

AEROCOAT® ZINC 90

INTERIOR & EXTERIOR

SOLVENT BASED

Description:

A one component, solvent based organic bound zinc rich coating containing more than 96% zinc in the dry film, forming a highly effective cold galvanic anti-corrosive layer for long lasting protection.

Intended Uses:

AEROCOAT® Zinc 90 is designed to be applied to clean steel or hot-dip galvanized surfaces, it forms a highly adherent, anti-corrosive cold galvanic coating that ensures long-lasting protection.

When steel is hot dip galvanized at around 450°C, a protective coating is created consisting of iron/zinc alloy layers topped with a layer of relatively pure zinc. This system provides both barrier and sacrificial protection against corrosion. However, when hot-dip galvanized steel is site cut, welded, or mechanically damaged, these protective properties are compromised. To restore corrosion resistance and prevent the surrounding zinc layer from prematurely consuming itself, repair of the damaged areas with AEROCOAT® Zinc 90 is recommended.

Functioning as a cathodic, sacrificial barrier, AEROCOAT® Zinc 90 offers protection comparable to hot-dip galvanizing, but in the form of a liquid-applied coating. It provides multiple layers of defence, including:

- Active/cathodic protection (galvanic action)
- Passive/barrier protection (shielding from corrosive elements)
- Sacrificial/inhibition protection (zinc consumption before steel attack)

AEROCOAT® Zinc 90 can also be used as a weldable shop primer at film thicknesses of 30–40 microns, and as a protective coating for reinforcing steel (rebar) in concrete, preventing corrosion and the spalling of concrete structures.

Typical applications include the repair of hot-dip galvanized steel, offshore steel and marine structures, pipelines and storage tanks, industrial equipment and machinery & reinforcing steel in concrete

Features & Benefits:

- Although the medium grey metallic colour of AEROCOAT® Zinc 90 will stand out on the bright shiny surface of newly exposed zinc, it will blend into a very similar finish once the stable matt grey zinc carbonate film has formed.
- Can be over-coated by a range of topcoats such as acrylics, epoxies, polyurethanes & vinyls.
- High temperature resistance of 150°C.
- Zinc dust pigment conforms to ISO 3549 and ASTM – D520.
- Adheres well to abraded steel and galvanizing
- Can be used as touch-up primer for inorganic primers
- Excellent corrosion protection exhibits corrosion performance equivalent to hot-dip galvanizing.
- Infinitely over-coatable, each new layer of AEROCOAT® Zinc 90 chemically bonds with the underlying AEROCOAT® Zinc 90 layer to form a homogeneous film thus provided a rejuvenated layer of cathodic protection.
- Weld-able.
- Provides active cathodic/ galvanic/ active protection.
- AEROCOAT® Zinc 90 becomes the anode and the steel surface the cathode, thus allowing the coating to sacrifice itself before the steel.
- AEROCOAT® Zinc 90 conforms to SSPC-Paint 20 Type 2 level 1.

AEROSOLS: AEROCOAT®

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Certifications:

Consult a Specialized Coating Systems technical representative for details.

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Technical Data:

Product Physical Form	Aerosol
Binder Type	Modified acrylic
Colour	Medium grey metallic – darkens after prolonged exposure
Appearance	Smooth matt
Density (approx.)	3 Kg/ Litre
Spreading Rate	Approximately 1 – 2 m ² / can
Number of Coats	Dependent on system.
Method of Application	Aerosol spray
Pack Size	400ml (12 x cans per carton)
Storage	Store out of direct sunlight in dry conditions between 15°C and 25°C. Store can with nozzle in dry conditions out of direct sunlight away from sources of heat or ignition.
Shelf Life	2 – 3 years when stored as recommended in original un-opened containers
Temperature Resistance	• Dry continuous – 150°C • Intermittent – 200°C

Important Information:

- This product must be applied direct to metal and hot dip galvanized substrates. The direct contact between the zinc and the metal substrate results in cathodic reaction.
- Never use primers as they will compromise the performance of AEROCOAT® Zinc 90.
- Overcoating information is given for guidance only and is subject to local climate and environmental conditions. Consult a Specialized Coating Systems representative for specific recommendations.
- Technical and application data herein is for the purpose of establishing a general guideline of the coating application procedures.
- Test performance results were obtained in a controlled laboratory environment and Specialized Coating Systems makes no claim that the exhibited published test results, or any other tests, accurately represent results found in all field environments. As application, environmental and design factors can vary, due care should be exercised in the selection and verification of the performance and use of the coating.

Surface Preparation:

The performance of this product will depend upon the degree of surface preparation. The surface to be coated must be cleaned and free from contamination. Prior to Coating application all surfaces should be assessed and treated in accordance with ISO 8504:2000.

Accumulated dirt and soluble salts must be removed. Dry bristle brushing will normally be adequate for accumulated dirt. Soluble salts should be removed by freshwater rinsing. Oil or grease should be removed in accordance with SSPC-SP1 solvent cleaning.

Abrasive Blast Cleaning

For atmospheric exposure best performance will be achieved when AEROCOAT® Zinc 90 is applied to surfaces prepared to Sa2½ (ISO 8501:2007 or SSPC-SP10; a minimum of Sa2½ (ISO 8501:2007) or SSPC-SP6 must be achieved.

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Surface defects revealed by the blast cleaning process should be ground, filled, or treated in the appropriate manner.

A blast profile of 40 - 75 microns is recommended.

Hand or Power Tool Preparation

Hand or power tool clean to a minimum of St2 (ISO 8501-1:2007) or SSPC-SP2.

Note: All scale must be removed and areas which cannot be prepared adequately by chipping or needle gun should be blasted to a minimum standard of Sa2 (ISO 8501-1:2007) or SSPC-SP6. Typically, this would apply to C or D grade rusting in this standard.

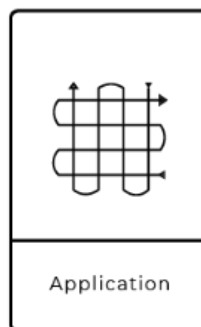
Galvanized Steel Repair

Surfaces must be abraded by a minimum radius of 25mm around the defect using 180# abrasive water paper (or finer) and water as a lubricant, the defect should be exposed to bare metal, but the size should be kept as small as possible. Immediately after abrasion wipe the surface clean and apply the premixed repair material within the abraded area. Do not overlap the "patch" onto un-abraded galvanizing.

Re-loading AEROCOAT® Zinc 90 or Galvanized Steel – Old & New

Consult with Specialized Coating Systems technical representative for system recommendations.

Application:



Application Environment			
	Surface Temperature	Ambient Temperature	Relative Humidity
Minimum	5°C*	5°C	No lower limit
Maximum	45°C	40°C	85%

* or 3°C above dew point

Drying & Overcoating Information	
Touch Dry	20 min @ 25°C
Overcoating Time	4 hours @ 25°C*
Hard Dry	4 hours @ 25°C
Full Cure	24 hours @ 25°C
Extra Information	* Without abrasion, can be over coated with AEROCOAT® Zinc 90. 24 Hours should be allowed for other topcoats. Light abrasion using sandpaper is required after 24 hours.

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Systems:

Typical Stand-Alone System	According to ISO 12944-6 AEROCOAT® Zinc 90 is used as a stand-alone system, applied in 2 coats to obtain a total maximum DFT of 120 – 180 microns. • ISO 12944-6: C4-High, C5M/I-Medium - 2 x 60 microns DFT (2 x 117 microns WFT) • ISO 12944-6 : C5M/I-High - 2 x 90 microns DFT (2 x 176 microns WFT)
Duplex System	According to ISO 12944-6 AEROCOAT® Zinc 90 should be applied in one single application preferably by spraying, to obtain a DFT between 60 and 80 microns with a maximum of 100 microns DFT. • ISO 12944-6: C4-High, C5M/I-Medium - 1 x 80 microns DFT (1 x 156 microns WFT) • ISO 12944-6 : C5M/I-High - 2 x 80 microns DFT (2 x 156 microns WFT) - Approved duplex top coating.
Repair of Galvanizing	AEROCOAT® Zinc 90 is used as a repair material for damaged galvanized steel, welds, drill holes etc. where mild steel has been exposed. • ISO 12944-6: C4-High, C5M/I-Medium - 2 x 60 microns DFT (2 x 115 microns WFT) • ISO 12944-6 : C5M/I-High - 2 x 90 microns DFT (2 x 176 microns WFT)

Corrosion Zones

C5 M: Coastal zone with high salinity.

C5 I: Industrial zone with high humidity and aggressive environment.

Im2: Immersion in salt water.

Im3: Subterranean.

Life Expectation

Medium: Between 5 & 15 years.

High: Higher than 15 years.

AEROCOAT® Zinc 90 in a C5M-High environment can corrode between 4 to 8 microns per year.

Safety Information:

- Refer to product SDS for health & safety prior to using products.
- Always wear safety clothing / protection. Respirators, eye protection and skin protection.
- Apply in well-ventilated areas.

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