BERGER PROTECTON
PROTECTIVE COATINGS DIVISION

Zinc Anode 304 HS Silicate Coating

Two Pack Self Cured Inorganic Zinc Silicate

Issue Date : Nov 2024

Product Description

A two pack solvent base inorganic zinc primer for protection of steel against severe corrosive environment. It provides outstanding cathodic protection and forms a tough abrasion resistant film. It is however, not recommended for contact with strong acids or alkalis of pH below 5 or exceeding 10. It is top coated with a wide range of epoxy intermediates with polyurethane finish coats.

Usage Areas

Recommended for use on steel structures, exterior of storage tanks, bulk handling equipment, pipelines etc. The product is suitable for both coastal and industrial / inland environments.

Product Data

Composition	Ethyl Silicate / Metallic Zinc
Volume Solids	60±2%
VOC	345 gms/ltr
Mixing Ratio	As per Supplied Pack
Application Method	Conventional or Airless Spray
Recommended DFT	70-80 µ per coat
Recommended WFT	117-133 µ per coat
Theoretical Spreading Rate	7.5-8.6 m^2/ltr /coat
Colour	Grey
Gloss	Matt

Practical Coverage : Dependent on-site condition and transfer losses due to substrate design, profile, wind, heights, application method, painter's skill etc.

Pot Life

10°C	15°C	25°C	40°C
6 hrs	4 hrs	180 min	90 min

BERGER PROTECTON
PROTECTIVE COATINGS DIVISION

Zinc Anode 304 HS Silicate Coating

Two Pack Self Cured Inorganic Zinc Silicate

Typical Coating Systems

Systems compatibility can be provided on request to the Technical Service team

Coats	Generic Systems	Compatible Products
Primer	Zinc Anode Coating	Zinc Anode 304 HS Silicate Coating
Mid Coat	Epoxy MIO, TiO_2, Heat resistant Flurothane undercoat	Epilux 485 High Build MIO, Epilux 155 SB RPL MIO Coating, Lumerous HR Coating, Epilux 78 HBTL
Top Coat	Polyurethane, Polysiloxane, Epoxy, Heat Resistant	Luxathane Polyurethane Finish, Epilux 4 HB Epoxy Coating

Conforms to

Performance requirements of SSPC Paint 20 Type I and ISO 12944 with a 80% Zinc on dry film by weight

Pack size

	UOM	Part A	Part B	Total
Volume	Lt/Kg	-	-	-

Storage

The paints must be in its sealed original containers and be kept under cover in a dry place with ambient conditions inside closed room until use. The curing agent is sensitive to moisture and hence relative humidity within the room should be maintained preferably at ≤55%. Stacking should not be more than 3 drums/ cartons one above other. DO NOT expose to direct rain/ sunlight. Any deviation to the defined storage condition shall have a negative effect on the shelf life.

Shelf life

Up to 6 months as long as the sealed original containers are kept under cover in a dry place under normal temperature conditions until use.

Note :

1. Storage life @23oC will be extended up to 12 months. Storage at elevated temperatures may reduce shelf life; and hence never exceed maximum room temperature of 40°C. Storage life, thereafter, subject to re-inspection; consult tech-service.
2. It may be noted that higher volume solid material will tend to soft settling on long term storage, and it can made to a normal homogeneous consistency by use of a slow speed 200-400 rpm power stirrer particularly in the PART A (BASE) container; and this soft settling is not considered as a failure of keeping properties.

Flash Point

Part A	Part B	Mixed Paint
15°C	15°C	15°C

Health & Safety

Please refer to the separate Safety Data Sheet available with detailed information.

Zinc Anode 304 HS Silicate Coating

Two Pack Self Cured Inorganic Zinc Silicate

APPLICATION GUIDELINE

Substrate	Mild Steel	
Surface preparation	**Mild Steel :** Remove grease, oil and other contaminants preferably by using Solvent Cleaning as per SSPC SP1. Abrasive Blast clean to a minimum SSPC SP10. For severe corrosive conditions, blast clean to a surface profile not exceeding 55 microns. Special care must be taken on weld areas to remove flux and spatter; welds should be ground back to avoid pockets. The cleaned surface should be free of dust, contaminants and dry and coated before it gets primed.	
Atmospheric Condition	Ventilation	Suitable air engineering systems, which will ensure reduction of air contaminants and thatto further help regulate the temperature and humidity of the working environment.
	Dew Point	Ensure surface temperature to be more than 3°C over the dew point temperature.
	Humidity	Do not apply when relative humidity rises above 85%.
Mixing	Stir the base thoroughly and then mix base to a homogenous liquid and then add recommended part of catalyst to uniform consistency. Strain the mixture through a 80 mesh sieve. Allow the mixture to mature for 15-20 minutes before application. Stir again before use and continously during application. NOTE : DO NOT ADD THINNER beyond recommendation as it will reduce mixed VS calling for revised WFT calculations as well as challenges on flow properties.	
Thinner	Thinner 870	

Zinc Anode 304 HS Silicate Coating

Two Pack Self Cured Inorganic Zinc Silicate

Application

Conventional Spray : Add upto 10% Thinner 870 depending on conditions.
Use any standard equipment at an atomising pressure of 3.5-4.4 kg/cm^2.

Airless Spray : Apply preferably without thinning. However add upto 10% Thinner 870 depending on conditions. Use any standard equipment having pump ratio 40 : 1.

Tip Size : 0.38 – 0.53 mm. **Tip Pressure :** 110 –160 Kg/cm^2.

*Do not apply on hot/ cold surfaces. Always apply within the window of 10-50°C

Work Stoppage

Ensure to use the mixed paint within pot life as there are no methods to increase working pot life. Keep the working tools and tips free of drying and clogging. Always use fresh material and never add-up to previous mixed paints.

Clean Up

Clean all equipment immediately after use with thinner 870. It is good working practices to flush or clean all the spray equipment periodically.All the surplus materials and empty containers should be disposed of in accordance with appropriateregional regulations

Drying Time

Temperature	Touch dry	Handle dry	Hard dry
10°C	40 min	6 hrs	24 hrs
23°C	35 min	4 hrs	18 hrs
30°C	30 min	3 hrs	16 hrs
40°C	25 min	2 hrs	14 hrs

Over Coating Intervals

	@23°C	@30°C
MIN	18 hrs	16 hrs
MAX	Extended	Extended

Zinc Anode 304 HS Silicate Coating

Two Pack Self Cured Inorganic Zinc Silicate

Curing Time	One week minimum NOTE : Drying and Curing times are determined under controlled temperatures and at relative humidity above 65% and below 85%, for the NDFT of the product.
Inspection	Refer SSPC PA2 guidelines for measurement of DFT. Do not conduct any destructive test like peel off/ pull off & high voltage Holiday test unless and otherwise mandatory in the specification. Consult Technical Service team for preparation of QAP (Quality Assurance plan).
Repair Methodology	Clean off loose paints, debris, contaminants and ensure spot repair with available tools as practiced in hand/ power tool cleaning using wire brush/buffing, emery/feathering to smoothen the edges of impaired areas. Use appropriate touch up primer followed by recommended coating system, allowing due over coating interval time to area of 2-3 inches in excess of the spot repaired portion.
Product Characteristics	• Zinc Anode 304 HS Silicate Coatingcan handle operating temperatures of 400°C and upto 426°C for intermittent spikes. • The product cures by reaction with moisture and may be applied at high humidity levels provided the blasted surface is free from condensation and meets the requirement of SSPC SP10 Standard. • For overcoating the surface must be fully cured and free from residual solvent prior to overcoating. This normally takes 10-12 hours but under certain conditions if humidity is below 80% the time taken may be longer. While overcoating a mist coat of the subsequent coat should first be applied to avoid bubbling due to air entrapment. • At lower relative humidity, drying and curing are likely to be extended. • Over-application can lead to blistering at high temperatures. • Damaged areas can be touched up with Epilux 4 Zinc Rich Primer/ Epilux HB ZR Primer. • Available in ASTM D520-00 (reapproved 2005) Type II, Zinc Dust version as standard.
Disclaimer	The information contained within this Data Sheet is based on information believed to be reliable at the time of its preparation. The Company will not be liable for loss or damage howsoever caused including liability for negligence, which may be suffered by the user of the data contained herein. It is the users' responsibility to conduct all necessary tests to confirm the suitability of any product or system for their intended use. No guarantee of results is implied since conditions of use are beyond our control.