified Plural Component Airless Spray (no brush application) supplied by www.ecoatech.com.au		
	Clean Up		Water only. Never use solvents.		
	Thinner		Do not thin.		
Drying Time	Temperature	Touch Dry	Recoating *(Itself)*	Hard Dry	Colour Top Coating*#
	10°C (50°F)	~4 min	10-15 min^	60 min	Indefinite
	25°C (77°F)	~3 min	8-10 min^	45 min	Indefinite
	38°C (100°F)	~2 min	5-8 min^	30 min	Indefinite
	**If required for safety, identification or cosmetic purposes.* *^Recommended to water mist prior to recoating itself.* *#Cured Eoncoat must be pressure washed at 3000 - 5000 psi before top coating and allowed to dry.*				
Regulatory Data	Flash point:		Not applicable		
	VOC:		Not applicable		
	Toxicity:		Not applicable 100% non-toxic		
	Product Weight:		20kg		
SURFACE PREPARATION	**GENERAL REQUIREMENTS** Compressed air shall be tested to ASTM D 4285 Standard Test Method for Indicating Oil or Water in Compressed Air. Oil traps should be regularly checked and at start and close of the work shift. Oil or grease shall be fully removed in accordance with SSPC-SP1 solvent cleaning but assessed by the ASTM F22 Water-Break test followed by using a White Rag wrapped around a medium stiffness scrubbing brush. The scrubbing brush bristles' flexibility will allow some access to pitted areas. An alkaline degreaser shall be used to solubilize the hydrocarbon based contaminates before employing LPWW (Min 3000 – 5000 PSI, HPWW, HPWJ, UHPWJ. Hot water washing at 3000 - 5000 PSI works well. Repeated application of the degreaser and pressure washing, may be required. Post cleaning contamination can occur from site processes, wind and rain. Small amounts of contamination can halt the inorganic reaction to the surface and cause minor spots which may be acceptable, check with EonCoat SME. The performance of this product will depend upon the degree of surface preparation and the ambient conditions at the time of application. Prior to the EonCoat application, all surfaces should be assessed and treated in accordance with EonCoat' application guidelines - Surface Preparation & Application Guide Previous coatings, mill-scale, rust-scale, loose rust, accumulated dirt and ANY oil or grease shall be removed, but invisible chloride salts can remain. Eoncoat can be applied over some damp surfaces. See Application guide for further advice - Surface Preparation & Application Guide **Aged Corroded Steel (Not previously painted and not acidic contaminated)** Welds do not require strip coating however sharp edges should be rounded to 2mm. The client's maintenance strategy dictates the level of repairs for metal defects required. Minimum Surface Profile: Existing corrosion surface profile must be ~75µm, (lager profiles are better, low profiles may not work) this can be verified by an EonCoat approved SME representative. Minimum Water Pressure: Minimum water pressure required when removing loose rust is,				

	3,500-5000psi. The final visual appearance shall be equivalent to D WAB-6L (SSPC-VIS 5/NACE VIS 9) or, D WJ-4 L (SSPC-VIS 4/NACE VIS 7). Allowable Flash Rust: The flash rust level shall be no more than, Light, as determined by testing with a white rag wrapped around an approved typical scrubbing brush. **Abrasive Blast Cleaning of Steel** (Only if required) Abrasive blast clean to ISO Sa2½ (ISO 8501-1:2007), SSPC-SP6 (SSPC-VIS 1), NACE No. 3 or, D WAB 6L (SSPC-VIS 5/NACE VIS 9). 100% oxidation is allowed and promoted once the initial abrasive blast cleanliness standard has been met. Surface defects revealed by the blast cleaning process should be repaired. A surface minimum profile of 75µm (3 mils) or greater is recommended.100% no oil or other contaminations. HPWW washing after abrasive blasting is required to ensure the surface is cleaned of abrasive dusts and the steel is reactive, if some areas are not reactive, check for any likely contamination. **Abrasive Blast Cleaning of Concrete** (Only if required) Abrasive blast clean to SSPC-SP13/NACE 6.	
APPLICATION		
Mixing Instructions	Part A: (the acidic component of the acid-base reaction) comes in gel form. A four-blade paddle mixer needs to be used to break the gel apart. Once the gel has been broken, the material gains some fluidity. The bucket needs to be mixed with the bucket (dispersion blade) mixture. Make sure no material remains on the bottom of the bucket. ~3-5 min of mixing is needed to ensure proper mixing and no agglomeration. Part B: Part B (the Basic component of the acid-base reaction) needs to be mixed with a four-blade paddle mixer or conventional mixing blade. Make sure no material remains on the bottom of the bucket. ~1-3 min of mixing is needed to ensure proper product mixing with no agglomerations.	
Application Conditions	Humidity:	20-98% (note low humidity will affect curing references application guide)
	Air Temperature:	38c Max (100 F)
	Surface Temperature:	10c – 49°C (50 F to 120 F) (Warmer carbon steel reacts better than colder steel)
	Dew Point:	No restriction
	Optimal Material Temperature:	30°C (86 F) If low temperatures pre heating the material is recommend
	Refer to Triangle Graph below.	
Recommended Spraying Rate	Minimum: DFT of 400 microns (15.7 mils) Maximum: No Maximum DFT. Theoretical Coverage: (~2.38 m^2/liter @ 400 micron) Refer to the Surface Preparation & Application Guide for complete application procedures and instructions to overcome issues. To prevent sagging, follow the drying schedule. Water misting the flash rusted steelwork may be required depending on surface temperature and wind conditions. EonCoat chemically reacts with flash rust and can be applied over rust. For further details, refer to the Surface Preparation & Application Guide	
Clean Up Instructions	Clean the spray gun and pump with water, following the instructions in the application brochure. DO NOT USE SOLVENTS.	
QUALITY CONTROL	EonCoat trained QA/QC should always be engaged before and during the application process. EonCoat technology is not a paint and requires some different types of QC	

	inspections. Do note use the same QC rules as epoxies or other coatings systems.
Salt Testing	Not required for this system, as EonCoat forms a chemically bonded, passivating interface that is not adversely affected by residual soluble salts in the same manner as conventional barrier coatings.
Dry Film Thickness	Dry film thickness: Bolted structural elements shall be measured in accordance with SSPC PA2 Appendix 2, or AS/NZS 3894.3 section 7.4. Large flat areas should be measured in accordance with SSPC PA2 or AS/NZS 3894.3 section 7.3. Hard to access, intersecting corner areas should be assessed by sufficient individual gauge readings. Steelwork subject to process build up, immersion, or in splash zones, shall meet the minimum NDFT specified. Atmospheric conditions can be subject to 80% of the NDFT for spot measurements for no more than 20% of the total spot measurements, per steel element. No upper limit on DFT restrictions apply.
Phosphating Integration Testing	*Ensuring phosphate* integration is critical to the long-term success of this technology. This should be witnessed by QC inspection staff. *See acceptable visual examples in EONCOAT' VIS 10*
Chemical Bond Testing	HP water jetting at 3000 - 5000psi will test the adhesion or chemical bond another critical test. This can be done two hours after application at 25c temperature
Hardness Testing	Establish the minimum force that does not scratch the EonCoat. Use the Elcometer 3092 Sclerometer (Durotest in AS/NZS 3894.4 Method B) *Suggested only.*
Adhesion Testing	Not required or recommended as this can be assessed by the HP water jetting testing. The CBT (Chemical Bond Testing) and the Phosphate Integration Test. *See acceptable visual examples in EONCOAT' VIS 10*
Holiday Testing	Not applicable to this technology. EonCoat is an inorganic, partially conductive coating system and does not function as a dielectric barrier; therefore, conventional holiday detection methods are not suitable or meaningful.
Colour Top Coating	Many topcoats work with EonCoat however please check with EonCoat as hydrophobic coatings can effectively reduce the moisture levels required in this technology and cause damage to the system.



Using the chart above

Apply EonCoat if conditions (wind velocity, substrate temperature, and humidity) fall inside the green line of the parameters. Misting may be required if hairline cracking occurs. Test a small area in extreme conditions to determine the path forward.

If conditions fall between the green and orange lines, contact EonCoat for advice on how to proceed. Do not apply EonCoat if conditions fall outside the orange line (between the orange and red line or above the red line). Speak with an EonCoat representative if conditions fall outside of the orange line.

Performance Characteristics		
Substrate:	Steel (Unless otherwise noted with test results)	
Surface Preparation:	SSPC – SP 6/ NACE 3 / SSPC-SP WJ-1 L/NACE WJ-1/L	
System Tested:	EonCoat (as a primer) 17-25 mils. with acrylics/ polysiloxane/ urethane topcoats 4-8 mils.	
Test Name	**Test Method**	**Results**
Abrasion Resistance (Primer only)	ASTM D 4060, CS 17 wheel, 1000 cycles, 1 Kg load	1500 Wear Cycle per Mil (WCM); 95 mg mass loss
Adhesion*	ASTM D 4541	550 psi
Corrosion Resistance*	ASTM D 5894, 12 cycles, 4000 hours	Rating 10 per ASTM D 610 for Rusting Rating 10 per ASTM D 714 for Blistering
Direct Impact Resistance (Primer Only)	ASTM D 2794	150 in. lbs.
Flexibility (Primer Only)	ASTM D 522	18% Elongation
Immersion Resistance, Salt Water	770F, 2000 hours	Rating 10 per ASTM D 610 for Rusting Rating 10 per ASTM D 714 for Blistering
Immersion Resistance, Fresh Water	770F, 2000 hours	Rating 10 per ASTM D 610 for Rusting Rating 10 per ASTM D 714 for Blistering
Moisture Condensation Resistance	ASTM D 4585, 1000F, 2000 hours	Rating 10 per ASTM D 610 for Rusting Rating 10 per ASTM D 714 for Blistering
Pencil Hardness (Primer Only)	ASTM D 3363	9H
Salt Fog Resistance*	ASTM B 117, 4000 hours	Rating 10 per ASTM D 610 for Rusting Rating 10 per ASTM D 714 for Blistering
Flame Spread and Smoke Generation (Primer Only)	UL 723	Zero Flame Spread and Zero Smoke Generation
Thermal Conductivity (Primer Only)*		0.25 W/Mk @ 250C
Water Vapor Transmission (Primer Only)	ASTM E 96	2.5 perm-inch
Resistance to Growth of Mold*	ASTM D3273	Rating – 10 = Passed
Fire Resistance*	EN 13823	B-s1, d0 Classified as B or Better
*Tested by a third-party lab. Reports are available on request.		
Warranty		
The EonCoat limited product warranty can be found on the company website at www.eoncoat.com		
Safety Precautions		
Refer to the SDS sheet before use.		
Published technical data and instructions are subject to change without notice. For additional technical data and instructions, contact your EonCoat representative.		

Mark O'Sullivan

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