



# RAINBOW

## EPOXY HIGH SOLIDS GLASS FLAKE COATING – EP-999GF

### Specification Data

<b>Type</b>	The coating based on amine cured epoxy resin with glass flake anticorrosive pigment.
<b>Uses</b>	Used for ship, bridges, tanks, pipelines, petrochemical plants and steel structures.
<b>Characteristics</b>	<ul style="list-style-type: none"> <li>• Tough and hard film, excellent abrasion resistance and suitable to loading grain.</li> <li>• Excellent resistance to oil and chemicals.</li> <li>• Excellent anticorrosion and water resistance.</li> <li>• Use green anticorrosion pigment in formula, both excellent inhibitory and hiding performance of corrosive protection for steel.</li> <li>• Can be applied to variety types of coating, or be coated a variety type of coating, for the best maintenance coating.</li> <li>• When primer use IZ-01 or PU700 and topcoat use high weather resistant paint, the anticorrosion performance is especially excellent.</li> </ul>
<b>Color</b>	Gray, Brown
<b>Finish</b>	Semi-gloss
<b>Primer</b>	Self Priming
<b>VOC values</b>	281 g/L, use SP-12 thinner to thin up 5% (326 g/L) or 10% (365 g/L).
<b>Volume Solids</b>	Above 78±2%
<b>Theoretical Coverage</b>	20 m <sup>2</sup> /Gal 5.3 m <sup>2</sup> /L 3.8 m <sup>2</sup> /Kg (DFT :6 mils)
<b>Dry Film Thickness</b>	4~8 mils per coat
<b>Service Temperature</b>	Continuous : 150°C (302°F) Non-Continuous : 180°C (356°F)
<b>Preceding Coats</b>	IZ-01 / IZ-01HS Inorganic Zinc Rich Primer, No.1006 Epoxy Zinc Rich Primer , No.1020 Epoxy Alloy Primer No.700 One Pack Polyurethane Maintenance Primer, No.1075 Epoxy Aluminum Tripolyphosphate Primer
<b>Subsequent Coats</b>	Epoxy, Polyurethane(UP-450, UP-04), Fluorocarbon(5400F) resin system

### Performance Data

Test Method	System	Results
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)
ASTM D5894-96 ASTM D4541-09 Type V Cyclic Corrosive Test	Blasted Steel 1 ct. PU-700 (100 microns) 1 ct. EP-999GF (150 microns) 1 ct. UP-450F (60 microns)	No cracking and peeling in appearance Original adhesive strength : 8.0 MPa Percentage of adhesive strength retention after cyclic corrosive test : 97%(7.76 MPa)

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

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# RAINBOW

ASTM G8-96 B Test for Cathodic Disbonding of Pipeline Coatings (60 days)	Blasted Steel 1 ct. 1027HZ (100 microns) 2 cts. EP-999GF (130 microns) 1 ct. UP-450F (60 microns)	No blistering, cracking and rusting
ASTM B117-11 Salt Spray	Blasted Steel 1 ct. 1027HZ (100 microns) 2 cts. EP-999GF (130 microns) 1 ct. UP-450F (60 microns)	No blistering, cracking and rusting after 2000hrs
ASTM G8-96 B Test for Cathodic Disbonding of Pipeline Coatings (60 days)	Blasted Steel 1 ct. IZ-01R (60 microns) 1 ct. PU-700 (60 microns) 2 cts. EP-999GF (150 microns) 1 ct. No.54HB (60 microns)	No blistering, cracking and rusting
ASTM B117-11 Salt Spray	Blasted Steel 1 ct. IZ-01R (60 microns) 1 ct. PU-700 (60 microns) 2 cts. EP-999GF (150 microns) 1 ct. No.54HB (60 microns)	No blistering, cracking and rusting after 2000hrs
ASTM F963 Soluble Heavy Metals Test	1 ct. EP-999GF	n.d. (Sb、As、Cd、Cr、Pb、Hg、Ba、Se)

Test reports and additional data available upon written request.

## Certification

- Norsok M-501-04 : Report number KV-12-08801XA-1 ( 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.

**Steel** Surface preparation standards can use SSPC-SP10 or Sa2 1/2 (ISO 8501-1:2007).

**Primed Surfaces** EP-999GF should always be applied over a recommended anti-corrosive coating scheme. The primer surface should be dry and free from all contamination and EP-999GF must be applied within the overcoating intervals specified (consult the relevant product data sheet).

**Areas of Breakdown and Damage** It should be prepared to the specified standard (Sa2 1/2 (ISO 8501-1:2007) or SSPC-SP6, Abrasive Blasting or SSPC-SP11, Power Tool Cleaning) and patch primed prior to the application of EP-999GF.

- Mixing & Thinning

**Mixing** Mix base and hardener according to the mixing ratio and stir thoroughly.

**Thinning** Use Epoxy Thinner (SP-12) to thin up 5-10%.

**Mixing Ratio** Base : Hardener = 83 : 17 ( by weight )

**Pot life** 4 hours at 25°C ( mixture, 77°F)

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## • Equipment

### **Spray Application**

Avoid applying the paint in rainy weather or the relative humidity exceed 85%, particularly, a wet surface must be thoroughly dried. All equipment must be cleaned immediately after use. To increase or decrease the usage of thinner depending on the temperature of the coated surface, the temperature decreased may have to add more amount of thinner

### **Airless Spray**

Pump ratio 45:1 or greater  
Tip size : 0.025"~ 0.029"  
Output PSI : 2800~4000.

### **Brush**

Application by brush is applicable. For special condition please consult with product manufacturer.

### **Roller**

Application by brush is applicable. For special condition please consult with product manufacturer.

## • Environment conditions

Condition	Coating	Surface	Environment	Humidity
Minimum	10°C (50°F)	10°C (50°F)	10°C (50°F)	30%
Maximum	35°C (95°F)	55°C (131°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
10°C (50°F)	12 hours	24 hours
15°C (59°F)	8 hours	16 hours
25°C (77°F)	5 hours	8 hours
35°C (95°F)	2 hours	4 hours

## • Cleanup & Safety

### **Cleanup**

Use Epoxy Thinner (SP-12) to clean. In case of spillage, absorb and dispose of in accordance with local applicable regulations.

### **Safety Ventilation**

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.

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# RAINBOW

- Package, Handling & Storage

**Shelf Life**            Part A :Minimum 2 years under normal storage conditions  
                              Part B :Minimum 1 years under normal storage conditions

**Shipping Weight**    Part A : 1 Gallon – 4.84kg    5 Gallon – 23.88kg  
                              Part B : 1 Gallon – 1.04kg    5 Gallon – 4.91kg

**Storage Temperature & Humidity**    5-35°C (41-95°F)  
    0-90% Relative Humidity

**Flash Point**            Above 25°C

**Storage**                Store in cool ventilated place, do not exposed to the sun in outdoor to avoid affecting the quality.

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