



RAINBOW

INORGANIC ZINC RICH PRIMER – IZ-01HS

Specification Data

Type	A two-pack, solvent based inorganic zinc rich rust preventive paint based on ethyl silicate and high purity zinc dust.
Uses	Used for steel structures of power plants, harbor facilities, bridges, water pipelines and storage tanks to extend the protection of life.
Characteristics	<ul style="list-style-type: none"> • High zinc loading. • Excellent resistance to oil, mechanical damage and organic solvents. • High slip co-efficient, can be used on faying surface. • High anti-corrosive performance, can extend the protection of life. • Zinc contain in dry film above CNS 4936 K2087 1st coating specification.
Color	Gray, Red Oxide
Finish	Flat
Service Temperature	Untopcoated: Continuous 400°C (750°F); Non-Continuous 427°C (800°F) With recommended Inorganic copolymer topcoat (NO.1569 Min.DFT 2mils) Continuous 538°C (1000°F), Non-Continuous 649°C (1200°F).
VOC values	456 g/L ; Use SP-13 thinner to thin up 5% (468 g/L).
Solids Content	By Weight Above 80% (mixture)
Zinc Content in Dry Film	By Weight Above 85%
Metallic Zinc Content	Above 85%
In the dry film	
Theoretical Coverage	34 m ² /Gal 9 m ² /L 3.62 m ² /Kg (DFT :3 mils)
Dry Film Thickness	2-3 mils (50-75 μ m). Dry film thickness in excess of 4 mils (100 microns) per coat is not recommended
Preceding Coats	Chlorinated Rubber, Epoxy, Vinyl, Silicone or PU system A mist coat is required to minimize intermediate bubbling

Performance Data

Test Method	System	Results
CNS 11584 K6854 Test for Inorganic Zinc Rich Primer	1 ct. IZ-01	Solids content : 80.65% Zinc content in dry film : 86.7%
ISO 4628-6-07 ASTM D610-08 Cyclic Corrosive Test	Blasted Steel 1 ct. IZ-01 (75 microns) 1 ct. 1569 (50 microns)	Chalking rating : 0.5 Rust grade : 10
ISO 4628-6-07 ISO 4624-02 Cyclic Corrosive Test	Blasted Steel 1 ct. IZ-01 (75 microns) 1 ct. EP-999GF (150 microns) 1 ct. UP-450 (60 microns)	Chalking rating : 0.5 Original adhesive strength : 5.2 MPa Percentage of adhesive strength retention after cyclic corrosive test : 62.9%(3.27 MPa)
ASTM D5894-96 ASTM D4541-09 Type V Cyclic Corrosive Test	Blasted Steel 1 ct. IZ-01 (75 microns) 1 ct. EP-999GF (150 microns) 1 ct. UP-450 (60 microns)	No cracking and peeling in appearance Original adhesive strength : 8.0 MPa Percentage of adhesive strength retention after cyclic corrosive test : 69.6%(5.57 MPa)

EPDM42IZ01HS V1.6

YUNG CHI PAINT & VARNISH MFG. CO., LTD.

No.26, Yen Hai 3rd Road, Kaohsiung, Taiwan.
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CNS 11478 K6820 (1995) Test For Heat Resistance Paint (600°C, 48hr)	Blasted Steel 1 ct. IZ-01 (75 microns) 1 ct. 1569 (50 microns)	No blistering, cracking and peeling in appearance
ASTM B117 Salt Spray	Blasted Steel 1 ct. IZ-01 (75 microns)	No blistering, cracking and rusting after 5000 hrs
ASTM A325 Slip Co-efficient	Blasted Steel 1 ct. IZ-01 (125 microns)	0.47
ASTM F963 Soluble Heavy Metals Test	1 ct. IZ-01	n.d. (Sb · As · Cd · Cr · Pb · Hg · Ba · Se)

Test reports and additional data available upon written request.

Certification

- CNS 4936 K2087 : Report number 90A0047 (National Kaohsiung University of Applied Sciences)
- Norsok M-501-04 : Report number KV-13-04545XA-1 , KV-12-08801XA-1 (SGS Taiwan Ltd.)
- CNS 2949 K2050 : Report number KV-14-10793ZA (SGS Taiwan Ltd.)

Application Instruction

• Surface preparation

General

Remove dirt, dust, oil and all other contaminants that could interfere with adhesion of the coating. Surfaces must be clean and dry. Moisture, grease, sludge, dust, corrosive salt must be thoroughly cleaned from substrate.

Surface preparation standards can use SSPC-SP10 or Sa2 1/2 (ISO 8501-1:2007). Blast **surface** profile 1~3mils (25~75 microns) (Ref. ASTM D4417).

• Mixing & Thinning

Mixing

Pour the zinc dust gradually into the base with constant stirring and then pass through 80 mesh filter.

Thinning

Above 25°C, use HT-type SP-13 thinner to thin up 3~5%. Below 20°C, use LT-type SP-13 thinner to thin up 3~5%

Mixing Ratio

Base : Zinc dust = 23 : 77 (by weight)

Pot life

8 hours at 25°C (mixture, 77°F)

• Equipment

Spray

Application

When the relative humidity is lower than 40%, water should be sprayed on after being painted for 30 minutes to promote hardening. The dry film thickness should not exceed 150 um to avoid cracking. This paint is not suitable for repairing or recoating, If the coating system used at room temp environments (lower than 250°F), please use product No.1006 (EP-03AA) for repairing. If the coating system used at high temp environments (over 250°F), please use product No.1566 for repairing.

When overcoating, the air in the pores will escape through the next coating and may cause blister. A mist coat then full coat can reduce this condition:

Spray a thin coat to fill the pores in the IZ-01HS film, soon after apply to full specified film thickness to break the blisters.

Caution : In difficult cases it may be necessary to thin the next coat.

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Airless Spray	Pump ratio 30:1 or greater Tip size : 0.015"~0.021" Output PSI : 2500~3800
Brush Roller	For touch-up of areas less than one square foot only. Use medium bristle brush and avoid rebrushing. Not recommended

• Environment conditions

Condition	Coating	Surface	Environment	Humidity
Minimum	0°C (32°F)	0°C (32°F)	0°C (32°F)	30%
Maximum	45°C (113°F)	70°C (158°F)	45°C (113°F)	85%

Industry standards are for substrate temperatures to be 3°C (5°F) above the dew point . the product simply requires the substrate temperature to be above the dew point.

• Curing Schedule

Surface Temp. & 50% Relative Humidity	Dry to Handle	Dry to Recoat & Topcoat
0°C (32°F)	2.5 hours	3 days
5°C (41°F)	1 hours	2 days
15°C (59°F)	45 minutes	1 day
25°C (77°F)	45 minutes	18 hours
35°C (95°F)	15 minutes	16 hours

• Cleanup & Safety

Cleanup	Use No.1012 Inorganic Zinc Rich Thinner (SP-13) to clean. In case of spillage, absorb and dispose of in accordance with local applicable regulations.
Safety	Please read and follow all caution statements on this product data sheet and MSDS for this product.
Ventilation	Proper ventilation and protective measures must be provided during application and drying to keep solvent vapor concentrations within safe limits and to protect against toxic or oxygen deficient hazards.

• Package, Handling & Storage

Shelf Life	Part A :Minimum 1 years under normal storage conditions Part B :Minimum 2 years under normal storage conditions
Shipping Weight	Part A : 1 Gallon – 2.49kg 3 Gallon – 7.50kg Part B : 1 Gallon – 8.04kg 3 Gallon – 23.58kg
Storage Temperature & Humidity	5-35°C (41-95°F) 0-90% Relative Humidity
Flash Point	Part A : 13°C (55°F) Zinc Filler : NA
Storage	Base and zinc powder storage can not sunlight exposure or temperature exceeds 40°C.

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