INORGANIC HIGH TEMPERATURE CORROSION PREVENTION COATING — NO.1566

Specification Data

**Type**
Single pack, moisture curing coating based on inorganic 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 resistance, can withstand heat up to 1200°F.
- 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.
- Good moisture resistance for the condition of hot and cold cycle, suitable for CUI environment.
- For preventing CUI, 3 coats and Min. total DFT 12 mils is required.

**Color**
Iron-Gray, Silver-Gray

**Finish**
Flat

**Primer**
Self Priming

**Dry Temperature Resistance**
Continuous: 650°C (1202°F)

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

**Volume Solids**
Above 51%

**Theoretical Coverage**
19.3~12.9 m²/Gal, 5.1~3.4 m²/L, 3.1~2.1 m²/Kg (DFT: 4 mils)

**Dry Film Thickness**
4~6 mils per coat. Dry film thickness in excess of 6 mils (150 microns) per coat is not recommended

**Performance Data**

<table>
<thead>
<tr>
<th>Test Method</th>
<th>System</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASTM D2485, Method A, Heat Resistance</td>
<td>3 ct. 1566</td>
<td>150°C, 230°C, 450°C/ 24hr No damage can be observed visually</td>
</tr>
<tr>
<td>ISO 20340, Corrosion Resistance</td>
<td>3 ct. 1566</td>
<td>Carbon steel: below 0.9mm rust creepage Stainless steel: no rust creepage</td>
</tr>
<tr>
<td>ISO 4628-6-07, ASTM D610-08, Anti-aging</td>
<td>3 ct. 1566</td>
<td>Chalking rating : 0.5 Rust grade : 10</td>
</tr>
<tr>
<td>ASTM D3359, Adhesion</td>
<td>3 ct. 1566</td>
<td>5A scale adhesion rating (means no peeling or coating removal)</td>
</tr>
</tbody>
</table>

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Test Method System Results

<table>
<thead>
<tr>
<th>Test Method</th>
<th>System</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASTM F963 Soluble Heavy Metals Test</td>
<td>1 ct. 1566</td>
<td>n.d.</td>
</tr>
<tr>
<td>ASTM B117-11 Salt Spray</td>
<td>3 ct. 1566</td>
<td>No blistering, cracking and rusting after 5000 hrs</td>
</tr>
<tr>
<td>Taiwan FPC CUI Coating Test</td>
<td>3 ct. 1566</td>
<td>Step1: 400℃ (752℉) thermal shock OK Step2: ASTM B117-11 Salt Spray 5000hrs OK</td>
</tr>
</tbody>
</table>

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 SSPC-SP16 before application. Dense angular for stainless and galvanized steel surface requires above 1 mil.

- Mixing & Thinning
  - Mixing: Thoroughly mix to a uniform consistency prior to use.
  - Thinning: Room temperature~100℃(212℉) : 1564X 101℃(214℉)~150℃(302℉) : 1564S
  - Mixing Ratio: N/A(Single Package)
  - Pot life: 4 hours at 77 ℉ (25℃)

- 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℉.
**Airless Spray Brush Roller**

- **Pump ratio**: 45:1 or greater
- **Tip size**: 0.021”~0.025”
- **Output PSI**: 2800~4500 PSI
- **Brush**: Brush is applicable only for hot surface under 140°F
- **Roller**: Not recommended

### Environment conditions

<table>
<thead>
<tr>
<th>Condition</th>
<th>Coating</th>
<th>Surface</th>
<th>Environment</th>
<th>Humidity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimum</td>
<td>10°C (50°F)</td>
<td>10°C (50°F)</td>
<td>10°C (50°F)</td>
<td>30%</td>
</tr>
<tr>
<td>Maximum</td>
<td>45°C (113°F)</td>
<td>220°C (428°F)</td>
<td>45°C (113°F)</td>
<td>85%</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Surface Temp. &amp; 50% Relative Humidity</th>
<th>Dry to Handle</th>
<th>Dry to Recoat &amp; Topcoat</th>
</tr>
</thead>
<tbody>
<tr>
<td>10°C (50°F)</td>
<td>2 hours</td>
<td>1 days</td>
</tr>
<tr>
<td>15°C (59°F)</td>
<td>50 minutes</td>
<td>8 hours</td>
</tr>
<tr>
<td>25°C (77°F)</td>
<td>30 minutes</td>
<td>4 hours</td>
</tr>
<tr>
<td>50°C (122°F)</td>
<td>10 minutes</td>
<td>1 hours</td>
</tr>
</tbody>
</table>

### Cleanup & Safety

- **Cleanup**: Use Thermal Thinner (1564X) 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. 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**: Minimum 12 months under normal conditions.
- **Shipping**: 1 Gallon Kit - 6.1 kg
- **Weight**: 5 Gallon Kit - 32 kg
- **Storage Temperature & Humidity**: 5-35°C (41-95°F) 0-90% Relative Humidity
- **Flash Point**: 25°C (77°F)
- **Storage**: Store in cool ventilated place, do not expose to the sun in outdoor to avoid affecting the quality.

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