



# RAINBOW

## INORGANIC HIGH TEMPERATURE CORROSION PREVENTION COATING — No.1566

### Specification Data

#### Type

Two component, moisture curing coating based on inorganic silicon copolymer to provide a corrosion resistant barrier when used to protect steelwork under thermal insulation in areas subjected to wet and dry cycling. Typically applied direct to metal about 12mils. It's particularly effective in maintenance situations when used to mitigate the damaging effects of corrosion under insulation (CUI). It offers a sufficient protective barrier on carbon and stainless steel to temperatures ranging up to 1200°F and for cryogenic service to -238°F.

#### Uses

Used for metal structures such as steel pipes, steam pipes, hot oil pipes and plant facilities etc.

#### Characteristics

- Excellent high heat and cold resistance, can withstand heat up to 1200°F(650°C), cold-resistant to -320°F(-196°C).
- Excellent adhesion, corrosion prevention and anti-corrosion for thermal shocking structures.
- The moisture curing crosslinking mechanism allows multiple coats to be applied without heat curing.
- It can be sprayed directly to high temperature carbon steel, corrosive alloy steel, galvanized steel, austenitic/duplex stainless facilities when the surface temperature up to 428°F.
- It offers exceptional barrier and resistance to wet/dry cycling at elevated temperatures and thermal shock environment.
- For preventing CUI condition, 3 coats and total DFT 12 mils(Min.) is required.

#### Color

Iron-Gray, Silver-Gray, Brown

#### Primer

Self Priming

#### Subsequent Coats

No.1569 Heat-Resisting Top Coating

#### Repair

Self Repairing

#### Temperature

Continuous : 650°C (1202°F)

#### Resistance

#### VOC values

430 g/L ; Use 1564X thinner to thin up 5% (470 g/L).

#### Volume Solids

51 ± 3 %

#### Typical Thickness

4~6 mils per coat.(3 coats recommended)

#### Theoretical Coverage

19.3~12.9 m<sup>2</sup>/Gal 5.1~3.4 m<sup>2</sup>/L 3.1~2.1 m<sup>2</sup>/Kg (DFT :4 mils)

#### Pot-Life

Above 1hour

### Performance Data

Test Method	System	Results
CNS 2949-1986 Heat-Resistance	3 ct. 1566	Impact resistance test : φ12.5mmx300gx500mm OK Heat Resistance : 650°C (1202°F) Cold Test : -196°C (-320°F)
ASTM D2485, Method A Heat Resistance	3 ct. 1566	150°C, 230°C, 450°C / 24hr No damage can be observed visually
ISO 20340 Corrosion Resistance	3 ct. 1566	Carbon steel : below 0.9mm rust creepage Stainless steel : no rust creepage
ISO 4628-6-07 ASTM D610-08 Anti-aging	3 ct. 1566	Chalking rating : 0.5 Rust grade : 10
ASTM D3359 Adhesion	3 ct 1566	5A scale adhesion rating ( means no peeling or coating removal )

EPDM151566XX V2.3

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

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Test Method	System	Results
ASTM F963 Soluble Heavy Metals Test	1 ct. 1566	n.d.
ASTM B117-11 Salt Spray	3 ct. 1566	No blistering, cracking and rusting after 5000 hrs
Taiwan FPC CUI Coating Test	3 ct. 1566	Step1 : 400°C (752°F) thermal shock OK Step2: ASTM B117-11 Salt Spray 5000hrs OK

Test reports and additional data available upon written request.

## Certification

- CNS2949-1986 : Report number KV-12-05477Z ( SGS Taiwan Ltd )
- NORSOK M-501-04 : Report number KV-13-04546X ( SGS Taiwan Ltd. )
- Taiwan Formosa Plastics CUI Specification test(PolyLab LLC)
- Taiwan Formosa Plastics Specification FGES-T-UPA12 ( CSI-20 CHP-07 SHP-06)

## 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.

### Carbon Steel/ Corrosive alloy

Surface preparation standards can be used SSPC-SP10 、Sa2 1/2 (ISO 8501-1:2007) or hand rusting to SIS St3 、SSPC-SP3 .Dense angular for carbon steel requires for 1.2~2.4 mils.

### Galvanized and Austenitic/Duplex stainless

The galvanized or stainless steel must be sand blasted to SIS Sa 1 or SSPC- SP16 before application. Dense angular for stainless and galvanized steel surface requires above 1 mil.

- Mixing & Thinning

### Mixing Ratio

Base : Hardener = 4.9 : 0.1 ( by weight )

### Mixing Thinning

Thoroughly mix to a uniform consistency prior to use.  
Substrate temperature at room temperature ~60°C (140°F) : Use **1564X** to be thinner.  
Substrate temperature at 61°C (142°F) ~200°C (392°F) : Use **1564S** to be thinner .

### Pot life

8 hours at 77 °F (25°C) ; 5 hours at 40°C (104°F)

- Equipment

### Spray Application

Rough surface of paint film may be caused by prompt evaporation of thinner, when sprayed on high temperature substrate. Avoid applying the paint in rainy day or the relative humidity exceed 85%, particularly a wet surface must be thoroughly dried. Applying temperature of substrates up to 428°F.

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<b>Airless</b>	Pump ratio : 45:1 or greater
<b>Spray</b>	Tip size : 0.021"~0.025" Output PSI : 2800~4500 PSI
<b>Brush</b>	Brush is applicable only for hot surface under 140°F
<b>Roller</b>	Not recommended

- Environment conditions

Condition	Coating	Surface	Environment	Humidity
Minimum	10°C (50°F)	10°C (50°F)	10°C (50°F)	30%
Maximum	45°C (113°F)	220°C (428°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	Touch Free	Dry to Recoat & Topcoat	Final cure
10°C (50°F)	2 hours	1 days	14 days
15°C (59°F)	50 minutes	8 hours	10 days
25°C (77°F)	30 minutes	4 hours	7 days
50°C (122°F)	10 minutes	1 hours	3 days

1.No.1566 needs 7 days to get final cure at 77°F environment temperature.

2.These data are based on a 12 mils (300 micron) dry film thickness. Higher film thickness, lower temperatures or insufficient ventilation will need longer cure times and could cause solvent entrapment in the coating film.

- Cleanup & Safety

<b>Cleanup</b>	Use Thermal Thinner (1564X) to clean. In case of spillage, absorb and dispose of in accordance with local applicable regulations.
<b>Safety Ventilation</b>	Please read and follow all caution statements on this product data sheet and MSDS for this product. 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

<b>Shelf Life</b>	Minimum 12 months under normal conditions.	
<b>Shipping Weight</b>	1 Gallon Kit – Part A : 5.5 kg      Part B : 0.04 kg 5 Gallon Kit – Part A : 27.5 kg      Part B : 0.2 kg	
<b>Storage Temperature &amp; Humidity</b>	5-35°C (41-95°F) 0-90% Relative Humidity	
<b>Flash Point Storage</b>	25°C (77°F) Store in cool ventilated place, do not exposed to the sun in outdoor to avoid affecting the quality.	

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