

ZINCFIX® ZincDust 90

Zinc rich, organic bound cathodic protection coating

A one pack, zinc rich, organic bound, cathodic protection coating containing 96% zinc in the dry film.

Intended Uses:

ZINCFIX® Zinc-Dust 90 is an organic bound zinc rich coating containing more than 96% zinc in the dry film. It is applied to clean steel and hot dip galvanized surfaces to form an adherent anti-corrosive cold galvanic coating.

When suitably cleaned steel is dipped in molten zinc at 450°C, a coating comprising of a series of iron/zinc alloy layers, over-coated with relatively pure zinc is formed. The hot dip galvanized coating provides a barrier against corrosion and sacrificial protection. When the hot dip galvanized steel is site cut, welded or mechanically damaged it loses these properties. In order to prevent this sacrificial protection property prematurely consuming the surrounding coating, repair of the damaged coating/area using ZINCFIX® Zinc-Dust 90 is recommended.

ZINCFIX® Zinc-Dust 90 is used as a protective coating by creating a cathodic, sacrificial, barrier offering comparative features to hot dip galvanizing in the form of a liquid applied coating.

Without a topcoat ZINCFIX® Zinc-Dust 90 provides cathodic/galvanic/active, passive/barrier and sacrificial/inhibition protection. This product is used as a weldable shop primer at thicknesses of 30 – 40 microns, and can be used on rebar's in concrete insuring protection from corroding and subsequent spalling.

Features & Benefits:

- Easy to use one component product that can be brush or spray applied.
- Although the medium grey metallic colour 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 a touch-up primer for inorganic primers.
- Available in aerosols (AEROCOAT® ZINC 90).
- Excellent corrosion protection. Exhibits corrosion performance equivalent to hot-dip galvanizing.
- Unlimited pot life.
- Infinitely overcoatable, each new layer chemically bonds with the underlying layer to form a homogeneous film thus providing a rejuvenated layer of cathodic protection.
- Weld-able.
- Provides cathodic/galvanic/active protection.
- Creates a barrier by forming a zinc oxide layer.
- ZINCFIX® Zinc-Dust 90 becomes the anode and the steel surface the cathode, thus allowing the coating to sacrifice itself before the steel.
- Conforms to SSPC-Paint 20 Type 2 level 1.

Technical Data:

Colour	Medium grey metallic – darkens after prolonged exposure
Finish	Smooth
Gloss Level	Matt
Density (approx.)	2.50 Kg/ Litre
Mass Solids	83%
Volume Solids	66%
Theoretical Coverage	• 11 m ² / Litre or 4.4 m ² / Kg at 60 microns DFT, allow for loss factors • 7.33m ² / Litre or 2.93 m ² / Kg at 90 microns DFT, allow for loss factors
Method of Application	Brush, spray, or aerosol
Flash Point	25°C
Temperature Resistance	Dry continuous – 150°C Intermittent – 200°C
Number of Coats	Dependent on system and method of application

Systems & Compatibility:

Typical Stand-Alone System	According to ISO 12944-6 ZINCFIX® Zinc-Dust 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 960 microns WFT) • ISO 12944-6 : C5M/I-High - 2 x 90 microns DFT (2 x 140 microns WFT)
Duplex System	According to ISO 12944-6 ZINCFIX® Zinc-Dust 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 120 microns WFT) • ISO 12944-6 : C5M/I-High - 2 x 80 microns DFT (2 x 120 microns WFT) - Approved duplex top coating.
Repair of Galvanizing	ZINCFIX® Zinc-Dust 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)

Drying Information:

	- 5°C	0°C	10°C	25°C	30°C	40°C
Touch Dry	-	-	-	20 min	-	-
Hard Dry	-	-	-	4 hrs	-	-
Full Cure	-	-	-	24 hrs	-	-
Overcoating Data – See Limitations						
Substrate Temp.	- 5°C	0°C	10°C	25°C	30°C	40°C
Minimum	-	-	-	4 hrs*	-	-
Maximum	-	-	-	24 hrs	-	-

INDUSTRIAL PROTECTIVE COATINGS: PRIMERS

Whilst we endeavour to ensure that all advice we give about the product is correct, the information given in this data sheet is not intended to be exhaustive and any person using the product for any purpose other than that specifically recommended in this sheet without first obtaining written confirmation from us as to the suitability of the product for the intended purpose does so entirely at his own risk. As conditions of use, method of application and suitability of the substrate prior to painting are beyond our control, no guarantee is implied by the recommendations contained herein. We therefore do not accept any liability whatsoever or howsoever arising from the performance of this product or for any loss or damage arising out of the use of this product. The information contained in this sheet is liable to modification from time to time in the light of experience and ongoing product development programmes. It is the user's responsibility to ensure that this sheet is current prior to using the product

Note: * Without abrasion, can be over coated with ZINCFIX® Zinc-Dust 90. 24 Hours should be allowed for other topcoats. Light abrasion using sandpaper is required after 24 hours.

Certifications:

Consult with a Specialized Coating Systems technical representative for details.

ZINCFIX® Zinc-Dust 90 conforms to SSPC-Paint 20 Type 2 level 1.

Systems in accordance with ISO 19244:

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.

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

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 ZINCFIX® Zinc-Dust 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.

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.

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Re-loading ZINCFIX® or Galvanized Steel – Old & New

Consult with Specialized Coating Systems technical representative for system recommendations.

Application:

Mixing	Material is supplied in steel containers. This is a one component product and does not require a hardener. Agitate/stir the product well before use to ensure a homogeneous mix and no settlement of zinc particles. If the product stands for a long time or is stored in cool conditions, the zinc tends to “pack” and become very difficult to re-stir. Should this occur, warm the tin to about 25°C by placing in warm water and agitate. It should then stir to a homogeneous mixture.
Pot Life	No limitation, if product thickens, add Solvent XL.
Air Spray	Use Solvent XL (Needle size 1.8mm to 2.5mm)
Airless Spray	Use Solvent XL - Tip range 15 – 23 Thou. Pressure at the tip should not be less than 180 bar (2000 PS).
Thinner	Solvent XL

Environment:

	Surface Temperature	Ambient Temperature	Relative Humidity
Minimum	5°C*	7°C	No lower limit
Maximum	40°C	45°C	95%

* Or 3°C above the dew point

Limitations:

- 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 a cathodic reaction.
- Never use primers as they will compromise the performance of ZINCFIX® Zinc-Dust 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.
- Unmixed material (in closed containers) should be maintained in protected storage in accordance with information given in the STORAGE section of this data sheet.
- 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.

Pack Size:

Tins	1 kg, 2kg, 10kg and 30kg
Aerosols	400 ml

Storage:

- Shelf Life: Unlimited at 25°C – in the case of long-term storage, the tins should be turned every 3 months or vigorously shaken by an automatic shaker once every 3 years.
- If product has thickened up excessively, it can be liquefied by adding Solvent XL.
- Store in dry conditions out of direct sunlight away from sources of heat or ignition.
- Store at temperatures between 5°C and 35°C.

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Safety Information:

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