# PRODUCT INDEX

**Shop Primer/Zinc Rich Primer**

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<th>Description</th>
<th>Code</th>
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</thead>
<tbody>
<tr>
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<td>SP1002/SPC100 Grey</td>
</tr>
<tr>
<td>HilonZinc 1265</td>
<td>Epoxy Zinc Rich Primer</td>
<td>EZ2202/EZC220 Grey</td>
</tr>
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<td>Epoxy Zinc Rich Primer</td>
<td>EZ2805/EZC280 Greenish Grey</td>
</tr>
<tr>
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<td>Inorganic Zinc Rich Primer</td>
<td>SZ3855/SZC385 Greenish Grey</td>
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<table>
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<th>Description</th>
<th>Code</th>
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<tbody>
<tr>
<td>HilonGuard 2100</td>
<td>Alkyd Primer</td>
<td>AP1001 Red</td>
</tr>
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<td>HilonGuard 2300</td>
<td>Epoxy Zinc Phosphate Primer</td>
<td>EP3001/EPC300 Red</td>
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<td>HilonGuard 2320</td>
<td>Epoxy</td>
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</tr>
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<td>HilonGuard 2400</td>
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<td>Epoxy</td>
<td>EP5002/EPC500 Grey</td>
</tr>
<tr>
<td>HilonGuard 2510</td>
<td>Epoxy</td>
<td>EP5101/EPC510 Red</td>
</tr>
<tr>
<td>HilonGuard 2580</td>
<td>Epoxy</td>
<td>EP5802/EPC580 Grey</td>
</tr>
<tr>
<td>HilonGuard 2600</td>
<td>Fast Curing Epoxy Primer</td>
<td>EP6002/EPC600 Grey</td>
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<table>
<thead>
<tr>
<th>Product</th>
<th>Description</th>
<th>Code</th>
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<tbody>
<tr>
<td>HilonUprimer 3500</td>
<td>Abrasion Resistance Epoxy</td>
<td>EU5001/EUC500 Aluminium Red</td>
</tr>
<tr>
<td>HilonFirm 5550</td>
<td>High Build Epoxy Coating</td>
<td>EB5502/EBC550 Grey</td>
</tr>
<tr>
<td>HilonFlake 5600</td>
<td>Glass Flake Epoxy Coating</td>
<td>GF6002/GFC600 Grey</td>
</tr>
<tr>
<td>HilonThane 5700</td>
<td>Solvent Free Polyurethane Coating</td>
<td>PL7002/PLC700 Grey</td>
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**Tanklining Coating**

<table>
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<tr>
<th>Product</th>
<th>Description</th>
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<tbody>
<tr>
<td>HilonLining 6110</td>
<td>Inorganic Zinc Rich Lining</td>
<td>RT1102/RTC110 Grey</td>
</tr>
<tr>
<td>HilonLining 6120</td>
<td>Epoxy Phenolic Lining</td>
<td>RT1202/RTC120 Grey</td>
</tr>
<tr>
<td>HilonLining 6210</td>
<td>Conductive Epoxy Phenolic Lining</td>
<td>RT2100/RTC210 Black</td>
</tr>
<tr>
<td>HilonLining 6250</td>
<td>Epoxy Novolac Lining</td>
<td>RT2502/RTC250 Grey</td>
</tr>
<tr>
<td>HilonTC 3000H</td>
<td>Solvent Free Epoxy Lining</td>
<td>RT3002/RTC300 Grey</td>
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**High Temperature Coating**

<table>
<thead>
<tr>
<th>Product</th>
<th>Description</th>
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<tbody>
<tr>
<td>HilonTherm 8100</td>
<td>High Temperature Epoxy Phenolic</td>
<td>TH1001/THC100 Red</td>
</tr>
<tr>
<td>HilonTherm 8110</td>
<td>High Temperature Silicone Acrylic</td>
<td>TH1108 Aluminium</td>
</tr>
<tr>
<td>HilonTherm 8120</td>
<td>High Temperature Oleoresinous Aluminium</td>
<td>TH1208 Aluminium</td>
</tr>
<tr>
<td>HilonTherm 8150</td>
<td>High Temperature Silicone</td>
<td>TH1508 Aluminium</td>
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**Aesthetic Finish**

<table>
<thead>
<tr>
<th>Product</th>
<th>Description</th>
<th>Code</th>
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<tbody>
<tr>
<td>HilonDeco Alkyd 9100</td>
<td>Alkyd Finish</td>
<td>AD Series</td>
</tr>
<tr>
<td>HilonDeco Cryl 9200</td>
<td>Acrylic Finish</td>
<td>AC Series</td>
</tr>
<tr>
<td>HilonDeco EP 9300</td>
<td>Epoxy Finish</td>
<td>ED Series/EDC300</td>
</tr>
<tr>
<td>HilonDeco PU 9410</td>
<td>Polyurethane Finish</td>
<td>PU Series/PUC400</td>
</tr>
<tr>
<td>HilonDeco PU 9450</td>
<td>Solvent Free Polyurethane Finish</td>
<td>DU Series/DUC450</td>
</tr>
<tr>
<td>HilonDeco FC 9500</td>
<td>Fluorocarbon Finish</td>
<td>FC Series/FCC400</td>
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</table>

**Others**

<table>
<thead>
<tr>
<th>Product</th>
<th>Description</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>HilonThinner</td>
<td>Thinner, Cleaner</td>
<td>THR Series</td>
</tr>
<tr>
<td>HilonRough</td>
<td>Anti-skid Aggregates</td>
<td>NSA Series</td>
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</table>

**Appendix**

<table>
<thead>
<tr>
<th>Product</th>
<th>Description</th>
<th>Code</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Product Application Guidance</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Abbreviation and Definition</td>
<td></td>
</tr>
</tbody>
</table>

**Note:**

1. Above products are common products in HiLong protective coatings. If other products are needed, please consult HiLong Company.
2. Testing data listed in the TDS are the typical data of the product, not intended to be used as the specification or warranties of the product. Please refer to the product COA for the quality specification.
3. We keep the right for changing the data in the TDS without notification, please consult HiLong Company for the latest TDS version prior to using these products.
HilonShop 1100—Inorganic Zinc Silicate Shop Primer

Product Description
A two pack, zinc ethyl silicate shop (pre-construction) primer.
- Fast drying, hard dry in 5–8 minutes in most of condition
- Good welding property

Recommended Uses
As a shop (pre-construction) primer for the protection of steel during fabrication and assembly. Suitable for use with controlled cathodic protection. As a shop primer, can use in the offshore facilities, petrochemical, chemical industries and engineering equipment etc.

Product Information
<table>
<thead>
<tr>
<th>Colour</th>
<th>Matt</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gloss level</td>
<td>Matt</td>
</tr>
<tr>
<td>Volume Solids</td>
<td>28%±2%</td>
</tr>
<tr>
<td>Typical Thickness</td>
<td>15–25 microns dry equivalent to 54 – 89 microns wet</td>
</tr>
<tr>
<td>Theoretical Coverage</td>
<td>18.7 m²/litre at 15 microns d.f.t</td>
</tr>
<tr>
<td>Mix Ratio</td>
<td>Part A(Base) to Part B(Curing Agent)=1 : 1 (by volume)</td>
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<tr>
<td>Flash Point</td>
<td>8℃</td>
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<tr>
<td>VOC</td>
<td>589 g/l (EPA method 24)</td>
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Drying Time And Overcoating Interval

<table>
<thead>
<tr>
<th>Temperature</th>
<th>5℃ (41℉)</th>
<th>15℃ (59℉)</th>
<th>25℃ (77℉)</th>
<th>40℃ (104℉)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Touch Dry</td>
<td>3 mins</td>
<td>3 mins</td>
<td>3 mins</td>
<td>3 mins</td>
</tr>
<tr>
<td>Hard Dry</td>
<td>8 mins</td>
<td>5 mins</td>
<td>5 mins</td>
<td>4 mins</td>
</tr>
<tr>
<td>Min. Time Before Overcoating</td>
<td>24 hrs</td>
<td>24 hrs</td>
<td>24 hrs</td>
<td>24 hrs</td>
</tr>
<tr>
<td>Max. Time Before Overcoating</td>
<td>Extended *</td>
<td>Extended</td>
<td>Extended</td>
<td>Extended</td>
</tr>
</tbody>
</table>

*See the Definition and Abbreviation.

Surface Preparations
All surfaces to be coated should be clean, dry and free from contamination. Prior to paint application all surfaces should be assessed and treated in accordance with ISO 8504:2000. Oil or grease should be removed in accordance with SSPC-SP1 solvent cleaning.
- Shop Primer: For approved PSPC type coating, please refer to construction guidance.
- Others: Please consult Hilong representative.

Application
Application Condition
The temperature of the substrate should be minimum −10℃(14 ℉) and at least 3℃(5 ℉) above the dew point of the air. Good ventilation is required in confined areas to ensure proper drying.
At relative humidities below 50%, curing will be severely retarded. Care should be taken to avoid excessive film thickness or overapplication, which may interfere with the welding property.

Mixing
Combine 1 parts of Base with 1 part of Curing Agent and mix thoroughly with power agitator.

Pot Life (25℃)
5 hours (Reduced at higher temperature)

Thinner
HilongThinner THR300

Airless Spray
Recommended
Tip Range 0.43–0.53 mm (17–21 thou)
Total output fluid pressure at spray tip not less than 70 kg/cm² (1000 p.s.i.).

Air Spray
Recommended

Brush/Roller
Application by roller is recommended for small areas only. Multiple coats may be required to achieve specified film thickness

Tools Cleaner
HilongThinner THR300

Systems Compatibility
HilonShop 1100 can be used in many system, the following topcoats are recommended for HilonShop 1100:
HilonGuard 2300, HilonGuard 2400, HilonGuard 2510, HilonGuard 2580, HilonFirm 5550, HilonFlake 5600, HilongUprimer 3500. For other suitable topcoats, please consult Hilong representative.

Unit Size
20 litre unit: 10 litres part A (Base) in 20 litres container, 10 litres part B (Curing Agent) in 10 litres container

Storage
Store in dry, shaded conditions away from sources of heat and ignition, in accordance with relevant regulations.
Shelf Life: 12 months minimum at 25℃ (77 ℉) for Part A. 6 months minimum at 25℃ (77 ℉) for Part B. Subject to re-inspection thereafter.

Health And Safety
This product is intended for use only by professional applicators in industrial situations in accordance with the advice given on this sheet and the MSDS. All work involving the application and use of this product should be performed in compliance with all relevant national, Health, Safety & Environmental standards and regulations.

Note
The information in this data sheet is not intended to be exhaustive, for your reference only. The information contained in this data sheet is liable to modification from time to time in the light of experience and our policy of continuous development. Please contact us and request the latest version prior to using the product.
### Surface Preparations

All surfaces to be coated should be clean, dry and free from contamination. Prior to paint application all surfaces should be assessed and treated in accordance with ISO 8504:2000. Oil or grease should be removed in accordance with SSPC-SP1

- **Bare Steel**: Abrasive blast clean to Sa2.5 (ISO 8501–1:2007) or SSPC–SP6. If oxidation has occurred between blasting and application of HilonZinc 1265, the surface should be relasted to the specified visual standard.Surface defects revealed by the blast cleaning process should be ground, filled, or treated in the appropriate manner.A surface profile of 40–75 microns is recommended.

- **Primed Surface**: HilonZinc 1265 is suitable for application to steelwork freshly coated with zinc silicate shop primers. If the zinc shop primer shows extensive or widely scattered breakdown, or excessive zinc corrosion products, overall sweep blasting will be necessary. Other types of shop primer are not suitable for overcoating and will require complete removal by abrasive blast cleaning. Weld seams and damaged areas should be blast cleaned to Sa2.5 (ISO 8501–1:2007) or SSPC–SP6.

### Systems Compatibility

Recommended topcoats/intermediates are: HilonGuard 2400, HilonGuard 2510, HilonGuard 2580, HilonGuard 2610, HilonDeco EP 9300, HilonDeco PU 9400, HilonDeco PU 9410. For other suitable topcoats/intermediates, please consult Hilong representative.

### Unit Size

12 litres unit: 8.57 litres part A (Base) in 20 litres container, 3.43 litres part B (Curing Agent) in 5 litres container.

### Storage

Store in dry, shaded conditions away from sources of heat and ignition, in accordance with relevant regulations.

**Shelf Life:** 12 months minimum at 25°C (77°F). Subject to re-inspection thereafter.

### Health And Safety

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### Application

**Application Condition**

Surface temperature must always be a minimum of 3°C (5°F) above dew point. Good ventilation is required in confined areas to ensure proper drying. During application and the initial drying of the coating, the coating should not be exposed to high humidity.

Avoid excessive film thickness or overapplication, recommended d.f.t should be less than 150 microns.

**Mixing**

Well agitate Part A (Base) alone first. Then combine 2.5 volume of Part A with 1 volume of Part B and mix thoroughly with power agitator.

**Thinner**

HilonThinner THR 100

**Airless Spray**

Recommended, Tip Range 0.43–0.53 mm (17–21 thou)

**Air Spray**

Recommended

**Tools Cleaner**

Suitable – small areas only, typically 25–50 microns can be achieved

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### Drying Time And Overcoating Interval

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<th>25°C (77°F)</th>
<th>40°C (104°F)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Touch Dry</td>
<td>0.5hrs</td>
<td>0.5hrs</td>
<td>15min</td>
<td>5min</td>
</tr>
<tr>
<td>Hard Dry</td>
<td>9hrs</td>
<td>7hrs</td>
<td>5hrs</td>
<td>3hrs</td>
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<tr>
<td>Min. Time Before Overcoating</td>
<td>Extended*</td>
<td>Extended</td>
<td>Extended</td>
<td>Extended</td>
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<tr>
<td>Max. Time Before Overcoating</td>
<td>Extended*</td>
<td>Extended</td>
<td>Extended</td>
<td>Extended</td>
</tr>
</tbody>
</table>

*See the Definition and Abbreviation.

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### Product Information

**Colour**

Grey, Greenish Grey, Red Brown

**Gloss Level**

Matt

**Volume Solids**

68% ± 2%

**Theoretical Coverage**

13.6 m²/litre at 50 microns d.f.t

**Typical Thickness**

50-100 microns dry equivalent to 74-147 microns wet

**Gloss Level**

Matt

**Colour**

Grey, Greenish Grey, Red Brown

**Theoretical Coverage**

13.6 m²/litre at 50 microns d.f.t

**Typical Thickness**

50-100 microns dry equivalent to 74-147 microns wet

**Volume Solids**

68% ± 2%

**Gloss Level**

Matt

**Colour**

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**Volume Solids**

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**Gloss Level**

Matt

**Colour**

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**Theoretical Coverage**

13.6 m²/litre at 50 microns d.f.t

**Typical Thickness**

50-100 microns dry equivalent to 74-147 microns wet

**Volume Solids**

68% ± 2%

**Gloss Level**

Matt

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### Product Description

A two component, metallic zinc rich epoxy primer

- Fast cure at low temperatures
- High volume solid, low VOC
- Complies with the composition and performance requirements of SSPC Paint 20 and HG/T3668

**Recommended Uses**

As a zinc rich primer to form part of a coating system, to provide corrosion protection for steel substrates in a wide range of industrial situations, including high value infrastructure projects, offshore facilities, petrochemical and chemical plants, refineries and bridges.

**Product Information**

- **VOC**: 302 g/lt (EPA method 24)
- **Flash Point**: 25°C
- **Mix Ratio**: Part A (Base) : Part B (Curing Agent) = 2.5 : 1 (by volume)

**Recommended Uses**

- Complies with the composition and performance requirements of SSPC Paint 20 and HG/T3668
- High volume solid, low VOC
- Fast cure at low temperatures

**Product Description**

A two component, metallic zinc rich epoxy primer

- Fast cure at low temperatures
- High volume solid, low VOC
- Complies with the composition and performance requirements of SSPC Paint 20 and HG/T3668

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- High volume solid, low VOC
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**Product Description**

A two component, metallic zinc rich epoxy primer

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- High volume solid, low VOC
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**Product Information**

- **VOC**: 302 g/lt (EPA method 24)
- **Flash Point**: 25°C
- **Mix Ratio**: Part A (Base) : Part B (Curing Agent) = 2.5 : 1 (by volume)

**Recommended Uses**

- Complies with the composition and performance requirements of SSPC Paint 20 and HG/T3668
- High volume solid, low VOC
- Fast cure at low temperatures

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### Systems Compatibility

**Recommended topcoats/intermediates are**: HilonGuard 2400, HilonGuard 2510, HilonGuard 2580, HilonGuard 2610, HilonDeco EP 9300, HilonDeco PU 9400, HilonDeco PU 9410. For other suitable topcoats/intermediates, please consult Hilong representative.

### Unit Size

12 litres unit: 8.57 litres part A (Base) in 20 litres container, 3.43 litres part B (Curing Agent) in 5 litres container.

### Storage

Store in dry, shaded conditions away from sources of heat and ignition, in accordance with relevant regulations.

**Shelf Life:** 12 months minimum at 25°C (77°F). Subject to re-inspection thereafter.

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### Health And Safety

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### Note

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HilonZinc 1280
Epoxy Zinc Rich Primer

Product Description
A two component, rapid recoat, fast curing zinc rich epoxy primer,
- Excellent corrosion prevention properties to provide long term protection for steel structure.
- Containing 80% zinc dust by weight in the dry film. Complies with SSPC Paint 20 and ISO 12944.5.
- Zinc dust conforms to ASTM D520, Type II (low lead) standard.
- Fast curing and long term overcoating interval.

Recommended Uses
As a high performance primer to give maximum protection as part of an anti-corrosive coating system for aggressive environments including offshore structures, petrochemical facilities, pulp and paper plants, bridges and power plants.
HilonZinc 1280 has been designed to provide excellent corrosion resistance in both maintenance and new construction situations.

Product Information

<table>
<thead>
<tr>
<th>Colour</th>
<th>Grey, Greenish grey,</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gloss Level</td>
<td>Matt</td>
</tr>
<tr>
<td>Volume Solids</td>
<td>60% ±2%</td>
</tr>
<tr>
<td>Typical Thickness</td>
<td>50–70 microns dry equivalent to 83–115 microns wet</td>
</tr>
<tr>
<td>Theoretical Coverage</td>
<td>12.0 m²/litre at 50 microns d.f.t</td>
</tr>
<tr>
<td>Mix Ratio</td>
<td>Part A(Base) to Part B(Curing Agent)= 4.5 : 1 (by volume)</td>
</tr>
<tr>
<td>Flash Point</td>
<td>29°C</td>
</tr>
<tr>
<td>VOC</td>
<td>331 g/l (EPA method 24)</td>
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Drying Time And Overcoating Interval

<table>
<thead>
<tr>
<th>Temperature</th>
<th>5°C (41°F)</th>
<th>15°C (59°F)</th>
<th>25°C (77°F)</th>
<th>40°C (104°F)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Touch Dry</td>
<td>2hrs</td>
<td>1.5hrs</td>
<td>1.5hrs</td>
<td>1hrs</td>
</tr>
<tr>
<td>Hard Dry</td>
<td>9hrs</td>
<td>5hrs</td>
<td>3hrs</td>
<td>2hrs</td>
</tr>
<tr>
<td>Min. Time Before</td>
<td>9hrs</td>
<td>5hrs</td>
<td>3hrs</td>
<td>2hrs</td>
</tr>
<tr>
<td>Overcoating</td>
<td>Extended</td>
<td>Extended</td>
<td>Extended</td>
<td>Extended</td>
</tr>
</tbody>
</table>

Surface Preparations
All surfaces to be coated should be clean, dry and free from contamination. Prior to paint application all surfaces should be assessed and treated in accordance with ISO 8504:2000. Oil or grease should be removed in accordance with SSPC–SP1 solvent cleaning.

Bare Steel
Abrasive blast clean to Sa2.5 (ISO 8501–1:2007). A surface profile of 40–75 microns (1.6–3.0 mils) is recommended.

Shop Primer
Approved shop primers must be clean, dry and free from soluble salts and any other surface contaminants. Unapproved shop primers will require complete removal by blast cleaning to Sa2.5 (ISO 8501–1:2007). Consult Hilon representative for specific recommendations.

Others
Please consult Hilon representative.

Application

Application Condition
Surface temperature must always be a minimum of 3°C (5°F) above dew point. Good ventilation is required in confined areas to ensure proper drying. During application and the initial drying of the coating, the coating should not be exposed to high humidity.

Mixing
Combine 4.5 parts of Base with 1 part of Curing Agent and mix thoroughly with power agitator.

Pot Life (23°C)
5 hours (Reduced at higher temperature)

Thinner
HilonThinner THR100

Application

Airless Spray
Recommended
Tip Range 0.43–0.53 mm (17–21 thou)
Total output fluid pressure at spray tip not less than 170 kg/cm² (2420 p.s.i.)

Air Spray
Recommended

Brush
Application by brush is recommended for small areas only.

Cleaner
HilonThinner THR100

Unit Size
11 litre unit: 9 litres part A (Base) in 12 litres container, 2 litres part B (Curing agent) in 5 litres container

Storage
Store in dry, shaded conditions away from sources of heat and ignition, in accordance with relevant regulations.
Shelf Life: 12 months minimum at 25°C (77°F). Subject to re-inspection thereafter.

Health And Safety
This product is intended for use only by professional applicators in industrial situations in accordance with the advice given on this sheet and the MSDS. All work involving the application and use of this product should be performed in compliance with all relevant national, Health, Safety & Environmental standards and regulations.

Note
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Product Description

A two component, rapid recoat, fast curing solvent based inorganic zinc rich silicate primer,
– Excellent corrosion resistance to provide long term protection for steel structure.
– Containing 85% zinc dust by weight in the dry film. Complies with SSPC Paint 20, level 1 and ISO12944.5.
– Zinc dust conforms to ASTM D520, Type II (low lead) standard.

Recommended Uses

A zinc rich primer suitable for use with a wide range of high performance systems and topcoats in the construction of offshore structures, bridges, tanks, airport, structural steelwork and pipework. Provides excellent corrosion protection for correctly prepared steel substrates. Can also be used as single coating system for high temperature anti-corrosion protection, can tolerate dry temperature to 400℃ (752℉). Up to temperatures of 550°C (1022℉) when suitably topcoated.

Product Information

<table>
<thead>
<tr>
<th>Colour</th>
<th>Greenish grey, Grey</th>
</tr>
</thead>
<tbody>
<tr>
<td>Volume Solids</td>
<td>64% ± 2%</td>
</tr>
<tr>
<td>Typical Thickness</td>
<td>50–75 microns dry equivalent to 78–117 microns wet</td>
</tr>
<tr>
<td>Theoretical Coverage</td>
<td>12.8 m²/litre at 50 microns d.f.t</td>
</tr>
<tr>
<td>Mix Ratio</td>
<td>Part A(Base) to Part B(Zinc Powder)= 3.1:1(by volume)</td>
</tr>
<tr>
<td>Flash Point</td>
<td>19℃</td>
</tr>
<tr>
<td>VOC</td>
<td>465 g/lt (EPA method 24)</td>
</tr>
</tbody>
</table>

Drying Time And Overcoating Interval

<table>
<thead>
<tr>
<th>Temperature</th>
<th>5℃ (41℉)</th>
<th>15℃ (59℉)</th>
<th>25℃ (77℉)</th>
<th>40℃ (104℉)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Touch Dry</td>
<td>30mins</td>
<td>10mins</td>
<td>5mins</td>
<td>5mins</td>
</tr>
<tr>
<td>Hard Dry</td>
<td>2hrs</td>
<td>1hr</td>
<td>0.5hrs</td>
<td>0.5hrs</td>
</tr>
<tr>
<td>Set Time</td>
<td>18hrs</td>
<td>10hrs</td>
<td>4hrs</td>
<td>2hrs</td>
</tr>
<tr>
<td>Min. Time Before Overcoating</td>
<td>18hrs</td>
<td>10hrs</td>
<td>4hrs</td>
<td>2hrs</td>
</tr>
<tr>
<td>Max. Time Before Overcoating</td>
<td>Extended</td>
<td>Extended</td>
<td>Extended</td>
<td>Extended</td>
</tr>
</tbody>
</table>

* The figures quoted above have been determined at the quoted temperature and 60% relative humidity.

Surface Preparations

All surfaces to be coated should be clean, dry and free from contamination. Prior to paint application all surfaces should be assessed and treated in accordance with ISO 8504-2000. Oil or grease should be removed in accordance with SSPC-SP1 solvent cleaning.

Bare Steel
Abrasive blast clean to Sa2.5 (ISO 8501–1:2007). A surface profile of 40–75 microns (1.6–3.0 mils) is recommended.

Shop Primer
Approved shop primers must be clean, dry and free from soluble salts and any other surface contaminants. Unapproved shop primers will require complete removal by blast cleaning to Sa2.5 (ISO 8501–1: 2007). Consult Hilong representative for specific recommendations.

Others
Please consult Hilong representative.

Health And Safety

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Note
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Product Description
A one component, fast drying, high performance, universal alkyd primer.

Recommended Uses
As a alkyd primer to form part of a coating system, to provide corrosion protection for steel substrates in mild corrosive environment. Can use as a maintenance primer on hand prepared steel. Suitable for use in both maintenance and new construction situations.

Product Information
Colour Grey, Red Oxide
Gloss Level Matt
Volume Solids 43% ± 2%
Typical Thickness 50–75 microns dry equivalent to 116–175 microns wet
Theoretical Coverage 7.13 m²/liter at 60 microns d.f.i
Mix Ratio Not applicable
Flash Point 36°C
VOC 490 g/liter (EPA method 24)

Drying Time
Temperature Touch Dry Hard Dry
-5°C (23°F) 8 hrs 48 hrs
10°C (50°F) 2 hrs 15 hrs
25°C (77°F) 60 minutes 4 hrs
35°C (95°F) 30 minutes 2 hrs

Overcoating Interval
HilonGuard 2100 8 hrs Extended* 2 hrs Extended* 1 hr Extended* 30 min Extended*
HilonDeco Alkyd 9100 24 hrs 3 days 3 hrs 3 days 2 hrs 2 days 1 hr 24 hrs
HilonDeco Cryl 9200 24 hrs 3 days 24 hrs 3 days 12 hrs 2 days 6 hrs 24 hrs
HilonDeco Pu 9400 – – 24 hrs 7 days 12 hrs 7 days 6 hrs 3 days
HilonTherm 8120 24 hrs 28 days 3 hrs 28 days 2 hrs 28 days 2 hrs 28 days

Surface Preparations
All surfaces to be coated should be clean, dry and free from contamination. Prior to paint application all surfaces should be assessed and treated in accordance with ISO 8504:2000.Oil or grease should be removed in accordance with SSPC–SP1 solvent cleaning.

Bare Steel
Abrasive blast clean to Sa2(ISO 8501–1:2007).

Maintenance and Site Touch-up
Some areas could accept power tools treated to St2 (ISO 8501–1:2007).
Seams and damaged areas should be cleaned to St2 (ISO 8501–1:2007) by power tools, or grit sweep blasting to Sa1 (ISO 8501–1:2007), and apply 2–3 cm of HilonGuard 2100 to old coatings.
Others
Please consult Hilong representative.

Application
Application Condition
Surface temperature must always be a minimum of 3°C(5°F) above dew point. Good ventilation is required in confined areas to ensure proper drying. Avoid too thick coating.
Mixing
This material is a one component coating and should always be mixed thoroughly with a power agitator before application.

Thinner
HilongThinner THR200

Airless Spray
Recommended Tip Range 0.53–0.66 mm (21–26 thou)
Total output fluid pressure at spray tip not less than 170 kg/cm² (2420 p.s.i.)

Air Spray
Suitable
Brush / Roller
Propose to use in small areas application and pre-coating. Probably need multiple application to achieve the specified thickness.
Tools Cleaner
HilongThinner THR200

Systems Compatibility
HilonGuard 2100 is normally applied to either blasted or hand or power tool cleaned steel. However, it is suitable for application over the following primers and is compatible for touch-up overlap on existing convertible coatings:
HilonGuard 2510, HilonGuard 2300. Topcoats refer to the overcoating data.

Unit Size
20 or 5 litres unit: 20 litres coating in 20 litres container; 5 litres coating in 5 litres container.

Storage
Store in dry, shaded conditions away from sources of heat and ignition, in accordance with relevant regulations.
Shelf Life: 12 months minimum at 25℃ (77°F). Subject to re-inspection thereafter

Health And Safety
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**Product Description**

A two component epoxy anti-corrosive primer pigmented with zinc phosphate.

- Good anti-corrosive and physical performances.
- Fast drying and handling properties.
- Long term overcoatability.

**Recommended Uses**

For use on properly prepared surfaces in both new construction situations and as an industrial maintenance primer for a wide range of anti-corrosive coatings systems for use in the offshore, petrochemical, chemical industries and engineering equipment etc.

The fast drying and handling properties, together with extended overcoatability, make this an excellent primer for factory application prior to full system application on site. HilonGuard 2300 provides good abrasion resistance which minimises mechanical damage in transit between the factory and site.

**Product Information**

- **Colour**: Red Oxide and a variety of colors
- **Gloss Level**: Matt
- **Volume Solids**: 62% ± 2%
- **Typical Thickness**: 50–75 microns dry equivalent to 81–121 microns wet
- **Theoretical Coverage**: 10.4 m²/litre at 60 microns d.f.
- **Mix Ratio**: Part A (Base) : Part B (Curing Agent) = 3.5 : 1 (by volume)
- **Flash Point**: 24°C
- **VOC**: 385 g/l (EPA method 24)

**Drying Time And Overcoating Interval**

<table>
<thead>
<tr>
<th>Temperature</th>
<th>Touch Dry</th>
<th>Hard Dry</th>
<th>Min. Time Before Overcoating</th>
<th>Max. Time Before Overcoating</th>
</tr>
</thead>
<tbody>
<tr>
<td>10°C (50°F)</td>
<td>2hrs</td>
<td>8hrs</td>
<td>8hrs</td>
<td>Extended*</td>
</tr>
<tr>
<td>15°C (59°F)</td>
<td>1hr</td>
<td>5.5hrs</td>
<td>5.5hrs</td>
<td>Extended</td>
</tr>
<tr>
<td>25°C (77°F)</td>
<td>0.5hrs</td>
<td>3.5hrs</td>
<td>3.5hrs</td>
<td>Extended</td>
</tr>
<tr>
<td>40°C (104°F)</td>
<td>0.5hrs</td>
<td>2hrs</td>
<td>2hrs</td>
<td>Extended</td>
</tr>
</tbody>
</table>

* See the definition and abbreviation.

**Surface Preparations**

All surfaces to be coated should be clean, dry and free from contamination. Prior to paint application all surfaces should be assessed and treated in accordance with ISO 8504:2000. Oil or grease should be removed in accordance with SSPC-SP1 solvent cleaning.

- **Bare Steel**: Abrasive blast clean to Sa2.5 (ISO 8501-1:2007) or SSPC-SP6. If oxidation has occurred between blasting and application of HilonGuard 2300, the surface should be reblasted to the specified visual standard. Surface defects revealed by the blast cleaning process should be ground, filled, or treated in the appropriate manner. Surface profile suggested to be a minimum of 50 microns.

- **Shop Primed Steelwork**: Weld seams and damaged areas should be cleaned to Sa2.5 (ISO 8501-1:2007) or SSPC-SP6 with blasting to have optimum performance. If the shop primer shows extensive or widely scattered breakdown, overall sweep blasting may be necessary.

- **Others**: Please consult Hilong representative.

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**Application**

**Application Condition**

- **Surface temperature must always be a minimum of 3°C (5°F) above dew point. This product will not cure adequately below 5°C (41°F). For maximum performance, curing temperatures should be above 10°C (50°F). Good ventilation is required in confined areas to ensure proper drying. Avoid too thick coating.**

**Mixing**

- **Well agitate Part A (Base) and Part B (Curing Agent) separately. Then combine 3.5 volume of Part A with 1 volume of Part B and mix thoroughly with power agitator.**

- **Pot Life (25°C)**: 5 hours (Reduced at higher temperature)

- **Thinner**

- **HilongThinner THR100**

- **Airless Spray**

- **Recommended. Tip Range 0.38–0.53 mm (15–21 thou). Total output fluid pressure at spray tip not less than 155 kg/cm² (2200 p.s.i.).**

- **Air Spray**

- **Recommended**

- **Tools Cleaner**

- **HilongThinner THR100**

**Systems Compatibility**

The following primers are recommended for HilonGuard 2300: HilonZinc 1280, HilonZinc 1385.

The following topcoats are recommended for HilonGuard 2300:


Alternative primers / topcoats are also available, please consult Hilong representative.

**Unit Size**

- **20 litres unit: 15.56 litres part A (Base) in 20 litres container, 4.44 litres part B (Curing Agent) in 5 litres container.**

**Storage**

Store in dry, shaded conditions away from sources of heat and ignition, in accordance with relevant regulations.

**Shelf Life:** 12 months minimum at 25°C (77°F). Subject to re-inspection thereafter

**Health And Safety**

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**Note**

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Product Description
A two component, low VOC, high solids, fast curing epoxy primer/finish containing zinc phosphate anti-corrosive pigmenta-
tion. – Fast drying and rapid recoating property.
– Good anti-corrosion properties and good abrasion resistance performance.
– Can provide good anti-corrosion and decoration performance with one coat in moderately corrosive environments.

Recommended Uses
Suitable for use as a one or two coat primer/finish coating or as an intermediate over recommended anti-corrosive primers.
Provides an anti-corrosive protection of steel structures applied to wind energy, airport and business buildings. HilonGuard 2320 could also provide mid chemical pollution resistance.

Product Information

<table>
<thead>
<tr>
<th>Colour</th>
<th>Wide range of colors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gloss Level</td>
<td>Semi Gloss</td>
</tr>
<tr>
<td>Volume Solids</td>
<td>71% ± 2%</td>
</tr>
<tr>
<td>Typical Thickness</td>
<td>100-175 microns dry equivalent to 141-248 microns wet</td>
</tr>
<tr>
<td>Theoretical Coverage</td>
<td>7.1 m²/litre at 100 microns d.f.</td>
</tr>
<tr>
<td>Mix Ratio</td>
<td>Part A (Base) : Part B (Curing Agent) = 4.5 : 1 (by volume)</td>
</tr>
<tr>
<td>Flash Point</td>
<td>33°C</td>
</tr>
<tr>
<td>VOC</td>
<td>316 g/l (EPA method 24)</td>
</tr>
</tbody>
</table>

Drying Time And Overcoating Interval

<table>
<thead>
<tr>
<th>Temperature</th>
<th>10°C (50°F)</th>
<th>15°C (59°F)</th>
<th>25°C (77°F)</th>
<th>40°C (104°F)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Touch Dry</td>
<td>1.5hrs</td>
<td>1.5hrs</td>
<td>1hr</td>
<td>0.5hr</td>
</tr>
<tr>
<td>Hard Dry</td>
<td>8hrs</td>
<td>6hrs</td>
<td>3hrs</td>
<td>1.5hrs</td>
</tr>
<tr>
<td>Min. Time Before Overcoating</td>
<td>8hrs</td>
<td>6hrs</td>
<td>3hrs</td>
<td>1.5hrs</td>
</tr>
<tr>
<td>Max. Time Before Overcoating</td>
<td>Extended*</td>
<td>Extended</td>
<td>Extended</td>
<td>Extended</td>
</tr>
</tbody>
</table>

* See the definition and abbreviation.

Surface Preparations
All surfaces to be coated should be clean, dry and free from contamination. Prior to paint application all surfaces should be assessed and treated in accordance with ISO 8504:2000. Oil or grease should be removed in accordance with SSPC–SP1 solvent cleaning.

Bare Steel
Abrasive blast clean to Sa2.5 (ISO 8501–1:2007) or SSPC-SP6. If oxidation has occurred between blasting and application of HilonGuard 2320, the surface should be reblasted to the specified visual standard. Surface defects revealed by the blast cleaning process should be ground, filed, or treated in the appropriate manner.

Primed Surfaces
Weld seams and damaged areas should be blast cleaned to Sa2.5 (ISO 8501–1:2007) or SSPC-SP6. If the shop primer shows extensive or widely scattered breakdown overall sweep blasting may be necessary.

Concrete,
HilonGuard 2320 is suitable for application to concrete. For the first coat it is recommended that HilonGuard 2320 is thinned 10–15% by HilonThinners in order to provide good penetration of the concrete substrate and act as a primer / sealer coat. Concrete should be cured for a minimum of 28 days prior to coating. The moisture content of the concrete should be below 6%. All surfaces should be clean, dry and free from contamination laitence.

Others
Please consult our Hilong representative.

Application

Application Condition
Substrate surface temperature must be kept at least 3°C (5°F) above the dew point. This product could not be fully cured under 5°C (41°F). Good ventilation is required in confined areas to ensure proper drying. During application and the initial drying of the coating, the coating should not be exposed to high humidity.

Mixing
Well agitate Part A (Base) and Part B (Curing Agent) separately. Then combine 4.5 volume of Part A with 1 volume of Part B and mix thoroughly with power agitator.

Pot Life (25°C)
1 hour (Reduced at higher temperature)

Airless Spray
Recommended, Tip Range 0.43–0.53 mm (17–21 thou).
Total output fluid pressure at spray tip not less than 170kg/cm² (2420 p.s.i.).

Health And Safety
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**Product Information**

**Colour**  
Wide colour range available

**Gloss Level**  
Semi gloss

**Volume Solids**  
83% ± 3%

**Typical Thickness**  
100–250 microns dry equivalent to 120–300 microns wet

**Theoretical Coverage**  
6.92 m²/litre at 120 microns d.f.t

**Mix Ratio**  
Part A(Base) to Part B(Curing Agent)= 5.5 : 1 (by volume)

**Flash Point**  
38°C

**VOC**  
232 g/l (EPA method 24)

**Drying Time And Overcoating Interval**

<table>
<thead>
<tr>
<th>Application Condition</th>
<th>Touch Dry</th>
<th>10°C (50°F)</th>
<th>15°C (59°F)</th>
<th>25°C (77°F)</th>
<th>40°C (104°F)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hard Dry</td>
<td>30hrs</td>
<td>24hrs</td>
<td>16hrs</td>
<td>6hrs</td>
<td></td>
</tr>
<tr>
<td>Min. Time Before Overcoating</td>
<td>30hrs</td>
<td>24hrs</td>
<td>16hrs</td>
<td>6hrs</td>
<td></td>
</tr>
<tr>
<td>Max. Time Before Overcoating</td>
<td>30hrs</td>
<td>24hrs</td>
<td>16hrs</td>
<td>6hrs</td>
<td></td>
</tr>
</tbody>
</table>

* For curing at low temperatures, an alternative curing agent is available. Consult Hilong representative for specific recommendations.

**Surface Preparations**

All surfaces to be coated should be clean, dry and free from contamination. Prior to paint application all surfaces should be assessed and treated in accordance with ISO 8504:2000. Oil or grease should be removed in accordance with SSPC-SP1 solvent cleaning.

**Bare Steel**

For immersion service, HilonGuard 2400 must be applied to surfaces blast cleaned to Sa2.5 (ISO 8501–1:2007) or SSPC–SP10. However, for atmospheric exposure best performance will be achieved when HilonGuard 2400 is applied to surfaces prepared to a minimum of Sa2.5 or Sa2 (ISO 8501–1:2007). A surface profile of 50–75 microns is recommended. Hand or power tool clean to a minimum St2 (ISO 8501–1:2007).

**Surface with Primer**

Approved primers must be clean, dry and free from soluble salts and any other surface contaminants. Unapproved primers will require complete removal by blast cleaning to Sa2.5 (ISO 8501–1: 2007). Consult Hilong representative for specific recommendations.

**Aged Coatings**

HilonGuard 2400 is suitable for overcoating a limited range of intact, tightly adherent aged coatings. Loose or flaking coatings should be removed back to a firm edge. Glossy finishes may require light abrasion to provide a physical roughness.

**Application**

**Application Condition**

Surface temperature must always be a minimum of 3°C (5°F) above dew point. Good ventilation is required in confined areas to ensure proper drying. During application and the initial drying of the coating, the coating should not be exposed to high humidity.

**Mixing**

Combine 5.5 parts of Base with 1 part of Curing Agent and mix thorougly with power agitator.

**Pot Life (23°C)**

2 hours (Reduced at higher temperature)

**Thinner**

HilonThinner THR100

**Airless Spray**

Recommended

**Tip Range** 0.45–0.58 mm (18–23 thou)

**Air Spray**

Recommended

**Brush**

Application by brush is recommended for small areas only. Multiple coats may be required to achieve specified film thickness

**Cleaner**

HilonThinner THR100

**Health And Safety**

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Product Description

A high build, two component epoxy, with extended overcoating ability.

- Pigmented with lamellar micaceous iron oxide for enhanced corrosion resistance
- Good abrasion resistant property

Recommended Uses

As a corrosion resistant high build primer/intermediate or finish coat, to provide excellent barrier protection as part of a high performance system in aggressive environments including offshore structures, bridges, chemical and petrochemical plants, and power stations.

Suitable for use in both new construction and industrial maintenance situations.

Product Information

Colour
Red, Grey, Silver Grey

Gloss Level
Matt

Volume Solids
64% ± 2%

Typical Thickness
100 – 150 microns dry equivalent to 156 – 234 microns wet

Theoretical Coverage
5.3 m²/liter at 120 microns d.f.t and stated volume solids

Mix Ratio
Part A (Base) : Part B (Curing Agent) = 5.6 : 1 (by volume)

Flash Point
25°C

VOC
297 g/liter (EPA method 24)

Drying Time And Overcoating Interval

<table>
<thead>
<tr>
<th>Temperature</th>
<th>Touch Dry</th>
<th>Hard Dry</th>
<th>Min. Time Before Overcoating</th>
<th>Max. Time Before Overcoating</th>
</tr>
</thead>
<tbody>
<tr>
<td>10°C (50°F)</td>
<td>6 hrs</td>
<td>24 hrs</td>
<td>26 hrs</td>
<td>Extended*</td>
</tr>
<tr>
<td>15°C (59°F)</td>
<td>4 hrs</td>
<td>18 hrs</td>
<td>20 hrs</td>
<td>Extended</td>
</tr>
<tr>
<td>25°C (77°F)</td>
<td>2 hrs</td>
<td>9 hrs</td>
<td>12 hrs</td>
<td>Extended</td>
</tr>
<tr>
<td>40°C (104°F)</td>
<td>1 hr</td>
<td>6 hrs</td>
<td>8 hrs</td>
<td>Extended</td>
</tr>
</tbody>
</table>

* See the Definition and Abbreviation.

Surface Preparations

The surface to be coated should be clean, dry and free from contamination. Prior to paint application, all surfaces should be assessed and treated in accordance with ISO 8504:2000. Oil or grease should be removed in accordance with SSPC-SP1 solvent cleaning.

Bare Steel
Abraasive blast clean to Sa2.5 (ISO 8501-1:2007).
Some areas could accept power tools treated to St2 (ISO 8501-1:2007).

Shop Primed Surfaces
Approved shop primed surfaces must be clean, dry and free from soluble salts or other contamination. Unapproved shop primed surfaces need to be blast cleaned to Sa2.5 (ISO 8501-1:2007). For details please consult Hilonggroup representative.

Others
Please consult Hilonggroup representative.

Application

Application Condition
Surface temperature must always be a minimum of 3°C (5°F) above dew point. This product will not cure adequately below 5°C (41°F). Good ventilation is required in confined areas to ensure proper drying.

Mixing
Well agitate Part A (Base) and Part B (Curing Agent) separately. Then combine 5.6 volume of Part A with 1 volume of Part B and mix thoroughly with power agitator.

Pot Life(25°C)
3 hours (Reduced at higher temperature)

Thinner
HilonThinner THR100

Airless Spray
Recommended
Tip Range 0.46–0.58 mm (18–23 thou)

Air Spray
Total output fluid pressure at spray tip not less than 170 kg/cm² (2420 p.s.i.)

Recommended
Suitable – small areas only

Tools Cleaner
HilonThinner THR100

Systems Compatibility

As a primer applied directly to the appropriate treatment of steel, it is suitable for application over the following primers and is compatible for the following topcoatings. For other compatibility, please consult Hilonggroup representative.

Primers: HilonGuard 2300, HilonGuard 2510, HilonGuard 2600, HilonZinc 1280, HilonZinc 1385.


Unit Size

20 litres unit: 16.97 litres part A (Base) in a 20 litres container, 3.03 litres part B (Curing Agent) in a 5 litres container.

Storage

Store in dry, shaded conditions away from sources of heat and ignition, in accordance with relevant regulations.

Shelf Life: 12 months minimum at 25℃ (77°F). Subject to re-inspection thereafter

Health And Safety

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Please contact us and request the latest version prior to using the product.
Product Description

A quick drying two component epoxy primer. Can also be used as a tie coat.

- Excellent adhesive property, can use on properly prepared stainless steel and galvanized steel.

- Suitable for overcoating after prolonged periods of weathering.

Recommended Uses

As a blast holding primer suitable for use in immersed and exposed conditions and overcoatable with a wide range of high performance systems. For use at both new construction and maintenance. Also for use as a tie coat on zinc silicate to prevent zinc salt formation on weathering and pinholing of subsequent high build topcoats.

Product Information

<table>
<thead>
<tr>
<th>Colour</th>
<th>Red and a selected range of colors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gloss Level</td>
<td>Matt</td>
</tr>
<tr>
<td>Volume Solids</td>
<td>48% ± 2%</td>
</tr>
<tr>
<td>Typical Thickness</td>
<td>30–50 microns dry equivalent to 63–104 microns wet</td>
</tr>
<tr>
<td>Theoretical Coverage</td>
<td>12.05 m²/litre at 40 microns d.f.t</td>
</tr>
<tr>
<td>Mix Ratio</td>
<td>Part A(Base) to Part B(Curing Agent)= 4 : 1(by volume)</td>
</tr>
<tr>
<td>Flash Point</td>
<td>25°C</td>
</tr>
<tr>
<td>VOC</td>
<td>443 g/lt (EPA method 24)</td>
</tr>
<tr>
<td>VOC</td>
<td>443 g/lt (EPA method 24)</td>
</tr>
</tbody>
</table>

Drying Time And Overcoating Interval

Temperature | 10°C (50°F) | 15°C (59°F) | 25°C (77°F) | 40°C (104°F) |

| Touch Dry | 1hrs | 0hrs | 0.5hrs | 15mins |
| Hard Dry  | 15hrs| 1hrs | 7hrs  | 1hrs   |

| Min. Time Before Overcoating | 15hrs | 1hrs | 7hrs  | 4hrs   |
| Max. Time Before Overcoating | Extended*| Extended| Extended| Extended|

* See the Definition and Abbreviation.

Surface Preparations

All surfaces to be coated should be clean, dry and free from contamination. Prior to paint application all surfaces should be assessed and treated in accordance with ISO 8504:2000. Oil or grease should be removed in accordance with SSPC-SP1 (oil, grease, salt etc) and overcoated with HilonGuard 2510 within the overcoating intervals specified for the primer (consult the relevant product data sheet).

Health And Safety

This product is intended for use only by professional applicators in industrial situations in accordance with the advice given on this sheet and the MSDS. All work involving the application and use of this product should be performed in compliance with all relevant national, Health, Safety & Environmental standards and regulations.

Note

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Systems Compatibility

HilonGuard 2510 is suitable for use over the following primers:

- HilonZinc 1280
- HilonZinc 1385

The following topcoats/intermediates are recommended for HilonGuard 2510:

- HilonGuard 2300
- HilonGuard 2400
- HilonGuard 2580
- HilonFirm 5550
- HilonFlake 5600
- HilonDeco EP 9300
- HilonDeco PU 9400
- HilonDeco PU 9410

Unit Size

20 litre unit: 16 litres part A (Base) in 20 litres container, 4 litres part B (Curing agent) in 5 litres container.

Storage

Store in dry, shaded conditions away from sources of heat and ignition, in accordance with relevant regulations. Shelf Life: 12 months minimum at 25°C (77°F). Subject to re-inspection thereafter.

Application

Application Condition

The temperature of the substrate should be minimum 5°C (41°F) and at least 3°C (5°F) above the dew point of the air. Good ventilation is required in confined areas to ensure proper drying. During application and the initial drying of the coating, the coating should not be exposed to high humidity.

Mixing

Combine 4 parts of Base with 1 part of Curing Agent and mix thoroughly with power agitator.

Pot Life (23°C )

8 hours (Reduced at higher temperature)

Thinner

HilonThinner THR100

Airless Spray

Recommended

Tip Range 0.38–0.53 mm (15–21 thou)

Total output fluid pressure at spray tip not less than 140kg/cm² (2000 p.s.i.)

Air Spray

Recommended

Brush

Application by brush is recommended for small areas only, typical thickness is 25–30 microns

Cleaner

HilonThinner THR100

Please consult Hilong representative.

HilonThinner THR100

Publish date: May 8, 2014

Page 2 of 2
Product Description
A high build, two component epoxy coating. Pigmented with micaceous iron oxide (MIO) to provide enhanced overcoating properties. Also available with non-MIO conventional pigmentation

- Low VOC, high volume solids
- Excellent barrier effect
- Long term overcoating properties
- Combined with suitable primer and topcoating to form an economical and high performance protection system

Recommended Uses
For use as an intermediate to improve barrier protection for a range of anti-corrosive coating systems in a wide range of environments including offshore structures, petrochemical plants, power plants and bridges. Suitable for use in both maintenance and new construction situations as part of an anti-corrosive coating system. The micaceous iron oxide version improves long term overcoating properties, better facilitating application in the fabrication shop.

Product Information

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colour</td>
<td>Light grey MIO and a selected range of colors</td>
</tr>
<tr>
<td>Gloss Level</td>
<td>Matt</td>
</tr>
<tr>
<td>Volume Solids</td>
<td>82% ± 2%</td>
</tr>
<tr>
<td>Typical Thickness</td>
<td>100–200 microns dry equivalent to 122–245 microns wet</td>
</tr>
<tr>
<td>Theoretical Coverage</td>
<td>6.56 m²/litre at 125 microns d.f.t</td>
</tr>
<tr>
<td>Mix Ratio</td>
<td>Part A (Base) to Part B (Curing Agent) = 3 : 1 (by volume)</td>
</tr>
<tr>
<td>Flash Point</td>
<td>32°C</td>
</tr>
<tr>
<td>VOC</td>
<td>202 g/litre (EPA method 24)</td>
</tr>
</tbody>
</table>

Drying Time And Overcoating Interval

<table>
<thead>
<tr>
<th>Temperature</th>
<th>Touch Dry</th>
<th>Hard Dry</th>
<th>Min. Time Before Overcoating</th>
<th>Max. Time Before Overcoating</th>
</tr>
</thead>
<tbody>
<tr>
<td>5°C (41°F)*</td>
<td>1.5hrs</td>
<td>16hrs</td>
<td>16hrs</td>
<td>Extended</td>
</tr>
<tr>
<td>15°C (59°F)</td>
<td>1.5hrs</td>
<td>10hrs</td>
<td>10hrs</td>
<td>Extended</td>
</tr>
<tr>
<td>25°C (77°F)</td>
<td>1hrs</td>
<td>4hrs</td>
<td>4hrs</td>
<td>Extended</td>
</tr>
<tr>
<td>40°C (104°F)</td>
<td>1hrs</td>
<td>2hrs</td>
<td>2hrs</td>
<td>Extended</td>
</tr>
</tbody>
</table>

* For curing at low temperatures, an alternative curing agent is available. Consult Hilong representative for specific recommendations.

Surface Preparations
All surfaces to be coated should be clean, dry and free from contamination. Prior to paint application all surfaces should be assessed and treated in accordance with ISO 8504:2000. Oil or grease should be removed in accordance with SSPC-SP1 solvent cleaning.

Primed Surfaces
HilonGuard 2580 should always be applied over a recommended anti-corrosive coating scheme. The primer surface should be dry and free from all contamination, and HilonGuard 2580 must be applied within the overcoating intervals specified (consult the relevant product data sheet). Areas of breakdown, damage etc., should be prepared to the specified standard (e.g. SSPC-SP6 or Sa2.5 (ISO 8501–1:2007), Abrasive Blasting, or SSPC–SP11, Power Tool Cleaning) and patch primed prior to the application of HilonGuard 2580.

Zinc Primed Surfaces
Ensure that the surface of the primer is clean, dry and free from contamination and zinc salts before application of HilonGuard 2580. Ensure zinc primers are fully cured before overcoating.

Others
Please consult Hilong representative.

Application

**Application Condition**
Surface temperature must always be a minimum of 3°C (5°F) above dew point. Good ventilation is required in confined areas to ensure proper drying. During application and the initial drying of the coating, the coating should not be exposed to high humidity.

Mixing
Combine 3 parts of Base with 1 part of Curing Agent and mix thoroughly with power agitator.

Pot Life (23°C)
2 hours (Reduced at higher temperature)

Thinner
HilonThinner THR200

Airless Spray
Recommended
Tip Range 0.53–0.63 mm (21–25 thou)
Total output fluid pressure at spray tip not less than 190 kg/cm²(2700 p.s.i.)

Air Spray
Recommended
Brush
Application by brush is recommended for small areas only. Typical Thickness is 75 microns

Cleaner
HilonThinner THR200

Systems Compatibility
HilonGuard 2580 is designed for application over approved prefabrication primers. Further details of these can be obtained from Hilong representative.

Recommended primers are:

- HilonGuard 2300
- HilonGuard 2400
- HilonGuard 2510
- HilonGuard 2600
- HilonZinc 1280
- HilonZinc 1385

Recommended topcoats are:

- HilonDeco EP 9300
- HilonDeco PU 9400
- HilonGuard 2580

Unit Size
20 litre unit: 15 litres part A (Base) in 20 litres container, 5 litres part B (Curing Agent) in 5 litres container

Storage
Store in dry, shaded conditions away from sources of heat and ignition, in accordance with relevant regulations. Shelf Life: 12 months minimum at 25°C (77°F). Subject to re-inspection thereafter

Health And Safety
This product is intended for use only by professional applicators in industrial situations in accordance with the advice given on this sheet and the MSDS. All work involving the application and use of this product should be performed in compliance with all relevant national, Health, Safety & Environmental standards and regulations.

Note
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Product Description
A two component, fast drying epoxy primer, formulated with zinc phosphate/micaceous iron oxide to enhance anti-corrosive properties.
- Excellent fast curing property, can curing even under low temperature conditions (below 0℃).
- Good anti-corrosive properties.
- Can improve the productivity remarkably by the fast drying and overcoating properties

Recommended Uses
As a primer for steelwork intended for use in a wide range of aggressive environments, including offshore, chemical and petrochemical plants, industrial buildings, power plants and bridges.
Suitable for overcoating within 2–3 hours in most climatic conditions hence speeding up production and throughput in fabrication shops. Can also be used on site as a rapid curing, maintenance coating.

Product Information

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colour</td>
<td>Light Grey</td>
</tr>
<tr>
<td>Gloss Level</td>
<td>Matt</td>
</tr>
<tr>
<td>Volume Solids</td>
<td>68% ± 2%</td>
</tr>
<tr>
<td>Typical Thickness</td>
<td>75–100 microns dry equivalent to 110–147 microns wet</td>
</tr>
<tr>
<td>Theoretical Coverage</td>
<td>9.07 m²/litre at 75 microns d.f.</td>
</tr>
<tr>
<td>Mix Ratio</td>
<td>Part A (Base) : Part B (Curing Agent) = 3 : 1 (by volume)</td>
</tr>
<tr>
<td>Flash Point</td>
<td>28℃</td>
</tr>
<tr>
<td>VOC</td>
<td>314 g/l (EPA method 24)</td>
</tr>
</tbody>
</table>

Drying Time And Overcoating Interval

<table>
<thead>
<tr>
<th>Temperature</th>
<th>Touch Dry</th>
<th>Hard Dry</th>
<th>Min. Time Before Overcoating</th>
<th>Max. Time Before Overcoating</th>
</tr>
</thead>
<tbody>
<tr>
<td>10°C (50°F)</td>
<td>1hr</td>
<td>4.5hrs</td>
<td>3hrs</td>
<td>Extended#</td>
</tr>
<tr>
<td>15°C (59°F)</td>
<td>0.5hr</td>
<td>3hrs</td>
<td>2hrs</td>
<td>Extended</td>
</tr>
<tr>
<td>25°C (77°F)</td>
<td>0.5hr</td>
<td>2hrs</td>
<td>1hr</td>
<td>Extended</td>
</tr>
<tr>
<td>40°C (104°F)</td>
<td>15 minutes</td>
<td></td>
<td>30minutes</td>
<td></td>
</tr>
</tbody>
</table>

* See the Definition and Abbreviation.

Surface Preparations
All surfaces to be coated should be clean, dry and free from contamination. Prior to paint application all surfaces should be assessed and treated in accordance with ISO 8504:2000. Oil or grease should be removed in accordance with SSPC-SP1 solvent cleaning.

Bare Steel
Abrasive grit blast clean to Sa2.5 (ISO 8501–1:2007) or SSPC-SP6. If oxidation has occurred between blasting and application of HilonGuard 2600, the surface should be relasted to the specified visual standard. Surface defects revealed by the blast cleaning process should be ground, filled, or treated in the appropriate manner.

Primed Surface
Weld seams and damaged areas should be grit blast cleaned to Sa2.5 (ISO 8501–1:20007) or SSPC-SP6. If the shop primer shows extensive or widely scattered breakdown overall grit sweep blasting may be necessary.

Others
Please consult Hilong representative.

Application
Application Condition
Substrate surface temperature must be kept at least 3°C (5°F) above the dew point. Avoid too thick coating. Good ventilation is required in confined areas to ensure proper drying. During application and the initial drying of the coating, the coating should not be exposed to high humidity.

Mixing
Well agitate Part A (Base) and Part B (Curing Agent) separately. Then combine 3 volume of Part A with 1 volume of Part B and mix thoroughly with power agitator.

Pot Life (25°C)
2 hours (Reduced at higher temperature)

Airless Spray
Recommended, Tip Range 0.43–0.53 mm (17–21 thou)

Total output fluid pressure at spray tip not less than 170 kg/cm² (2420 p.s.i.)

Air Spray
Recommended

Brush
Small areas only, typically 50–75 microns can be achieved

Tools Cleaner
HilonThinner THR100

Systems Compatibility
HilonGuard 2600 will normally be applied to suitably prepared steel. However, if necessary, application over prefabrication blast primers can be performed. The following primers are recommended for HilongGuard 2600: HilonZinc 1280, HilonZinc 1386.

The following topcoats/intermediates are recommended for HilongGuard 2600:
- For other suitable primers/topcoats, Please consult Hilong representative.

Unit Size
20 litres unit: 15 litres part A (Base) in 20 litres container, 5 litres part B (Curing Agent) in 5 litres container.

Storage
Store in dry, shaded conditions away from sources of heat and ignition, in accordance with relevant regulations.

Shelf Life: 12 months minimum at 25°C (77°F). Subject to re-inspection thereafter

Health And Safety
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Note
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**Product Description**

A two pack, abrasion resistant, aluminium pure epoxy coating.
- Excellent long term anticorrosive protection
- Excellent water immersion resistant property
- Good low temperature application capability.

**Recommended Uses**

A universal primer which can be used on steel alone or in combination with a variety of other coatings. Can use in the high corrosive environments including offshore facilities and immersion zone, jetties, chemical plants, pulp and paper plants and sluice gates.

**Product Information**

<table>
<thead>
<tr>
<th>Colour</th>
<th>Aluminium Red, Aluminium Grey</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gloss Level</td>
<td>Matt</td>
</tr>
<tr>
<td>Volume Solids</td>
<td>61% ± 2%</td>
</tr>
<tr>
<td>Typical Thickness</td>
<td>100–200 microns dry equivalent to 164 –328 microns wet</td>
</tr>
<tr>
<td>Theoretical Coverage</td>
<td>6.1 m/litre at 100 microns d.f.t</td>
</tr>
<tr>
<td>Mix Ratio</td>
<td>Part A(Base) to Part B(Curing Agent)= 2.5 : 1 (by volume)</td>
</tr>
<tr>
<td>VOC</td>
<td>370 g/l (EPA method 24)</td>
</tr>
</tbody>
</table>

**Surface Preparations**

All surfaces to be coated should be clean, dry and free from contamination. Prior to paint application all surfaces should be assessed and treated in accordance with ISO 8504:2000. Oil or grease should be removed in accordance with SSPC-SP1 solvent cleaning.

**Bare Steel**

Abrasive blast clean to Sa2.5 (ISO 8501–1:2007). Power tool cleaning to min. St2 (ISO 8501–1:2007) may be acceptable for some areas, subject to exposure conditions.

**Shop Primer**

Approved shop primers must be clean, dry and free from soluble salts and any other surface contaminants. Unapproved shop primers will require complete removal by blast cleaning to Sa2.5 (ISO 8501–1:2007). Consult Hilong representative for specific recommendations.

**Others**

Please consult Hilong representative.

**Drying Time And Overcoating Interval**

<table>
<thead>
<tr>
<th>Temperature</th>
<th>-5°C(23 ℉)</th>
<th>10°C(50 ℉)</th>
<th>25°C(77 ℉)</th>
<th>35°C(95 ℉)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Touch Dry</td>
<td>6 hrs</td>
<td>4 hrs</td>
<td>3 hrs</td>
<td>2 hrs</td>
</tr>
<tr>
<td>Hard Dry</td>
<td>10 hrs</td>
<td>8 hrs</td>
<td>6 hrs</td>
<td>3 hrs</td>
</tr>
<tr>
<td>Min. Time Before Overcoating</td>
<td>14 hrs</td>
<td>9 hrs</td>
<td>7 hrs</td>
<td>4 hrs</td>
</tr>
<tr>
<td>Max. Time Before Overcoating*</td>
<td>5 days</td>
<td>5 days</td>
<td>3 days</td>
<td>2 days</td>
</tr>
</tbody>
</table>

* Please consult Hilong Representative for overcoating data of other coatings.

**Health And Safety**

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**Note**

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**Product Description**
A high solids, high build epoxy barrier coating, pigmented with laminar fillers to enhance the anti-corrosive properties, designed to give long term protection in a single coat application.

- Excellent cathodic disbondment resistance and excellent adhesion.
- Excellent performance under water immersion.
- Excellent mechanical properties.

**Recommended Uses**
Designed for use in the high corrosive environments including offshore splashzone and immersion zone, jetties, chemical plants, pulp and paper plants and sluice gates.

As part of a non-slip deck system in conjunction with appropriate aggregate. Can also for use in offshore splashzone maintenance, where its continued cure under immersed conditions makes it ideal for coping with tidal movements and surges. Can be applied to reoxidised and slightly damp surfaces.

**Product Information**
- **VOC**: 220 g/litre (EPA method 24)
- **Flash Point**: 32°C

**Drying Time And Overcoating Interval**

<table>
<thead>
<tr>
<th>Temperature</th>
<th>10°C (50°F)</th>
<th>15°C (59°F)</th>
<th>25°C (77°F)</th>
<th>40°C (104°F)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Touch Dry</td>
<td>12hrs</td>
<td>10hrs</td>
<td>5hrs</td>
<td>1.5hrs</td>
</tr>
<tr>
<td>Hard Dry</td>
<td>26hrs</td>
<td>19hrs</td>
<td>8.5hrs</td>
<td>3hrs</td>
</tr>
<tr>
<td>Min. Time Before Overcoating</td>
<td>26hrs</td>
<td>19hrs</td>
<td>8.5hrs</td>
<td>3hrs</td>
</tr>
<tr>
<td>Max. Time Before Overcoating</td>
<td>17days</td>
<td>12days</td>
<td>10days</td>
<td>7days</td>
</tr>
</tbody>
</table>

**Surface Preparations**
All surfaces to be coated should be clean, dry and free from contamination. Prior to paint application all surfaces should be assessed and treated in accordance with ISO 8504:2000. Oil or grease should be removed in accordance with SSPC-SP1.

**Product Compatibility**

HilonFirm 5550 will generally be applied to bare steel prepared by dry abrasive blasting or wet abrasive blasting. Recommended primers are: HilonGuard 2300 HilonGuard 2510 HilonGuard 2600 HilonZinc 1280

Recommended topcoats are: HilonDeco EP 9300 HilonDeco PU 9400 HilonDeco PU 9410 HilonFirm 5550

**Unit Size**
20 litre unit: 16 litres part A (Base) in 20 litres container, 4 litres part B (Curing agent) in 5 litres container.

**Health And Safety**
This product is intended for use only by professional applicators in industrial situations in accordance with the advice given on this sheet and the MSDS. All work involving the application and use of this product should be performed in compliance with all relevant national, Health, Safety & Environmental standards and regulations.

**Note**
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**Application**

**Application Condition**
The temperature of the substrate should be minimum 5°C (41°F) and at least 3°C (5°F) above the dew point. Good ventilation is required in confined areas to ensure proper drying. During application and the initial drying of the coating, the coating should not be exposed to high humidity. Premature exposure to ponding water will cause a colour change. However, these phenomena are not detrimental to anti-corrosive performance.

**Mixing**
Combine 4 parts of Base with 1 part of Curing Agent and mix thoroughly with power agitator.

**Pot Life (23°C )**
1.5 hours (Reduced at higher temperature)

**Airless Spray**
Recommended

**Tip Range** 0.53~0.66 mm (21~26 thou)

**Total output fluid pressure at spray tip not less than 170 kg/cm 2(2420 p.s.i.)**

**Air Spray**
Recommended

**Brush**
Application by brush is recommended for small areas only. Multiple coats may be required to achieve specified film thickness.

**Cleaner**
HilonThinner THR100

**Storage**
Store in dry, shaded conditions away from sources of heat and ignition, in accordance with relevant regulations.

**Shelf Life:** 12 months minimum at 25°C (77°F). Subject to re-inspection thereafter.
Product Description
A very high solids, low VOC, two component high build epoxy containing a high level of chemically resistant glass flake.
- Excellent corrosion, cathodic disbondment resistance
- Excellent abrasion resistance.
- Good chemical resistant properties.

Recommended Uses
For the protection of steelwork in areas where high abrasion and corrosion resistance are required including splashzone areas on offshore platforms, jetties, decks, bridges, chemical plants and water treatment plants. Excellent resistance to cathodic disbondment, gives good compatibility with both sacrificial anode and impressed current systems, making HilonFlake 5600 particularly suitable for the long term protection of sub-sea structures.As part of a non-slip deck system in conjunction with appropriate aggregate.

Product Information

<table>
<thead>
<tr>
<th>Colour</th>
<th>Grey, Limited colour range available</th>
</tr>
</thead>
<tbody>
<tr>
<td>Volume Solids</td>
<td>91% ± 2%</td>
</tr>
<tr>
<td>Typical Thickness</td>
<td>500–1000 microns dry equivalent to 549–1099 microns wet</td>
</tr>
<tr>
<td>Theoretical Coverage</td>
<td>1.82 m²/litre at 500 microns d.f.t</td>
</tr>
<tr>
<td>Mix Ratio</td>
<td>Part A (Base) to Part B (Curing Agent) = 3.5 : 1 (by volume)</td>
</tr>
<tr>
<td>Flash Point</td>
<td>55°C</td>
</tr>
<tr>
<td>VOC</td>
<td>66 g/l (EPA method 24)</td>
</tr>
</tbody>
</table>

Drying Time And Overcoating Interval

<table>
<thead>
<tr>
<th>Temperature</th>
<th>10°C (50°F)</th>
<th>15°C (59°F)</th>
<th>25°C (77°F)</th>
<th>40°C (104°F)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Touch Dry</td>
<td>15hrs</td>
<td>8hrs</td>
<td>5hrs</td>
<td>2hrs</td>
</tr>
<tr>
<td>Hard Dry</td>
<td>28hrs</td>
<td>18hrs</td>
<td>12hrs</td>
<td>5hrs</td>
</tr>
<tr>
<td>Min. Time Before Overcoating</td>
<td>28hrs</td>
<td>18hrs</td>
<td>12hrs</td>
<td>5hrs</td>
</tr>
<tr>
<td>Max. Time Before Overcoating</td>
<td>7days</td>
<td>5days</td>
<td>4days</td>
<td>1days</td>
</tr>
</tbody>
</table>

Surface Preparations
All surfaces to be coated should be clean, dry and free from contamination. Prior to paint application all surfaces should be assessed and treated in accordance with ISO 8504:2000. Oil or grease should be removed in accordance with SSPC-SP1 solvent cleaning.

Bare Steel
Abrasive blast clean to Sa2.5 (ISO 8501–1:2007). A surface profile of 75–100 microns (1.6–3.0 mils) is recommended.

Shop Primer
Approved shop primers must be clean, dry and free from soluble salts and any other surface contaminants. Unapproved shop primers will require complete removal by blast cleaning to Sa2.5 (ISO 8501–1:2007). Consult Hilong representative for specific recommendations.

Others
Please consult Hilong representative.

Application

<table>
<thead>
<tr>
<th>Application Condition</th>
<th>Surface temperature must always be a minimum of 3°C (5°F) above dew point. Good ventilation is required in confined areas to ensure proper drying. During application and the initial drying of the coating, the coating should not be exposed to high humidity. This product will not cure adequately below 6°C (41°F). For maximum performance ambient curing temperatures should be above 10°C (50°F). When the temperature is below 15°C (59°F), 15–20 minutes of induction period is recommended.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mixing</td>
<td>Combine 3.5 parts of Base with 1 part of Curing Agent and mix thoroughly with power agitator.</td>
</tr>
<tr>
<td>Pot Life (23°C)</td>
<td>1 hours (Reduced at higher temperature)</td>
</tr>
<tr>
<td>Thinner</td>
<td>HilonThinner THR100</td>
</tr>
<tr>
<td>Airless Spray</td>
<td>Recommended</td>
</tr>
<tr>
<td>Tip Range</td>
<td>0.92–1.09 mm (36–43 thou)</td>
</tr>
<tr>
<td>Total output fluid pressure at spray tip not less than 210 kg/cm² (3000 p.s.i.)</td>
<td></td>
</tr>
<tr>
<td>Air Spray</td>
<td>Recommended</td>
</tr>
<tr>
<td>Brush</td>
<td>Application by brush is recommended for small areas only.</td>
</tr>
<tr>
<td>Cleaner</td>
<td>HilonThinner THR100</td>
</tr>
</tbody>
</table>

Systems Compatibility
HilonFlake 5600 will normally be applied directly to correctly prepared steel, however, the following primers are recommended: HilonGuard 2510
Recommended topcoat are: HilonDeco EP 9300  HilonDeco PU 9400

Unit Size
20 litre unit: 15.6 litres part A (Base) in 20 litres container, 4.4 litres part B (Curing agent) in 5 litres container.

Storage
Store in dry, shaded conditions away from sources of heat and ignition, in accordance with relevant regulations.
Shelf Life: 12 months minimum at 25°C (77°F). Subject to re-inspection thereafter

Health And Safety
This product is intended for use only by professional applicators in industrial situations in accordance with the advice given on this sheet and the MSDS. All work involving the application and use of this product should be performed in compliance with all relevant national, Health, Safety & Environmental standards and regulations.

Note
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Product Description

HilonThane 5700 is a two component solvent free polyurethane coating, with excellent mechanical and anti-corrosive performances.
- Good flexibility at low temperature
- High mechanical strength, good adhesion, excellent abrasive resistance
- Good chemical resistance
- Excellent resistance to the salt spray

Recommended Uses

Suitable for using as the corrosion protection of steel structure, inside and outside of the pipelines.
Topcoating with HilonDeco PU 9450 to form a high durability protection system, which can be used in many corrosive environments including outdoor steel structure and pipelines.

Product Information

- Colour: A selected range of colors
- Gloss:
- Volume Solids: 100% ± 2%
- Typical Thickness: 300–800 microns dry equivalent to 300–800 microns wet
- Mix Ratio: Part A (Base) : Part B (Curing Agent) = 3 : 1 (by volume)
- Flash Point: > 101°C (EPA method 24)

Drying Time And Overcoating Interval

<table>
<thead>
<tr>
<th>Temperature</th>
<th>30°C (77°F)</th>
<th>40°C (104°F)</th>
<th>50°C (122°F)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Touch Dry</td>
<td>10 minutes</td>
<td>5 minutes</td>
<td>3 minutes</td>
</tr>
<tr>
<td>Hard Dry*</td>
<td>1 hr</td>
<td>0.5 hr</td>
<td>0.5 hr</td>
</tr>
</tbody>
</table>

* It’s the time that the products could be removable and will not leave clear scratch on surface.

Surface Preparations

All surfaces to be coated should be clean, dry and free from contamination. Prior to paint application all surfaces should be assessed and treated in accordance with ISO 8504:2000. Oil or grease should be removed in accordance with SSPC-SP1 solvent cleaning.

- Bare Steel: Abrasive blast clean to Sa2.5 (ISO 8501-1:2007) or SSPC-SP6, or SSPC SP11 power tools cleaning standard. A surface profile of 50–85 microns is recommended according to ISO 8503-2
- Others: Please consult Hilong representative.

Application

- Application Condition: Surface temperature must always be a minimum of 3°C (5°F) above dew point. Good ventilation is required in confined areas to ensure proper drying. During application and the initial drying of the coating, the coating should not be exposed to high humidity. Condensation occurring during or immediately after application may result in a matt finish and an inferior film.
- Mixing: Part A (Base) : Part B (Curing Agent) = 3 : 1 (by volume)
- Thinner: Not applicable
- Airless spray: Need to use 2 components high pressure airless spray gun, Tip Range 23–40 thou. Total output fluid pressure at spray tip should not less than 210 kg/cm² (3000 p.s.i.). In the application process, online heater is needed to heat the base temperature to 60°C (140°F) – 65°C (149°F). Pumping pipes need heating and insulation to maintain the temperature of the coating. Filter (60 mesh) is recommended to use in the application.
- Brush / Roller: Small areas repairation only, should pay attention to the pot life.
- Tools Cleaner: HilonThinner THR500

Systems Compatibility

As a primer applied directly to suitably prepared steel, it is compatible for the following top coatings.

Unit Size

- 20 litres part A (Base) in 20 litres container, 20 litres part B (Curing Agent) in 20 litres container.

Storage

- Store in dry, shaded conditions away from sources of heat and ignition, in accordance with relevant regulations.
- Shelf Life: 12 months minimum at 25°C (77°F). Subject to re-inspection thereafter.

Health And Safety

This product is intended for use only by professional applicators in industrial situations in accordance with the advice given on this sheet and the MSDS. All work involving the application and use of this product should be performed in compliance with all relevant national, Health, Safety & Environmental standards and regulations. Warning: including isocyanate. Using air helmet during the application.

Note

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Product Description
A two component solvent based Inorganic zinc rich ethyl silicate tank lining.

- Good properties of solvents resistance.
- Good impact and abrasion resistance, good anti-corrosive protection by a single coat.
- Complies with the requirements of FDA.

Recommended Uses
As a fast drying primer capable of providing good impact and abrasion resistance, combined with anti-corrosive protection in a single coat.

To provide corrosion protection to the internals of steel storage tanks containing a range of petroleum products, fuels, aggressive hydrocarbon solvents such as methanol, acetone, butyl acetate or other neutral cargoes. For details please consult Hilong representative.

Product Information

<table>
<thead>
<tr>
<th>Colour</th>
<th>Grey</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gloss Level</td>
<td>Matt</td>
</tr>
<tr>
<td>Volume Solids</td>
<td>53% ± 2%</td>
</tr>
<tr>
<td>Typical Thickness</td>
<td>100 microns dry equivalent to 189 microns wet</td>
</tr>
<tr>
<td>Theoretical Coverage</td>
<td>5.3 g/liter at 100 microns d.f.</td>
</tr>
<tr>
<td>Mix Ratio</td>
<td>Part A (Base) : Part B (Curing Agent) = 2.8 : 1 (by volume)</td>
</tr>
<tr>
<td>Flash Point</td>
<td>21°C</td>
</tr>
<tr>
<td>VOC</td>
<td>625 g/liter (EPA method 24)</td>
</tr>
</tbody>
</table>

Drying Time And Overcoating Interval

<table>
<thead>
<tr>
<th>Temperature</th>
<th>5°C (41°F)</th>
<th>15°C (59°F)</th>
<th>25°C (77°F)</th>
<th>40°C (104°F)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Touch Dry</td>
<td>1 hr</td>
<td>1 hr</td>
<td>1 hr</td>
<td>0.5 hr</td>
</tr>
<tr>
<td>Hard Dry</td>
<td>5 hrs</td>
<td>4 hrs</td>
<td>3 hrs</td>
<td>2 hrs</td>
</tr>
<tr>
<td>Min. Time Before Overcoating</td>
<td>1 day</td>
<td>1 day</td>
<td>1 day</td>
<td>1 day</td>
</tr>
<tr>
<td>Max. Time Before Overcoating</td>
<td>10 days</td>
<td>10 days</td>
<td>10 days</td>
<td>7 days</td>
</tr>
</tbody>
</table>

Best curing relative humidity is greater than 65%, refer to the product application guidance for details. For specific completely cured time, please consult Hilong representative.

Surface Preparations
The surface to be coated should be clean, dry and free from contamination. Prior to paint application, all surfaces should be assessed and treated in accordance with SSPC-SP1 solvent cleaning.

Bare Steel
Abrasive blast clean to Sa2.5 (ISO 8501-1:2007) or SSPC-SP10. A sharp, angular surface profile of 30-50 microns (1.2–2 mils) is recommended. If oxidation has occurred between blasting and application of HilonLining 6110, the surface should be reblasted to the specified visual standard.

Surface defects revealed by the blast cleaning process should be ground, filled, or treated in the appropriate manner.

For the detail surface treatment process, please refer to the product application guidance.

Systems Compatibility
When it is necessary for HilonLining 6110 to be overcoated by itself due to low dry film thickness, the coating surface must be fresh and unwithered. Consult Hilong representative to confirm that HilonLining 6110 is suitable for contact with the product to be stored.

Unit Size
20 litres unit: 14.74 litres part A (Base) in 20 litres container, 5.26 litres part B (Curing Agent) in 10 litres container.

Storage
Store in dry, shaded conditions away from sources of heat and ignition, in accordance with relevant regulations. Shelf Life: 12 months minimum at 25°C (77°F). Subject to re-inspection thereafter.

Health And Safety
This product is intended for use only by professional applicators in industrial situations in accordance with the advice given on this sheet and the MSDS. All work involving the application and use of this product should be performed in compliance with all relevant national, Health, Safety & Environmental standards and regulations.

Note
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### Product Description
A two component, high solids epoxy phenolic tank lining coating.
- Excellent chemical resistance
- Applicable for the storage of portable water

### Recommended Uses
To provide corrosion protection for the internals of steel storage tanks containing a range of products, including potable water, crude oil, jet fuels, unleaded gasoline blends, MTBE, caustic solutions, and a selected range of aromatic and aliphatic solvents. Can also be used for the internal protection of pipelines which use for chemical cargoes transmitting. Please consult Hilong representatives for further information of contacting cargoes.

### Product Information

<table>
<thead>
<tr>
<th>Property</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colour</td>
<td>Grey, White</td>
</tr>
<tr>
<td>Gloss level</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Volume Solids</td>
<td>77% ± 2%</td>
</tr>
<tr>
<td>Typical Thickness</td>
<td>100–150 microns dry equivalent to 130–195 microns wet</td>
</tr>
<tr>
<td>Theoretical Coverage</td>
<td>6.18 m²/litre at 125 microns d.f.t</td>
</tr>
<tr>
<td>Mix Ratio</td>
<td>Part A (Base) : Part B (Curing Agent) = 4 : 1 (by volume)</td>
</tr>
<tr>
<td>Flash Point</td>
<td>42°C</td>
</tr>
<tr>
<td>VOC</td>
<td>220 g/litre (EPA method 24)</td>
</tr>
</tbody>
</table>

### Drying Time And Overcoating Interval

<table>
<thead>
<tr>
<th>Temperature</th>
<th>10°C (50°F)</th>
<th>15°C (59°F)</th>
<th>25°C (77°F)</th>
<th>40°C (104°F)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Touch Dry</td>
<td>8hrs</td>
<td>7hrs</td>
<td>4hrs</td>
<td>3hrs</td>
</tr>
<tr>
<td>Hard Dry</td>
<td>24hrs</td>
<td>20hrs</td>
<td>7hrs</td>
<td>5hrs</td>
</tr>
<tr>
<td>Min. Time Before Overcoating</td>
<td>26hrs</td>
<td>22hrs</td>
<td>10hrs</td>
<td>6hrs</td>
</tr>
<tr>
<td>Max. Time Before Overcoating*</td>
<td>26days</td>
<td>24days</td>
<td>22days</td>
<td>16days</td>
</tr>
</tbody>
</table>

* Overcoating data under Inside tank environment.

### Surface Preparations
All surfaces to be coated should be clean, dry and free from contamination. Prior to paint application all surfaces should be assessed and treated in accordance with ISO 8504:2000. Where necessary, remove weld spatter and smooth weld seams and sharp edges. Oil or grease should be removed in accordance with SSPC-SP1 solvent cleaning.

**Bare Steel**

This product must only be applied to surfaces prepared by abrasive blast cleaning to Sa2.5 (ISO 8501–1:2007) or SSPC–SP10.

A sharp, angular surface profile of 50–75 microns is recommended. Surface defects revealed by the blast cleaning process, should be ground, filled, or treated in the appropriate manner.

For the details of surface treatment procedure, see product application guidelines. This guidelines should be consulted prior to use.

**Others**

Please consult Hilong representative.

### Application

**Application Condition**

Surface temperature must always be a minimum of 3°C(6°F) above dew point. At temperatures below 15°C (59°F), it is recommended that HilongLining 6120 is allowed a 15 minute induction period after mixing, prior to commencing application. For general use, it is not recommended to apply HilongLining 6120 at steel temperatures below 10°C(50°F).

However for potable water storage only, HilongLining 6120 may be applied at steel temperatures of 5°C(41°F) and above. When applying HilongLining 6120 in confined spaces ensure adequate ventilation. This product severely yellows when exposed to sunlight and should not be used on tank exteriors where colour stability is important. HilongLining 6120 is not suitable for exposure to strong acidic conditions.

**Mixing**

Well agitate Part A (Base) and Part B (Curing Agent) separately. Then combine 4 volume of Part A with 1 volume of Part B and mix thoroughly with power agitator.

- **Pot Life (25°C)**
  - 1 hour (Reduced at higher temperature)
- **Thinner**
  - HilonThinner THR100
- **Airless Spray**
  - Recommended, Tip Range 0.53–0.68 mm (21–27 thou)
  - Total output fluid pressure at spray tip not less than 170 kg/cm² (2420 p.s.i.)
- **Air Spray**
  - Recommended
- **Brush / Roller**
  - Small areas only
- **Tools Cleaner**
  - HilonThinner THR100

### Systems Compatibility
HilongLining 6120 can be used as a self-priming system. For other suitable primers/topcoats, please consult Hilong representatives to confirm that HilongLining 6120 is suitable for contact with the product to be stored.

### Unit Size
20 litres unit: 16 litres part A (Base) in 20 litres container, 4 litres part B (Curing Agent) in 5 litres container.

### Storage

Store in dry, shaded conditions away from sources of heat and ignition, in accordance with relevant regulations.

**Shelf Life**:

- 12 months minimum at 25°C (77°F). Subject to re-inspection thereafter.

### Health And Safety
This product is intended for use only by professional applicators in industrial situations in accordance with the advice given on this sheet and the MSDS. All work involving the application and use of this product should be performed in compliance with all relevant national, Health, Safety & Environmental standards and regulations.

### Note

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HilonLining 6210
Conductive Epoxy Phenolic Lining

Product Description
A two component, chemically resistant, high solids, high build epoxy phenolic tank lining providing static dissipation properties.

- Excellent chemical resistance
- Complies with the requirements of standard GB6950-2001

Recommended Uses
To provide corrosion protection to the internals of steel storage tanks containing a range of products, including crude oil, unleaded gasoline blends, MTBE, jet fuel, caustic solution and a selected range of aromatic and aliphatic solvents where accumulation of static charge is likely to be a problem. Please consult Hilon representatives for further information of contacting cargoes.

Product Information

<table>
<thead>
<tr>
<th>Colour</th>
<th>Black</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gloss level</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Volume Solids</td>
<td>77% ± 2%</td>
</tr>
<tr>
<td>Typical Thickness</td>
<td>100–150 microns dry equivalent to 132–197 microns wet</td>
</tr>
<tr>
<td>Theoretical Coverage</td>
<td>6.18 m²/litre at 125 microns d.f.t</td>
</tr>
<tr>
<td>Mix Ratio</td>
<td>Part A (Base) : Part B (Curing Agent) = 4.5 : 1 (by volume)</td>
</tr>
<tr>
<td>Flash Point</td>
<td>42°C</td>
</tr>
<tr>
<td>VOC</td>
<td>223 g/l (EPA method 24)</td>
</tr>
</tbody>
</table>

Drying Time And Overcoating Interval

<table>
<thead>
<tr>
<th>Temperature (°C)</th>
<th>Touch Dry</th>
<th>Hard Dry</th>
<th>Min. Time Before Overcoating</th>
<th>Max. Time Before Overcoating</th>
</tr>
</thead>
<tbody>
<tr>
<td>10°C (50°F)</td>
<td>8hrs</td>
<td>24hrs</td>
<td>26hrs</td>
<td>26days</td>
</tr>
<tr>
<td>15°C (59°F)</td>
<td>7hrs</td>
<td>20hrs</td>
<td>22hrs</td>
<td>24days</td>
</tr>
<tr>
<td>25°C (77°F)</td>
<td>4hrs</td>
<td>7hrs</td>
<td>10hrs</td>
<td>22days</td>
</tr>
<tr>
<td>40°C (104°F)</td>
<td>3hrs</td>
<td>5hrs</td>
<td>6hrs</td>
<td>16days</td>
</tr>
</tbody>
</table>

Surface Preparations
All surfaces to be coated should be clean, dry and free from contamination. Prior to paint application all surfaces should be assessed and treated in accordance with ISO 8504:2000. Where necessary, remove weld spatter and smooth weld seams and sharp edges. Oil or grease should be removed in accordance with SSPC-SP1 solvent cleaning.

Bare Steel
This product must only be applied to surfaces prepared by abrasive blast cleaning to Sa2.5 (ISO 8501-1:2007) or SSPC-SP10. A sharp, angular surface profile of 50–75 microns is recommended. Surface defects revealed by the blast cleaning process, should be ground, filled, or treated in the appropriate manner.

For the details of surface treatment procedure, see product application guidelines. This guidelines should be consulted prior to use.

Others
Please consult Hilon representative.

Application

Application Condition
Surface temperature must always be a minimum of 3°C (5°F) above dew point. At temperatures below 15°C (59°F), it is recommended that HilonLining 6210 is allowed a 15 minute induction period after mixing, prior to commencing application. For general use, it is not recommended to apply HilonLining 6210 at steel temperatures below 10°C (50°F).

HilonLining 6210 should not be applied over non-approved primers or old coatings as this may interfere with the static dissipation properties. When applying HilonLining 6210 in confined spaces ensure adequate ventilation.

Mixing
Well agitate Part A (Base) and Part B (Curing Agent) separately. Then combine 4.5 volume of Part A with 1 volume of Part B and mix thoroughly with power agitator.

Pot Life (25°C)
1 hour (Reduced at higher temperature)

Thinner
HilonThinner THR100

Airless Spray
Recommended, Tip Range 0.53–0.68 mm (21–27 thou)

Air Spray
Recommended

Brush / Roller
Small areas only

Tools Cleaner
HilonThinner THR100

Systems Compatibility
This system is self-priming and is not suitable for application over other primers. HilonLining 6210 should only be topcoated with itself, and should never be overcoated with another product. Consult Hilon representatives to confirm that HilonLining 6210 is suitable for contact with the product to be stored.

Unit Size
20 litres unit: 16.36 litres part A (Base) in 20 litres container, 3.64 litres part B (Curing Agent) in 5 litres container.

Storage
Store in dry, shaded conditions away from sources of heat and ignition, in accordance with relevant regulations.

Shelf Life: 12 months minimum at 25°C (77°F). Subject to re-inspection thereafter.

Health And Safety
This product is intended for use only by professional applicators in industrial situations in accordance with the advice given on this sheet and the MSDS. All work involving the application and use of this product should be performed in compliance with all relevant national, Health, Safety & Environmental standards and regulations.

Note
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**Product Description**

A high performance, highly crosslinked two component epoxy novolac tank lining.
- Excellent heat resistance under immersion environment.
- Good solvent and chemical resistance.

**Recommended Uses**

Suitable for the internal lining of storage vessels and process vessels in petrochemical plants where exposure to sour crude oil and water from gas separator processing vessels at elevated temperatures up to 90℃ (194℉) ~ 95℃ (203℉) envisaged.

Provides good resistance to aromatic and aliphatic solvents.

**Product Information**

- **Colour**: Grey, White
- **Volume Solids**: 65% ± 2%
- **Typical Thickness**: 85–125 microns dry equivalent to 115–192 microns wet
- **Theoretical Coverage**: 7.2 m²/litre at 90 microns d.f.t
- **Mix Ratio**: Part A (Base) : Part B (Curing Agent) = 5.5 : 1 (by volume)
- **Flash Point**: 28℃
- **VOC**: 348 g/l (EPA method 24)

**Drying Time And Overcoating Interval**

<table>
<thead>
<tr>
<th>Temperature</th>
<th>Touch Dry</th>
<th>Hard Dry</th>
<th>Min. Time Before Overcoating</th>
<th>Max. Time Before Overcoating</th>
</tr>
</thead>
<tbody>
<tr>
<td>10℃ (50℉)</td>
<td>8hrs</td>
<td>24hrs</td>
<td>26hrs</td>
<td>5days</td>
</tr>
<tr>
<td>15℃ (59℉)</td>
<td>7hrs</td>
<td>20hrs</td>
<td>22hrs</td>
<td>4days</td>
</tr>
<tr>
<td>25℃ (77℉)</td>
<td>4hrs</td>
<td>7hrs</td>
<td>10hrs</td>
<td>3days</td>
</tr>
<tr>
<td>40℃ (104℉)</td>
<td>3hrs</td>
<td>5hrs</td>
<td>6hrs</td>
<td>2days</td>
</tr>
</tbody>
</table>

**Surface Preparations**

All surfaces to be coated should be clean, dry and free from contamination. Prior to paint application all surfaces should be assessed and treated in accordance with ISO 8504:2000. Where necessary, remove weld spatter and smooth weld seams and sharp edges. Oil or grease should be removed in accordance with SSPC-SP1 solvent cleaning.

<table>
<thead>
<tr>
<th>Bare Steel</th>
<th>Other Surfaces</th>
</tr>
</thead>
<tbody>
<tr>
<td>This product must only be applied to surfaces prepared by abrasive blast cleaning to Sa2.5 (ISO 8501-1:2007) or SSPC SP10. A sharp, angular surface profile of 50–75 microns is recommended. Surface defects revealed by the blast cleaning process should be ground, filled, or treated in the appropriate manner. For the details of surface treatment procedure, see product application guidance.</td>
<td>Please consult Hilong representative.</td>
</tr>
</tbody>
</table>

**Application**

- **Surface temperature must always be a minimum of 3℃(5℉) above dew point.**
- **It is not recommended to apply HilonLining 6250 at steel temperatures below 10℃(50℉).**
- **The relative humidity during application and curing should not be too high.**
- **When applying HilonLining 6250 in confined spaces ensure adequate ventilation.**
- **At immersion temperatures in excess of 60℃(140℉), it is essential that the storage vessel is insulated.**
- **This is necessary to avoid premature coating failure.**

**Mixing**

- **Well agitate Part A (Base) and Part B (Curing Agent) separately.**
- **Then combine 5.5 volume of Part A with 1 volume of Part B and mix thoroughly with power agitator.**

**Pot Life**

- **2 hours (Reduced at higher temperature)**

**Thinner**

- **HilonThinner THR100**

**Airless Spray**

- **Recommended, Tip Range 0.43–0.53 mm (17–21 thou)**
- **Total output fluid pressure at spray tip not less than 170 kg/cm² (2420 p.s.i.)**

**Air Spray**

- **Recommended**

**Brush**

- **Small areas only, typically 50–75 microns can be achieved**

**Tools Cleaner**

- **HilonThinner THR100**

**Systems Compatibility**

This system is self-priming and is not suitable for application over other primers.
HILON Lining 6250 should only be topcoated with itself, and should never be overcoated with another product. Consult Hilong representatives to confirm that HilonLining 6250 is suitable for contact with the product to be stored.

**Unit Size**

- **20 litres unit: 16.92 litres part A (Base) in 20 litres container, 3.08 litres part B (Curing Agent) in 5 litres container.**

**Storage**

Store in dry, shaded conditions away from sources of heat and ignition, in accordance with relevant regulations.

- **Shelf Life**: 12 months minimum at 25℃ (77℉). Subject to re-inspection thereafter

**Health And Safety**

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**Note**

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Product Description
Hilon TC-3000H is a two component solvent free epoxy coating. It complies with hygiene standards of portable water pipelines, it also has good mechanical and anti-corrosive properties, which can extend the working life of the pipelines remarkably.
- Excellent cathodic disbondment resistance and Good flexibility.
- Excellent water resistance and good chemical resistance.

Recommended Uses
Can be used for internal protection of portable water tanks and pipelines. It is also can be used as the internal protection against medium corrosive media such as waste water, brine and slurry.

Product Information

<table>
<thead>
<tr>
<th>Colour</th>
<th>White, light gray and other limited colours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gloss level</td>
<td>Gloss</td>
</tr>
<tr>
<td>Volume Solids</td>
<td>100% ± 2%</td>
</tr>
<tr>
<td>Typical Thickness</td>
<td>200–500 microns dry equivalent to 200–500 microns wet</td>
</tr>
<tr>
<td>Theoretical Coverage</td>
<td>3.33 m²/litre at 300 microns d.f.t</td>
</tr>
<tr>
<td>Mix Ratio</td>
<td>Part A(Base) to Part B(Curing Agent)=2.8:1</td>
</tr>
<tr>
<td>Flash Point</td>
<td>&gt;100°C (EPA method 24)</td>
</tr>
</tbody>
</table>

Drying Time And Overcoating Interval

<table>
<thead>
<tr>
<th>Temperature</th>
<th>10°C (50°F)</th>
<th>25°C (77°F)</th>
<th>40°C (104°F)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Touch Dry</td>
<td>15h</td>
<td>4h</td>
<td>1.5h</td>
</tr>
<tr>
<td>Hard Dry</td>
<td>30h</td>
<td>16h</td>
<td>4h</td>
</tr>
<tr>
<td>Min. Time Before Overcoating</td>
<td>30h</td>
<td>16h</td>
<td>4h</td>
</tr>
<tr>
<td>Max. Time Before Overcoating</td>
<td>96h</td>
<td>48h</td>
<td>18h</td>
</tr>
</tbody>
</table>

Surface Preparations
All surfaces to be coated should be clean, dry and free from contamination. Prior to paint application all surfaces should be assessed and treated in accordance with ISO 8504:2000. Oil or grease should be removed in accordance with SSPC–SP1 solvent cleaning.

<table>
<thead>
<tr>
<th>Bare Steel</th>
</tr>
</thead>
</table>
| Cleanliness: Surface should be clean, dry and free from contamination, and conform to ISO 8504:2000. Minimum Sa2.5 (ISO 8501–1:2007) after blasting, or SSPC SP6 abrasive jet processing standard, or SSPC SP11 power tool cleaning standards;

<table>
<thead>
<tr>
<th>Others</th>
</tr>
</thead>
<tbody>
<tr>
<td>Please consult Hilong representatives.</td>
</tr>
</tbody>
</table>
Product Description
A two component, highly crosslinked, high build Epoxy Phenolic coating, suitable for the high temperature corrosion protection under insulation or uninsulation condition.
- Good thermal resistance property, up to 250°C (482°F)
- Excellent resistance to ‘thermal shock’ experienced during rapid temperature cycling
- Good corrosion and chemical resistant properties

Recommended Uses
Designed to provide a corrosion resistant barrier when used to protect steelwork under insulation or uninsulation condition.
Suitable for exposure in a wide range of highly corrosive environments, including insulated and uninsulated steel, and on the exterior or pipework, process vessels etc., operating at temperatures up to 250°C (482°F). Please consult Hilong representatives for further information.

Product Information

**Colour**
Grey, Iron Oxide Red, a limited range of colors

**Gloss Level**
Eggshell

**Volume Solids**
68% ± 2%

**Typical Thickness**
100 microns dry equivalent to 147 microns wet

**Theoretical Coverage**
6.8 m²/litre at 100 microns d.f.

**Mix Ratio**
Part A (Base) : Part B (Curing Agent) = 5.5 : 1 (by volume)

**Flash Point**
28°C

**VOC**
298 g/litre (EPA method 24)

Drying Time And Overcoating Interval

<table>
<thead>
<tr>
<th>Temperature</th>
<th>Touch Dry</th>
<th>Hard Dry</th>
<th>Min. Time Before Overcoating</th>
<th>Max. Time Before Overcoating</th>
</tr>
</thead>
<tbody>
<tr>
<td>10°C (50°F)</td>
<td>8hrs</td>
<td>16hrs</td>
<td>36hrs</td>
<td>5days</td>
</tr>
<tr>
<td>15°C (59°F)</td>
<td>7hrs</td>
<td>12hrs</td>
<td>24hrs</td>
<td>4days</td>
</tr>
<tr>
<td>25°C (77°F)</td>
<td>4hrs</td>
<td>8hrs</td>
<td>16hrs</td>
<td>3days</td>
</tr>
<tr>
<td>40°C (104°F)</td>
<td>3hrs</td>
<td>6hrs</td>
<td>16hrs</td>
<td>2days</td>
</tr>
</tbody>
</table>

**Surface Preparations**
All surfaces to be coated should be clean, dry and free from contamination. Prior to paint application all surfaces should be assessed and treated in accordance with ISO 8504:2000. Where necessary, remove weld spatter and smooth weld seams and sharp edges. Oil or grease should be removed in accordance with SSPC-SP1 solvent cleaning.

**Bare Steel**
This product must only be applied to surfaces prepared by abrasive blast cleaning to a minimum Sa2.5 (ISO 8501-1:2007) or SSPC-SP6. A sharp, angular surface profile of 50–75 microns (2–3 mils) is recommended.

HilonTherm 8100 must be applied before oxidation of the steel occurs. If oxidation does occur the entire oxidised area should be reblasted to the standard specified above.

For the details of surface treatment procedure, see product application guidance.

**Others**
Please consult Hilong representatives.

Application

**Application Condition**
Surface temperature must always be a minimum of 3°C (5°F) above dew point. The relative humidity during application and curing should not exceed 80%. When applying HilonTherm 8100 in confined spaces ensure adequate ventilation.
Care should be taken to avoid over–application. The total coating system film thickness applied must not exceed 300 microns in order to avoid cracking during high temperature service.

**Mixing**
Well agitate Part A (Base) and Part B (Curing Agent) separately. Then combine 5.5 volume of Part A with 1 volume of Part B and mix thoroughly with power agitator.

**Pot Life (25°C)**
2 hours (Reduced at higher temperature)

**Thinner**
HilonThinner THR100

**Airless Spray**
Recommended, Tip Range 0.43–0.53 mm (17–21 thou)

**Air Spray**
Recommended

**Brush**
Suitable – small areas only, typically 50–75 microns (2.0–3.0 mils) can be achieved

**Tools Cleaner**
HilonThinner THR100

Systems Compatibility
This system is self-priming and is not suitable for application over other primers.
HilonTherm 8100 is normally topcoated with itself, for other suitable topcoats please consult Hilong representatives.

Unit Size
20 litres unit: 16.92 litres part A (Base) in 20 litres container, 3.08 litres part B (Curing Agent) in 5 litres container.

Storage
Store in dry, shaded conditions away from sources of heat and ignition, in accordance with relevant regulations.

Shelf Life - 12 months minimum at 25°C (77°F). Subject to re-inspection thereafter

Health And Safety
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Product Description
A single component, intermediate temperature finish based on temperature resistant silicone and acrylic resins with thermally stable pigmentation.

- Good corrosion protection and decoration properties under high temperature condition.
- Good heat resistant property, up to 250°C (482°F).
- Good color stability at high temperature.

Recommended Uses
Suitable for areas subject to intermediate service temperature that require a coloured finish. For use in a wide range of industrial environments including petrochemical plants, power stations, oil refineries and offshore structures. For use at both new construction and as a maintenance coating. As a heat resistant finish coat for application over properly primed steelwork, to provide both corrosion resistance and decoration for steelwork under high temperature condition. Suitable for use at both

Suitable for new construction and as a maintenance coating. As a heat resistant finish coat for application over properly primed steelwork, to provide both corrosion resistance and decoration for steelwork under high temperature condition. Suitable for use at both

Systems Compatibility
This product is not normally topcoated, and is only compatible with a very limited number of primers.
Suitable primers are: HilonZinc 1280 (system heat resistance 150°C(302°F)), HilonZinc 1385, (system heat resistance 250°C (482°F)).

For other suitable primers, consult Hilon representatives.

Unit Size
20 litres or 5 litres unit: 20 litres HilonTherm 8110 in 20 litres container, 5 litres HilonThinner THR8110 in 5 litres container.

Storage
Store in dry, shaded conditions away from sources of heat and ignition, in accordance with relevant regulations.

Shelf Life: 12 months minimum at 25°C (77°F). Subject to re-inspection thereafter.

Health And Safety
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Application
Application Condition
Surface temperature must always be a minimum of 3°C (5°F) above dew point.
Good ventilation is required in confined areas to ensure proper drying.
Avoid excessive film thickness, application of too full coats can sometimes result in pinholes in the topcoat at high temperature.

For optimum corrosion protection, HilonTherm 8110 should be applied over an inorganic zinc silicate primer. Please consult Hilon representatives for details.

Mixing
This material is a one component coating and should always be mixed thoroughly with a power agitator before application.

Thinner
HilonThinner THR100

Airless Spray
Not recommended, consult Hilon representatives for details.

Air Spray
Recommended

Brush
Small areas only, typically 25 microns can be achieved

Tools Cleaner
HilonThinner THR100

Surface Preparations
The surface to be coated should be clean, dry and free from contamination. Prior to paint application, all surfaces should be assessed and treated in accordance with ISO 8504:2000. Oil or grease should be removed in accordance with SSPC-SP1 solvent cleaning.

Bare Steel
Abrasive blast clean to Sa2.5 (ISO 8501-1:2007) or SSPC-SP10. If oxidation has occurred between blasting and application, the surface should be reblasted to the specified visual standard.

Surface defects revealed by the blast cleaning process should be ground, filled, or treated in the appropriate manner.

Primed Surface
HilonTherm 8110 can be applied over approved anti-corrosive primers. The primer surface should be dry and free from all contamination, and HilonTherm 8110 must be applied within the overcoating intervals specified (consult the relevant product data sheet). Weld seams and damaged areas should be blast cleaned to Sa2.5 (ISO 8501-1:2007), SSPC SP6, or SSPC SP11, and repair the primers before the application of HilonTherm 8110.

In the case of zinc primers, the shop primer or other primer surface should be dry and free of all contamination or zinc salts. Ensure the zinc primer has fully cured prior to overcoating. Please consult Hilon representatives.

Others

Product Description
A one component, general purpose heat resistant paint, based on air drying oleoresinous resins, and pigmented with aluminium flake.

Recommended Uses
As a heat resistant coating for general site use or as an industrial maintenance coating on both ambient and high temperature steelwork up to 310°C (590°F) where an economical aluminium finish is required.
Suitable for all types of operations including refineries, offshore structures, power, petrochemical and chemical plants.

Product Information
- Colour: Aluminium
- Volume Solids: 50% ± 2%
- Typical Thickness: 15–25 microns dry equivalent to 30–50 microns wet
- Theoretical Coverage: 25.0 m²/liter at 20 microns d.f.t and stated volume solids
- Flash Point: 45°C
- VOC: 425 g/liter (EPA method 24)

Drying Time And Overcoating Interval

<table>
<thead>
<tr>
<th>Temperature</th>
<th>5°C (41°F)</th>
<th>15°C (59°F)</th>
<th>25°C (77°F)</th>
<th>35°C (95°F)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Touch Dry</td>
<td>18 hrs</td>
<td>12 hrs</td>
<td>8 hrs</td>
<td>5 hrs</td>
</tr>
<tr>
<td>Hard Dry</td>
<td>72 hrs</td>
<td>36 hrs</td>
<td>24 hrs</td>
<td>16 hrs</td>
</tr>
<tr>
<td>Min. Time Before Overcoating</td>
<td>24 hrs</td>
<td>24 hrs</td>
<td>24 hrs</td>
<td>16 hrs</td>
</tr>
<tr>
<td>Max. Time Before Overcoating</td>
<td>Extended*</td>
<td>Extended</td>
<td>Extended</td>
<td>Extended</td>
</tr>
</tbody>
</table>

* See the Definition and Abbreviation.

Surface Preparations
All surfaces to be coated should be clean, dry and free from contamination. Prior to paint application, all surfaces should be assessed and treated in accordance with ISO 8504:2000. Oil or grease should be removed in accordance with SSPC-SP1 solvent cleaning.

Primed Surface
HilonTherm 8120 can be applied over approved anti-corrosive primers. The primer surface should be dry and free from all contamination and HilonTherm 8120 must be applied within the overcoating intervals specified (consult the relevant product data sheet).

Areas of breakdown, damage etc., should be prepared to the specified standard (e.g. Sa2.5 (ISO 8501–1:2007) and patch primed prior to the application of HilonTherm 8120.

Old Coating
If the existing HilonTherm 8120 old coating is complete and good application, after fresh water washing and elimination of oil, could directly apply the HilonTherm 8120.

Others
Please consult Hilong representatives.

Application
- Application Condition: Surface temperature must always be a minimum of 3°C (5°F) above dew point.
- Good ventilation is required in confined areas to ensure proper drying. Avoid excessive film thickness, application of too thick coats can sometimes result in pinholes in the topcoat at high temperature.
- Mixing: This material is a one component coating and should always be mixed thoroughly with a power agitator before application.
- Pot Life: Not applicable
- Thinner: HilonThinner THR600
- Airless Spray: Recommended Tip Range 0.33–0.48 mm (13–19 thou)
- Total output fluid pressure at spray tip not less than 155 kg/cm² (2200 p.s.i.)
- Air Spray: Recommended
- Brush / Roller: Small areas only
- Tools Cleaner: HilonThinner THR600

Systems Compatibility
HilonTherm 8120 is used only for self recoating, and should always apply to the recommended anti-corrosive primers such as:
- HilonGuard 2100 (system temperature resistance 100°C(212°F), HilonZinc 1385 (system temperature resistance 310°C (590°F).

Unit Size
20 litres or 5 litres unit: 20 litres HilonTherm 8120 in 20 litres container, 5 litres HilonTherm 8120 in litres container.

Storage
Store in dry, shaded conditions away from sources of heat and ignition, in accordance with relevant regulations.

- Shelf Life: 12 months minimum at 25°C (77°F). Subject to re-inspection thereafter

Health And Safety
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Product Description
A single component, high temperature coating, contains silicone binder and aluminum pigments,
- Good cracking resistance under high temperature
- Heat temperature resistance up to 550°C (1022°F).
- No need for heat curing

Recommended Uses
For the protection of steel from corrosion on areas including flare stacks, chimneys, exhausts, vents and pipework, at temperatures up to 550°C (1022°F). Where maximum corrosion protection is required, application should be over a zinc silicate primer (e.g. HilonZinc 1385). Please consult Hilong representatives for details.

Product Information
<table>
<thead>
<tr>
<th>Colour</th>
<th>Aluminium, Limited colour range available</th>
</tr>
</thead>
<tbody>
<tr>
<td>Volume Solids</td>
<td>46% ± 2%</td>
</tr>
<tr>
<td>Typical Thickness</td>
<td>25 microns dry equivalent to 55 microns wet</td>
</tr>
<tr>
<td>Theoretical Coverage</td>
<td>18.4 m²/liter at 25 microns d.f.t</td>
</tr>
<tr>
<td>Flash Point</td>
<td>26°C</td>
</tr>
<tr>
<td>VOC</td>
<td>491 g/liter (EPA method 24)</td>
</tr>
</tbody>
</table>

Drying Time And Overcoating Interval

<table>
<thead>
<tr>
<th>Temperature</th>
<th>5°C (41°F)</th>
<th>15°C (59°F)</th>
<th>25°C (77°F)</th>
<th>40°C (104°F)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Touch Dry</td>
<td>1.5 hrs</td>
<td>1 hr</td>
<td>0.5 hr</td>
<td>0.25 hr</td>
</tr>
<tr>
<td>Hard Dry</td>
<td>5 hrs</td>
<td>2.5 hrs</td>
<td>1.5 hrs</td>
<td>1 hr</td>
</tr>
<tr>
<td>Min. Time Before Overcoating</td>
<td>24 hrs</td>
<td>18 hrs</td>
<td>14 hrs</td>
<td>7 hrs</td>
</tr>
<tr>
<td>Max. Time Before Overcoating</td>
<td>Extended*</td>
<td>Extended</td>
<td>Extended</td>
<td>Extended</td>
</tr>
</tbody>
</table>

* See the Definition and Abbreviation.

Surface Preparations
All surfaces to be coated should be clean, dry and free from contamination. Prior to paint application, all surfaces should be assessed and treated in accordance with ISO 8504:2000.

Bare Steel

Primed Surface
HilonTherm 8150 is suitable for application to unweathered steelwork freshly coated with zinc silicate shop primers. If the zinc shop primer shows extensive or widely scattered breakdown, or excessive zinc corrosion products, overall sweep blasting will be necessary. Other types of shop primer are not suitable for overcoating and will require complete removal by abrasive blast cleaning to Sa2.5 (ISO 8501–1:2007).

Aluminium Metal Spray
Metal sprayed surfaces should be fresh, clean and free from moisture, or surface contamination. Please consult Hilong representatives.

Applications
Surface temperature must always be a minimum of 3°C (5°F) above dew point.
Avoid too thick coating in a single film, maximum thickness which can be applied in a single coat on heating is 40 microns.
When using high heat coatings over inorganic zinc primer, the products should be applied in strict accordance with film thickness specifications, since application of excessive thicknesses may cause blistering. The recommended thickness of zinc silicate is 50 microns d.f.t. Please consult Hilong representatives for the thickness information.

Mixing
This material is a one component coating and should always be mixed thoroughly with a power agitator before application.

Thinner
HilonThinner THR200

Airless Spray
Not recommended

Air Spray
Recommended

Brush
Suggest small areas only

Roller
Suggest small areas only

Tools Cleaner
HilonThinner THR200

Systems Compatibility
HilonTherm 8150 is only compatible with a very limited number of products.
Suitable primers are: HilonZinc 1385
Suitable topcoats are: HilonTherm 8150
For other suitable primers, consult Hilong representatives.

Unit Size
20 litres or 5 litres unit: 20 litres HilonTherm 8150 in 20 litres container, 5 litres HilonTherm 8150 in 5 litres container.

Storage
Store in dry, shaded conditions away from sources of heat and ignition, in accordance with relevant regulations.
Shelf Life: 12 months minimum at 25°C (77°F). Subject to re-inspection thereafter

Health And Safety
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Product Description
A single component alkyd gloss enamel finish.

Recommended Uses
Suitable for areas of limited chemical exposure where an economical single pack finish coat is required. As a cosmetic finish coat for alkyd based systems intended for both interior and exterior exposure. Can also be used as maintenance coating for use in a wide range of industrial environments.

Product Information
- Colour: Wide range of colors
- Gloss Level: Gloss
- Volume Solids: 50% ± 3%
- Typical Thickness: 40–50 microns dry equivalent to 80–100 microns wet
- Theoretical Coverage: 12.5 m²/liter at 40 microns d.f.t.
- Flash Point: 40°C
- VOC: 406 g/liter (EPA method 24)

Drying Time And Overcoating Interval

<table>
<thead>
<tr>
<th>Temperature</th>
<th>5°C (41°F)</th>
<th>15°C (59°F)</th>
<th>25°C (77°F)</th>
<th>40°C (104°F)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Touch Dry</td>
<td>16 hrs</td>
<td>10 hrs</td>
<td>5 hrs</td>
<td>4 hrs</td>
</tr>
<tr>
<td>Hard Dry</td>
<td>60 hrs</td>
<td>36 hrs</td>
<td>24 hrs</td>
<td>12 hrs</td>
</tr>
<tr>
<td>Min. Time Before Overcoating</td>
<td>36 hrs</td>
<td>24 hrs</td>
<td>24 hrs</td>
<td>16 hrs</td>
</tr>
<tr>
<td>Max. Time Before Overcoating</td>
<td>Extended*</td>
<td>Extended</td>
<td>Extended</td>
<td>Extended</td>
</tr>
</tbody>
</table>

* See the Definition and Abbreviation.

Surface Preparations
All surfaces to be coated should be clean, dry and free from contamination. Oil, grease, soluble contaminant or foreign matters should be removed in accordance with SSPC–SP1 solvent cleaning.

Primed Surface
HilonDeco Alky 9100 should always be applied over a recommended anti-corrosive coating scheme. The primer surface should be dry and free from all contamination and HilonDeco Alky 9100 must be applied within the overcoating intervals specified (consult the relevant product data sheet).

Areas of breakdown, damage etc., should be prepared to the specified standard (e.g. Sa2.5 (ISO 8501–1:2007)) and patch primed prior to the application of HilonDeco Alky 9100.

Old Coating
If the existing HilonDeco Alkyd 9100 old coating is complete and good application, after fresh water washing and elimination of oil, could directly apply the HilonDeco Alkyd 9100.

Others
Please consult Hilong representative.

Application
- Application Condition: Surface temperature must always be a minimum of 3°C (5°F) above dew point.
  Good ventilation is required in confined areas to ensure proper drying. Avoid excessive film thickness.
- Mixing: This material is a one component coating and should always be mixed thoroughly with a power agitator before application.
- Pot Life: Not applicable
- Thinner: HilonThinner THR600
- Airless Spray: Recommended Tip Range 0.33–0.48 mm (13–19 thou)
  Total output fluid pressure at spray tip not less than 156 kg/cm² (2200 p.s.i.)
- Air Spray: Recommended
- Brush / Roller: Suitable
- Tools Cleaner: HilonThinner THR600

Systems Compatibility
HilonDeco Alky 9100 is only suitable for application over alkyd or oleoresinous priming systems, e.g.: HilonGuard 2100. HilonDeco Alky 9100 is only suitable for overcoating with itself.

Unit Size
20 litres or 5 litres unit: 20 litres HilonDeco Alky 9100 in 20 litres container, 5 litres HilonDeco Alky 9100 in 5 litres container.

Storage
Store in dry, shaded conditions away from sources of heat and ignition, in accordance with relevant regulations.

Shelf Life: 12 months minimum at 25°C (77°F). Subject to re-inspection thereafter

Health And Safety
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Product Description
A single component, fast drying, modified acrylic finish, with good gloss and color durability.

Recommended Uses
As a cosmetic finish coat for using in both new construction and maintenance of steelworks.

Product Information

<table>
<thead>
<tr>
<th>Colour</th>
<th>Wide range of colors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gloss Level</td>
<td>Semi Gloss</td>
</tr>
<tr>
<td>Volume Solids</td>
<td>35% ± 3%</td>
</tr>
<tr>
<td>Typical Thickness</td>
<td>40–50 microns dry equivalent to 114–143 microns wet</td>
</tr>
<tr>
<td>Theoretical Coverage</td>
<td>8.75 m²/liter at 40 microns d.f.t</td>
</tr>
<tr>
<td>Flash Point</td>
<td>24°C</td>
</tr>
<tr>
<td>VOC</td>
<td>563 g/liter (EPA method 24)</td>
</tr>
</tbody>
</table>

Drying Time And Overcoating Interval

<table>
<thead>
<tr>
<th>Temperature</th>
<th>-5°C (23°F)</th>
<th>10°C (50°F)</th>
<th>25°C (77°F)</th>
<th>35°C (95°F)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Touch Dry</td>
<td>2 hrs</td>
<td>10 minutes</td>
<td>20 minutes</td>
<td>10 minutes</td>
</tr>
<tr>
<td>Hard Dry</td>
<td>36 hrs</td>
<td>16 hrs</td>
<td>8 hrs</td>
<td>6 hrs</td>
</tr>
<tr>
<td>Min. Time Before Overcoating</td>
<td>24 hrs</td>
<td>6 hrs</td>
<td>4 hrs</td>
<td>2 hrs</td>
</tr>
<tr>
<td>Max. Time Before Overcoating</td>
<td>Extended*</td>
<td>Extended*</td>
<td>Extended*</td>
<td>Extended*</td>
</tr>
</tbody>
</table>

* See the Definition and Abbreviation.

Surface Preparations
All surfaces to be coated should be clean, dry and free from contamination. Oil, grease, soluble contaminant or foreign matters should be removed in accordance with SSPC-SP1 solvent cleaning.

Primed Steelwork
HilonDeco Cryl 9200 can be applied over approved anti-corrosive primers. The primer surface should be dry and free from all contamination and HilonDeco Cryl 9200 must be applied within the overcoating intervals specified (consult the relevant product data sheet).

Areas of breakdown, damage etc., should be prepared to the specified standard (e.g. Sa2.5 (ISO 8501–1:2007) and patch primed prior to the application of HilonDeco Cryl 9200.

Old Coating
If the existing HilonDeco Cryl 9200 old coating is complete and good application, after fresh water washing and elimination of oil, could directly apply the HilonDeco Cryl 9200.

Others
Please consult Hilong representative.

Application

<table>
<thead>
<tr>
<th>Application Condition</th>
<th>Surface temperature must always be a minimum of 3°C (5°F) above dew point.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Good ventilation required in confined areas to ensure proper drying.</td>
</tr>
<tr>
<td>Mixing</td>
<td>This material is a one component coating and should always be mixed thoroughly with a power agitator before application.</td>
</tr>
<tr>
<td>Pot Life</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Thinner</td>
<td>HilonThinner THR200</td>
</tr>
<tr>
<td>Airless Spray</td>
<td>Recommended                   Tip Range 0.38–0.53 mm (15–21 thou)</td>
</tr>
<tr>
<td>Air Spray</td>
<td>Not recommended</td>
</tr>
<tr>
<td>Brush / Roller</td>
<td>Propose to use in small areas application and pre-coating. Probably need multiple application to achieve the specified thickness.</td>
</tr>
<tr>
<td>Tools Cleaner</td>
<td>HilonThinner THR200</td>
</tr>
</tbody>
</table>

Systems Compatibility
HilonDeco Cryl 9200 is only suitable for overcoating with itself. The suitable primer could be HilonGuard 2100. For other suitable primers, consult Hilong representative.

Unit Size
20 litres or 5 litres unit: 20 litres HilonDeco Cryl 9200 in 20 litres container, 5 litres HilonDeco Cryl 9200 in 5 litres container.

Storage
Store in dry, shaded conditions away from sources of heat and ignition, in accordance with relevant regulations.

Shelf Life: 12 months minimum at 25°C (77°F). Subject to re-inspection thereafter.

Health And Safety
This product is intended for use only by professional applicators in industrial situations in accordance with the advice given on this sheet and the MSDS. All work involving the application and use of this product should be performed in compliance with all relevant national, Health, Safety & Environmental standards and regulations.

Note
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**Product Description**

A two-component, polyamide cured epoxy paint.
- Good abrasion property.
- Good chemical splash resistance.
- Has certain adornment performance and weatherability, but outdoor weatherability is not so good as polyurethane paint.

**Recommended Uses**

As a tough, hard wearing finish for application over properly primed surfaces. Suitable for use in a wide range of environments including offshore structures, petrochemical facilities, bridges, and the power industry.

Affords good protection against spills and splashes of a range of chemicals such as acids, alkalis, solvents, and salt solutions. HilonDeco EP 9300 can also be diluted as primer/seal coating on concrete substrate. In common with all epoxies HilonDeco EP 9300 will chalk and discolour on exterior exposure. However, these phenomena are not detrimental to anti-corrosive performance. And it is only occurs on a thin layer of the coating surface.

**Product Information**

- **Colour:** Wide range of colors
- **Gloss Level:** High Gloss
- **Volume Solids:** 50% ± 3% (depends on colour)
- **Typical Thickness:** 40-50 microns dry equivalent to 80-100 microns wet
- **Theoretical Coverage:** 10.0 m²/litre at 50 microns d.f.t
- **Mix Ratio:** Part A(Base) to Part B(Curing Agent)= 4:1 (by volume)
- **Flash Point:** 28°C
- **VOC:** 425 g/l (EPA method 24)

**Drying Time And Overcoating Interval**

<table>
<thead>
<tr>
<th>Temperature</th>
<th>10°C (50°F)</th>
<th>15°C (59°F)</th>
<th>25°C (77°F)</th>
<th>40°C (104°F)</th>
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</thead>
<tbody>
<tr>
<td>Touch Dry</td>
<td>12hrs</td>
<td>8hrs</td>
<td>3hrs</td>
<td>2hrs</td>
</tr>
<tr>
<td>Hard Dry</td>
<td>36hrs</td>
<td>27hrs</td>
<td>14hrs</td>
<td>10hrs</td>
</tr>
<tr>
<td>Min. Time Before Overcoating</td>
<td>36hrs</td>
<td>27hrs</td>
<td>14hrs</td>
<td>10hrs</td>
</tr>
<tr>
<td>Max. Time Before Overcoating</td>
<td>Extended*</td>
<td>Extended</td>
<td>Extended</td>
<td>Extended</td>
</tr>
</tbody>
</table>

* See the Definition and Abbreviation.

**Surface Preparations**

All surfaces to be coated should be clean, dry and free from contamination. Prior to paint application all surfaces should be assessed and treated in accordance with ISO 8504:2000. Oil or grease should be removed in accordance with SSPC-SP1.

**Primed Surfaces**

HilonDeco EP 9300 should always be applied over a recommended anti-corrosive coating scheme. The primer surface should be dry and free from all contamination and HilonDeco EP 9300 must be applied within the overcoating intervals specified (consult the relevant product data sheet). Areas of breakdown, damage etc., should be prepared to the specified standard (e.g. Sa2.5 (ISO 8501-1:2007) or SSPC–SP6, Abrasive Blasting, or SSPC-SP11, Power Tool Cleaning) and patch primed prior to the application of HilonDeco EP 9300.

**Concrete, Pre-Cast Blockwork etc**

HilonDeco EP 9300 is suitable for application to concrete. For the first coat it is recommended that HilonDeco EP 9300 is thinned 10–15% by HilonThinners in order to provide good penetration of the concrete substrate and act as a primer / sealer coat. Concrete should be cured for a minimum of 28 days prior to coating. The moisture content of the concrete should be below 6%. All surfaces should be clean, dry and free from curing compounds, release agents, efflorescence, grease, oil, dirt, old coatings and loose or disintegrating concrete. All poured and precast concrete must also be sweep blasted (preferred) or acid etched to remove laitance.

**Others**

Please consult Hilong representative.

**Application**

| Application Condition | Surface temperature must always be a minimum of 3°C (5°F) above dew point. Good ventilation is required in confined areas to ensure proper drying. During application and the initial drying of the coating, the coating should not be exposed to high humidity. |
| Mixing | Combine 4 parts of Base with 1 part of Curing Agent and mix thoroughly with power agitator. |
| Pot Life (23°C ) | 6 hours (Reduced at higher temperature) |
| Thinner | HilonThinners THR100 |
| Airless Spray | Recommended |
| Tip Range | 0.38–0.53 mm (15–21 thou) |
| Total output fluid pressure at spray tip not less than 170 kg/cm² (2420 p.s.i.) |
| Air Spray | Recommended |
| Brush | Application by brush is recommended for typical thickness 40 microns |
| Cleaner | HilonThinners THR100 |

**Storage**

- Store in dry, shaded conditions away from sources of heat and ignition, in accordance with relevant regulations.
- Shelf Life: 12 months minimum at 25°C (77°F). Subject to re-inspection thereafter.

**Systems Compatibilty**

The following primers are suitable for HilonDeco EP 9300:
- HilonGuard 2300
- HilonGuard 2400
- HilonGuard 2510
- HilonGuard 2580
- HilonGuard 2600
- HilonGuard 2610
- HilonZinc1280
- HilonFirm 5550
- HilonFlake 5600

When HilonDeco EP 9300 is used as a primer for concrete the following products are suitable topcoats:
- HilonDeco PU 9400
- HilonFirm 5550

For other suitable primers/topcoats, please consult Hilong representative.

**Unit Size**

20 litre unit: 16 litres part A (Base) in 20 litres container, 4 litres part B (Curing Agent) in 5 litres container

**Health And Safety**

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**Note**

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Product Description
A two-component, high gloss aliphatic isocyanate cured acrylic polyurethane paint.
- Good adornment performance.
- Excellent weather resistance.
- Excellent flexibility, abrasion resistance and impact resistance.

Recommended Uses
Can be used in a wide variety of environments including offshore structures, chemical and petrochemical plants, bridges, and in the power industry. Suitable for use in both new construction and as a maintenance finish, apply over suitable primer and intermediate to form an high performance protection system.

Product Information
- Colour: Wide range of colors
- Gloss Level: High Gloss
- Volume Solids: 59% ± 3% (depends on colour)
- Typical Thickness: 50–70 microns dry equivalent to 86–120 microns wet
- Mix Ratio: Part A (Base) to Part B (Curing Agent) = 7 : 1 (by volume)
- Flash Point: 35°C
- VOC: 413 g/l (EPA method 24)

Drying Time And Overcoating Interval
- Temperature: 5°C (41°F) * 15°C (59°F)  25°C (77°F)  40°C (104°F)
- Touch Dry: 4hrs  2hrs  1hrs  40mins
- Hard Dry: 22hrs  9hrs  5hrs  3hrs
- Min. Time Before Overcoating: 22hrs  9hrs  5hrs  3hrs
- Max. Time Before Overcoating: Extended

Surface Preparations
All surfaces to be coated should be clean, dry and free from contamination. Prior to paint application all surfaces should be assessed and treated in accordance with ISO 8504:2000. Oil or grease should be removed in accordance with SSPC-SP1 solvent cleaning.

Primed Surfaces
HilonDeco PU 9400 should always be applied over a recommended anti-corrosive coating scheme. The primer surface should be dry and free from all contamination and HilonDeco PU 9400 must be applied within the overcoating intervals specified (consult the relevant product data sheet). Areas of breakdown, damage etc., should be prepared to the specified standard (e.g. Sa2.5 (ISO 8501-1:2007) or SSPC–SP6, Abrasive Blasting, or SSPC–SP11, Power Tool Cleaning) and patch primed prior to the application of HilonDeco PU 9400.

Others
Please consult Hilon representative.
Product Description
A fast drying, high build, aliphatic isocyanate cured acrylic polyurethane paint.
- Good adornment performance, semi gloss.
- Excellent weather resistance and extended overcoating property.
- Excellent flexibility, abrasion resistance and impact resistance.

Recommended Uses
Particularly designed for use in areas where a high gloss is either not desired or where a semi-gloss is the preferred option.
Suitable for use in both new construction and as an industrial maintenance finish which can be used in a wide variety of environments including petrochemical facilities, offshore structures, bridges, and in the power industry.

Product Information
Colour: Wide range of colors
Gloss Level: Semi Gloss
Volume Solids: 58% ± 3%
Typical Thickness: 75–125 microns dry equivalent to 130–216 microns wet
Theoretical Coverage: 5.80 m²/litre at 100 microns d.f.t.
Mix Ratio: Part A (Base) : Part B (Curing Agent) = 8 : 1 (by volume)
Flash Point: 35°C
VOC: 368 g/l (EPA method 24)

Application
Application Condition
Surface temperature must always be a minimum of 3°C (5°F) above dew point. Good ventilation is required in confined areas to ensure proper drying. During application and the initial drying of the coating, the coating should not be exposed to high humidity. Condensation occurring during or immediately after application may result in a matt finish and an inferior film.

Mixing
Well agitate Part A (Base) alone first. Then combine 8 volume of Part A with 1 volume of Part B and mix thoroughly with power agitator.

Pot Life
2 hours (Reduced at higher temperature)

Thinner
HilonThinner THR500

Airless Spray
Recommended Tip Range 0.43–0.58 mm (17–23 thou)
Total output fluid pressure at spray tip not less than 155 kg/cm² (2200 p.s.i.)

Air Spray
Recommended
Brush
Small areas only, typically 50–75 microns can be achieved

Tools Cleaner
HilonThinner THR500

Drying Time And Overcoating Interval

Temperature | 5°C (41°F)* | 15°C (59°F) | 25°C (77°F) | 40°C (104°F)
--- | --- | --- | --- | ---
Touch Dry | 41.5 hrs | 75 minutes | 1 hrs | 45 minutes
Hard Dry | 28 hrs | 14 hrs | 4 hrs | 2 hrs
Min. Time Before Overcoating | 28 hrs | 14 hrs | 4 hrs | 2 hrs
Max. Time Before Overcoating | Extended* | Extended | Extended | Extended

* See the Definition and Abbreviation.

Surface Preparations
All surfaces to be coated should be clean, dry and free from contamination. Prior to paint application all surfaces should be assessed and treated in accordance with ISO 8504:2000. Oil or grease should be removed in accordance with SSPC–SP1 solvent cleaning.

Primed Surface
HilonDeco PU 9410 should always be applied over a recommended anti–corrosive coating scheme. The primer surface should be dry and free from all contamination and HilonDeco PU 9410 must be applied within the overcoating intervals specified (consult the relevant product data sheet).
Areas of breakdown, damage etc., should be prepared to the specified standard and patch primed prior to the application of HilonDeco PU 9410.

Others
Please consult Hilong representative.

Health And Safety
This product is intended for use only by professional applicators in industrial situations in accordance with the advice given on this sheet and the MSDS. All work involving the application and use of this product should be performed in compliance with all relevant national, Health, Safety & Environmental standards and regulations.
Warning: Contains isocyanate. Wear air-fed hood for spray application.

Note
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Product Description
HilonDeco PU 9450 is a two component, solvent free, aliphatic isocyanate cured acrylic polyurethane paint.
- 100% volume solid.
- Excellent weather resistance.
- Excellent flexibility, abrasion and impact resistance.

Recommended Uses
Aliphatic polyurethane finish coating, apply over suitable primer and intermediate to form an high performance protection system. Can be used in a wide variety of environments where weathering performance requirements needed, including pipeline structure, petrochemical plants, offshore facilities, factories and mines industry.

Application by the plural pump, with fast curing property, can improve the productivity of construction site remarkably.

Systems Compatibility
The following primers are recommended for HilonDeco PU 9450: HilonThane 5700.
For other suitable coating systems, please consult Hilong representative.

Unit Size
20 litres part A (Base) in a 20 litres container, 20 litres part B (Curing Agent) in a 20 litres container.

Storage
Store in dry, shaded conditions away from sources of heat and ignition, in accordance with relevant regulations.
Shelf Life: 12 months minimum at 25℃ (77℉). Subject to re-inspection thereafter.

Health And Safety
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Note
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Surface Preparations
All surfaces to be coated should be clean, dry and free from contamination. Prior to paint application all surfaces should be assessed and treated in accordance with ISO 8504:2000. Oil or grease should be removed in accordance with SSPC-SP1 solvent cleaning.

Primed Surface
HilonDeco PU 9450 should always be applied over a recommended anti-corrosive coating scheme. The primer surface should be dry and free from all contamination and HilonDeco PU 9450 must be applied within the overcoating intervals specified (consult the relevant product data sheet). Areas of breakdown, damage etc., should be prepared to the specified standard (e.g. Sa2.5 (ISO 8501-1:2007) or SSPC–SP6, Abrasive Blasting, or SSPC–SP11, Power Tool Cleaning) and patch primed prior to the application of HilonDeco PU 9450.

Others
Please consult Hilong representative.
### Product Description

A high performance, two component, fluorocarbon finish with Tetrafluorocarbon technology. Compared to typical conventional topcoats including catalysed acrylic, and polyurethane finishes.

- Offers superior gloss and color retention.
- Provides significantly improved resistance to yellowing and chalking.

### Recommended Uses

HilonDeco FC 9500 is a long lasting high performance finish for use over properly prepared and primer surfaces. Designed for use in those environments where high standards of cosmetic appearance and aesthetics are important. Those environments include bridges, stadium, offshore platforms, tank farms, chemical and petrochemical plants, the power industry, and in addition to general industrial and commercial steelwork where aesthetics are important.

### Product Information

- **Colour**
  - White, Silver and a selected range of colours

- **Gloss Level**
  - Gloss

- **Volume Solids**
  - 50% ± 3%

- **Typical Thickness**
  - 40–60 microns dry equivalent to 80–120 microns wet

- **Theoretical Coverage**
  - 12.5 m²/litre (dry film thickness 40 microns)

- **Mix Ratio**
  - Part A (Base) : Part B (Curing Agent) = 6 : 1 (by volume)

- **Flash Point**
  - 26°C

- **VOC**
  - 467 g/litre (EPA method 24)

### Drying Time And Overcoating Interval

<table>
<thead>
<tr>
<th>Temperature</th>
<th>5°C (41°F)</th>
<th>15°C (59°F)</th>
<th>25°C (77°F)</th>
<th>40°C (104°F)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Touch Dry</td>
<td>1 hr</td>
<td>1 hr</td>
<td>0.5 hr</td>
<td>0.5 hr</td>
</tr>
<tr>
<td>Hard Dry</td>
<td>36 hrs</td>
<td>18 hrs</td>
<td>9 hrs</td>
<td>4 hrs</td>
</tr>
<tr>
<td>Min. Time Before Overcoating</td>
<td>36 hrs</td>
<td>18 hrs</td>
<td>9 hrs</td>
<td>4 hrs</td>
</tr>
<tr>
<td>Max. Time Before Overcoating</td>
<td>2 weeks</td>
<td>2 weeks</td>
<td>2 weeks</td>
<td>2 weeks</td>
</tr>
</tbody>
</table>

### Surface Preparations

All surfaces to be coated should be clean, dry and free from contamination. To ensure the best appearance, the primer or undercoat should be smooth and free from any surface defects, such as runs, dry spray or heavy orange peel. Prior to paint application, all surfaces should be assessed and treated in accordance with ISO 8504:2000.

- **Primed Surface**
  - HilonDeco FC 9500 should always be applied over a recommended anti-corrosive coating scheme. The primer surface should be dry and free from all contamination and HilonDeco PU 9500 must be applied within the overcoating intervals specified (consult the relevant product data sheet). Areas of breakdown, damage etc., should be prepared to the specified standard (e.g. Sa2.5 (ISO 8501-1:2007) or SSPC–SP6, Abrasive Blasting, or SSPC–SP11, Power Tool Cleaning) and patched/primered prior to the application of HilonDeco FC 9500.

- **Others**
  - Please consult Hilong representative.

### Application

**Application Condition**
- Surface temperature must always be a minimum of 3°C (6°F) above dew point.
- Good ventilation is required in confined areas to ensure proper drying. During application and the initial drying of the coating, the coating should not be exposed to high humidity.
- For application of metallic finishes, please consult Hilong representative for application guidance.

**Mixing**
- Well agitate Part A (Base) alone first. Then combine 6 volume of Part A with 1 volume of Part B and mix thoroughly with power agitator. It is recommended that HilonDeco FC 9500 is allowed a 10 minutes induction period after mixing, prior to commencing application.

**Pot Life (23°C)**
- 3 hours (Reduced at higher temperature)

**Thinner**
- HilonThinner THR500

**Airless Spray**
- Recommended Tip Range 0.43–0.48 mm (17–19 thou)
- Total output fluid pressure at spray tip not less than 155 kg/cm² (2200 p.s.i.)

**Air Spray**
- Recommended
- Brush / Roller
- Small areas only, typically 25–50 microns can be achieved
- Tools Cleaner
- HilonThinner THR500

### Systems Compatibility

HilonDeco PU 9500 can be applied directly over the following approved primers / intermediates: HilonGuard 2300, HilonGuard 2400, HilonGuard 2510, HilonGuard 2580, HilonGuard 2600, HilonZinc 1280, HilonZinc 1385

For other suitable undercoats, please consult Hilong representative.

### Unit Size

- 12 litres unit: 17.14 litres part A (Base) in 20 litres container, 2.86 litres part B (Curing Agent) in 5 litres container.

### Storage

Store in dry, shaded conditions away from sources of heat and ignition, in accordance with relevant regulations.

**Shelf Life:** 12 months minimum at 25°C (77°F). Subject to re-inspection thereafter.

### Health And Safety

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**Warning:** Contains isocyanate. Wear air-fed hood for spray application.

### Note

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INTRODUCTION
The object in applying a coating is to provide a film which will give protection and/or decoration to the surface being painted.

The success of any paint application will be governed by a number of parameters, including:

- Surface preparation
- Film thickness applied
- Methods of application
- Conditions during application

These are discussed below.

SURFACE PREPARATION
The importance of surface preparation to the success of a coating system cannot be over-emphasized. It will be discussed in a separate chapter in this brochure.

FILM THICKNESS
An adequate film thickness is essential for the success of any coating system. Under-application will generally result in premature failure for obvious reasons. However, the old adage of “the more paint, the better” can be equally dangerous.

The gross over-application of coatings can lead either to solvent entrapment and subsequent loss of adhesion, cracking or to splitting of primer coats. With the majority of coatings, the limits of acceptable dry film thickness allow for reasonable practical variation, but the specified film thickness should always be the target during application.

The actual dry film thickness recommended for a particular surface will depend on the type of coating system being used and the nature of the surface. Recommended dry film thicknesses for individual products are given on the product datasheets.

DRY FILM THICKNESS MEASUREMENT
If a coating is applied to a steel substrate previously blast cleaned with abrasive grit or shot, the measurement of the dry film thickness is more complicated than that of a coating applied to a smooth steel substrate. The measurement results are influenced by the profile of the abrasive blasted surfaces which change from point-to-point.

HilonGroup recommends that all measuring instruments are calibrated on smooth steel in accordance with ISO 2808,

METHOD OF APPLICATION
The accepted methods of applying the coatings described in the datasheets are by brush, roller, conventional (air) spray, conventional (pressure pot) spray and airless spray. The advantages and disadvantages of each method are briefly discussed below.

BRUSH APPLICATION
Brush application should always be undertaken using good quality natural fibre or synthetic brushes of the appropriate size compatible with the product being applied. However, this application technique is relatively slow, but is generally used for coating small areas with decorative paints and for surface tolerant primers, where good penetration of rusty steel substrates is required. It is particularly suitable for the application of stripe coats and for coating complex areas where the use of spray methods would lead to considerable losses due to overspray and associated dry spray problems.

However, most high build coatings are designed for application by airless spray, and high film build will generally not be
achieved by brush application. In general, twice as many coats will have to be applied by brush to achieve a similar build when compared to airless spray. Brush application requires considerable care when applying non-convertible coatings over one another, e.g. chlorinated rubber over chlorinated rubber, or vinyl on top of vinyl. In these cases, the solvents in the wet coat readily redissolve the previously dry bottom coat. Even a mild degree of the brushwork-out (formally given to topcoats will cause pick-up of the previous coat and result in a very poor finish. Even, light strokes should be used in these circumstances, covering a particular area with one or two brush strokes, and on no account working the bristles into the previous coat.

ROLLER APPLICATION
Roller application is faster than brush on large, even surfaces and can be used for the application of most decorative paints. However, control of film thickness is not easily achieved. As with brush application, highfilm build will generally not be attained. Care must be taken to choose the correct roller pile length and material, depending on the type of paint and degree of roughness of the surface. Typically, phenolic core rollers should be used, fitted with a smooth to medium pile roller cover. The roller cover should be pre-washed to remove any loose fibres prior to use.

AIR SPRAY (CONVENTIONAL)
This is a widely accepted, rapid method of coating application in which paint is atomised by a low pressure air stream. "Conventional" air spray equipment is relatively simple and inexpensive, but it is essential to use the correct combination of pressure, air volume, air pressure and fluid flow to give good atomisation and a paint film free from defects. If conventional spray application is not controlled correctly, large losses of paint can result from overspray and rebound from the surface in addition to problems such as poor flow, sagging and pinholing. The major disadvantage of conventional air spray is that high build coatings can generally not be applied by this method as most paints have to be thinned to a suitable viscosity for satisfactory atomisation, and so lose their high build properties.

AIR SPRAY (PRESSURE POT)
Pressure feed tanks or "pressure pots" are commonly used in association with low pressure air stream (conventional) spray guns, to provide a means of delivering paint at a regulated pressure from a tank, through a fluid hose to a spray gun.

Air pressure and fluid flow to give good atomisation and a paint film free from defects. If conventional spray application is not controlled correctly, large losses of paint can result from overspray and rebound from the surface in addition to problems such as poor flow, sagging and pinholing. The major disadvantage of conventional air spray is that high build coatings can generally not be applied by this method as most paints have to be thinned to a suitable viscosity for satisfactory atomisation, and so lose their high build properties.

AIRLESS SPRAY
Unlike air spray techniques, air is not mixed with the coating to form a spray, hence the name airless spray. Atomisation is achieved by forcing the paint through specially designed nozzles or tips, by hydraulic pressure. The required hydraulic pressure is usually generated by a high pressure pump having a high ratio of fluid pressure to air input pressure. Pumps with ratios between 20:1 and 70:1 (or greater) are available, perhaps the most common being around 45:1. The chief advantages of airless spray are:

1. High build coatings can be applied without thinning.
2. Very rapid application is possible, giving an economic advantage.
3. Compared to conventional spray, overspray and bounce-back are reduced, leading to reduced losses of material and less dust and fume hazards.

CONDITIONS DURING APPLICATION
When applying protective coatings, the most important factors to consider are the condition of the substrate, the surface temperature, and the atmospheric conditions at the time of painting. Paint application should only be carried out when good atmospheric conditions and clement weather prevail. Painting should not be undertaken:

1. When the air temperature falls below the lower drying or curing limit of the coating.
2. During fog or mist conditions or when rain or snow is imminent.
3. When the surface to be painted is wet with condensation or when condensation can occur during the initial drying period of the paint.

During the night steel temperatures fall. They rise again during the day but there is always a lag in movement of steel temperature compared to the atmospheric condition, so condensation on the steel surface is possible. Condensation will occur if the steel temperature is below the dew point of the atmosphere.

 BORDERLINE CONDITIONS
Bad weather is a familiar problem to those using protective coatings. Relative humidity itself rarely creates a problem. Most paints will tolerate high humidities, but humidity should not be permitted to lead to condensation on the surface being painted. In order to determine whether or not a surface is wet, the steel temperature should be measured using a surface temperature thermometer and the dew point calculated after measurement of humidity with a hygrometer. Paint application should not take place when steel temperature is less than 3°C (5°F) above the dew point. Paint should not be applied when surfaces are affected by rain or ice. Some two component paints (for example certain epoxy coatings) should not be applied at low temperatures as curing may be retarded.

Extreme Conditions
Generally, extreme conditions refers to ambient temperatures below 5°C (41°F) or above 40°C (104°F). Below 5°C (41°F) the curing of coatings, such as traditional two component epoxies, slows down dramatically and for some paints curing stops altogether. Some anti-corrosive coatings are not so severely affected; chlorinated rubbers and vinyls are quite suitable for use at temperatures below 0°C (32°F) provided that the surface is clean and free from ice or frost.

At the other extreme of 40°C (104°F) and above, the drying and curing of paints is rather rapid and care should be taken to avoid dry spray. This is caused by the too rapid loss of solvent from paint droplets between the spray nozzle and the surface. It can be avoided by:

1. Keeping the spray gun at the minimum suitable distance from the work piece, spraying consistently at 90° to the surface being painted.
2. Adding thinners, if necessary, up to a maximum of 5% by weight.

In conditions of high temperature, technique must be adopted to prevent defects such as voids, pinholes, bubbles and poor coverage due to the over rapid evaporation of solvent. However, provided that good standards of workmanship are maintained, it is normally possible to satisfactorily apply most coatings products on to steel substrates up to 65°C (149°F).

SAFETY CONSIDERATIONS
Always carefully read and completely follow the safety procedures and instructions recommended by manufacturers of surface preparation devices, application equipment, media or products and the job site safety measures. Read and follow all precautionary notices on the Material Safety Data Sheet and container label. These are general statements to alert you to the importance of specific warnings and instructions on individual products. These statements are not intended to be specific warnings or advice.
**Theoretical & Practical Coverage**

**INTRODUCTION**

Estimating paint coverage is a key costing factor for both owners, vessel operators, shipyards and contractors. On site, practical coverage is a function of many factors, with losses due to surface condition, paint distribution, application procedure, ambient weather conditions and wastage being the major factors in determining the volume of paint required for a given specification.

At the initial costing stage, however, paint usage is calculated from the quoted "volume solids". The variety of methods used by different manufacturers to calculate, or determine "volume solids" can lead to confusion and misunderstanding, particularly when comparisons between paint systems are being made. These notes are intended to guide users and specifiers both in the practical assessment of paint losses, and in their theoretical calculations.

**VOLUME SOLIDS**

The volume solids of a coating is the ratio of the volume of its non volatile components to its total wet volume. Traditionally, this figure was calculated from the paint formulation but, since this took no account of factors such as pigment packing, solvent retention, or film contraction, the value bore little relation to that obtained in practice. Also, since these factors vary in importance between paint types, the calculated volume solids can result in an underestimation of coverage of some generic types of paint and an overestimation of others.

To overcome this problem, we use a more practical method to establish a paint's volume solids?

The method used measures the dry film thickness obtained from a measured wet film thickness, and volume solids is given by:

\[
\text{Volume solids} = \left( \frac{\text{measured dft} \times 100}{\text{measured wet thickness}} \right) \%
\]

**MEASUREMENT OF VOLUME SOLIDS IN THE LABORATORY**

The volume solids figure given in the product datasheets is the percentage of the film obtained from a given wet film thickness under specified application method and conditions. These figures have been determined under laboratory conditions using the test method described in ISO 3233:1998/Corr 1:1999 "Determination of Volume Solids by Measurement of Dry Film Density". To determine the volume solids of a coating the recommended dry film thickness of the coating quoted on the product data sheet, and a specified drying schedule at ambient temperature, i.e. 7 days at 25℃±1℃.

**SPECIAL SITUATIONS – ZINC PAINTS**

The volume solids figure given in the product datasheets is the percentage of the film obtained from a given wet film thickness under specified application method and conditions. These figures have been determined under laboratory conditions using the test method described in ISO 3233:1998/Corr 1:1999 "Determination of Volume Solids by Measurement of Dry Film Density". To determine the volume solids of a coating the recommended dry film thickness of the coating quoted on the product data sheet, and a specified drying schedule at ambient temperature, i.e. 7 days at 25℃±1℃.

**THEORETICAL COVERAGE DETERMINATION FROM VOLUME SOLIDS**

The theoretical coverage can be determined from the formula below:

\[
\text{Theoretical Coverage (m²/ltr)} = \left( \frac{\text{Volume solids} \times 10}{\text{measured dft (in microns)}} \right)
\]

**CONVERSION FROM THEORETICAL TO PRACTICAL COVERAGE**

Estimating accurately the quantity of paint required for a particular job is complicated, since the theoretical coverage takes no account of the variable "losses" involved in converting paint in the can to a film on the chosen surfaces. Two types of loss are considered, "apparent losses" where the paint, though on the surface, does not contribute to the specified thickness, and "actual losses" where the paint is lost or wasted.

**THE EFFECT OF BLAST PROFILE**

When paint is applied to an abrasive blasted surface, the paint thickness over the peaks on the surface is less than the thickness over the troughs. However, in general, it is the thickness over the peaks which is most important in relation to performance. Therefore, it can be considered that the paint which does not contribute to this thickness is "lost in the steel profile".

The surface profile produced by blasting and hence the extent of the paint "loss" is proportional to the dimensions of the abrasive used. Where steel has been blasted by small round steel shot and shop primed, the influence of the fine surface roughness on paint loss is low, but when in situ blasting is carried out, particularly with coarse grit, then the allowance necessary for paint "lost on profile" is considerable.

**ACTUAL LOSSES – APPLICATION**

There is a real loss of paint during the painting operation, i.e. paint which drips from a brush or roller during the transfer from the paint container to the surface to be painted. With care this can be disregarded as a significant contribution to the overall "loss". The use of "fans" helps to extend the painter’s reach however can increase this type of loss, and in an extreme case could result in a 5% loss.

When application is by spray, losses are inevitable and their magnitude is dependent on the shape of the structure being painted, together with weather conditions.

The following losses are common:

- Well ventilated but confined space – 5%
- Outdoors in almost static air – 5–10%
- Outdoors in windy conditions – over 20%

**PAINT WASTAGE**

Some paint wastage is inevitable; paint is split, a certain amount remains in discarded containers, and in the case of two component materials, mixed paint may be left beyond its pot life.

The following losses are common:

- Single component paints – No more than 5%
- Two component paints – 5–10%

**SUMMARY OF LOSSES**

Paint losses are summarised in the table:

<table>
<thead>
<tr>
<th>Loss Type</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Apparent loss &amp; surface profile</td>
<td>1.1</td>
</tr>
<tr>
<td>Actual loss &amp; application losses</td>
<td>2.1</td>
</tr>
<tr>
<td>Distribution &amp; 2.2 Wastage</td>
<td></td>
</tr>
</tbody>
</table>

Factor 1.1 effectively applies to the first coat. Factors 1.1 and 1.2 should be added and 2.1 and 2.2 compounded.

**PRACTICAL COVERAGE**

Given the theoretical coverage and the preceding loss factors, it is possible to calculate a practical coverage. However, due to the extremely complex nature of the calculations, and variability of a number of external factors which include surface roughness, ambient climatic conditions, complexity of structure, access limitations and application methods, it is advised that these calculations are performed by professional estimators who have the appropriate knowledge and experience of the application of coatings under various site conditions.
Surface Preparation

INTRODUCTION

Proper surface preparation is essential for the success of any protective coating scheme. The importance of removing oil, grease, old coatings and surface contaminants (such as millscale and rust on steel, and zinc salts on zinc containing primers or galvanised surfaces) cannot be over emphasised. The performance of any paint coating is directly dependent upon the correct and thorough preparation of the surface prior to coating. The most expensive andtechnologically advanced coating system will fail if the surface preparation is incorrect or incomplete.

STEEL

To judge the degree of surface treatment, we refer to many standards. Surface treatment standards are often encountered in the practical work mainly include:

5. The Society for Protective Coatings (SSPC/NACE).

REMOVAL OF CONTAMINANTS

The performance of protective coatings applied to steel is significantly affected by the condition of the steel substrate immediately prior to painting. The principal factors affecting performance are:

1. Surface contamination including salts, oils, grease, drilling and cutting compounds,
2. Rust and millscale,
3. Surface profile.

The main objective of surface preparation is to ensure that all such contamination is removed to reduce the possibility of initiating corrosion and to create a surface profile that allows satisfactory adhesion of the coating to be applied. Recommended procedures are outlined in International Standard ISO 8504:2000 and SSPC SP Specifications.

Oil and Grease

The presence of even a very thin layer of oil or grease can destroy or seriously impair adhesion of paint. It is essential to remove oil, grease, and other surface contaminants prior to further surface preparation or painting of the steel.

The most common method is: Wash with the thinner, then dry with clean cloths. Drying with cloths is only effective if two or three treatments are carried out, each time drying with clean cloths. A single treatment is rarely satisfactory and can aggravate the situation by spreading the oil or grease over an area greater than that originally affected.

In addition to thinner cleaning, there are also special emulsion, degreasing agent and steam cleaning.

Salts

The pollution of substrate surface, especially in the immersion area, like ballast tank, freight house and the underwater ship hull, is the main reason which leads to coating failure such as blisters.

Sea salts are fairly easily dissolved by fresh water. The major difficulty however is not the solubility of the salt but surface irregularities and porosity. For this reason high pressure fresh water washing should always be used to flush out all the salt from the surface cracks and crevices.

HARD TOOL CLEANING

Loosely adhering millscale, rust and old paint coatings may be removed from steel by hand wire brushing, sanding, scraping and chiming. However, these methods are incomplete, and always leave a layer of tightly adhering rust on the steel surface.

Methods for hand tool cleaning are described in SSPC–SP2 and should be to ISO 8501–1:2007 grade St2–B, C or D.

POWER TOOL CLEANING

Generally more effective and less laborious than hand tool cleaning for the removal of loosely adhering millscale, paint and rust. However, power tool cleaning will not remove tightly adhering rust and millscale. Power wire brushes, impact tools (such as needle guns), grinders and sanders are all commonly used, the cutting actions of grinding discs would be the preferred choice. Care should be taken, particularly with power wire brushes, not to polish the metal surface as this will reduce the key for the subsequent paint coating. Methods are described in SSPC–SP3 and SSPC–SP11 and should be to ISO 8501–1:2007 grade St3–B, C or D. SSPC–SP11 describes a degree of surface profile which can be achieved by power tool cleaning.

BLAST CLEANING

By far the most effective method for removal of millscale, rust and old coatings, using abrasives such as garnet, grit or shot under high pressure.

The primary standard used in product datasheets is ISO 8501–1:2007, preparation of steel substrate before application of paints and related products – visual assessment of surface cleanliness. This standard represents a slight extension of the old Swedish Standard (SIS 05 59 00), which was developed by the Swedish Corrosion Institute, in cooperation with the American Society for Testing & Materials (ASTM), and the Society for Protective Coatings (SSPC), USA, and is already used on a worldwide scale.

The grade of blasting suitable for a particular coating specification depends on a number of factors, like the type of coating system selected, the expected performance and service condition.

As a general principle, where products are recommended for immersion or aggressive atmospheric conditions the blasting standard required will be to Sa2.5 (ISO 8501–1:2007) or SSPC–SP10, however, when products are recommended for general atmospheric exposure the blasting standard required will be Sa2 (ISO 8501–1:2007) or SSPC–SP6.

Prior to blasting, steelwork should be degreased and all weld spatter removed. If salts, grease or oil are present on the surface it will appear to be removed by the blasting process, but this is not the case. Although not visible, the contamination will still be present as a thin layer, and will affect the adhesion of subsequent coatings. Weld seams, metal slivers and sharp edges revealed by the blasting process should be ground down, as paint coatings tend to run away from sharp edges, resulting in thin coatings and reduced protection. Weld spatter is almost impossible to coat evenly, in addition to often being loosely adherent, and it is a common cause of premature coating failure.

The surface profile obtained during blasting is important, and will depend on the abrasive used, the air pressure and the technique of blasting. Too low a pressure may not provide a sufficient key for coating, while too high a pressure may result in uneven coverage of high, sharp peaks possibly leading to premature coating failure, particularly for thin film coatings such as blast primers. The following table gives a brief guide to typical roughness profiles obtained using various types of abrasive.

<table>
<thead>
<tr>
<th>Type of Abrasive</th>
<th>Mesh Size</th>
<th>Max. Height of Profile</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very fine sand</td>
<td>80</td>
<td>37 microns (1.5 mils)</td>
</tr>
<tr>
<td>Coarse sand</td>
<td>12</td>
<td>70 microns (2.8 mils)</td>
</tr>
<tr>
<td>Iron shot</td>
<td>14</td>
<td>90 microns (3.6 mils)</td>
</tr>
<tr>
<td>Typical non metallic &quot;copper slag&quot;</td>
<td>1.5–2.0mm grain size</td>
<td>–</td>
</tr>
<tr>
<td>Iron grit No. G16</td>
<td>12</td>
<td>75–100 microns (3–4 mils)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>200 microns (8.0 mils)</td>
</tr>
</tbody>
</table>

See Table 1 for a comparison of roughness profiles.
An important property of the hydroblasting process is that it can emulsify and remove oil and grease from a surface as it is blasted. Hydroblasted surfaces dry off more quickly, with a corresponding reduction in the severity of flash rusting.

1. Compression of the water to reach hydroblasting pressure will create a temperature rise in the water itself, the terms hydroblasting, hydrosetting and water jetting essentially mean the same thing, with all being used to describe the same process. Low Pressure Water Washing: Operates at pressures less than 6.8 MPa. High Pressure Water Washing: Operates at pressures between 6.8–68 MPa. High Pressure Hydroblasting: Operates at pressures between 68–170 MPa. Ultra High Pressure Hydroblasting: Operates at pressures above 170 MPa with most machines operating in the 200–250 MPa range.

Hydroblasting is a technique for cleaning surfaces, which relies entirely on the energy of water striking a surface to achieve its cleaning effect. Abrasives are NOT used in hydroblasting systems. Consequently the problems caused by dust pollution and by the disposal of spent abrasives are eliminated. Two different hydroblasting operating pressures are commonly encountered. High pressure hydroblasting, operating at pressures between 68 MPa and 170 MPa. Ultra high pressure hydroblasting, operating at pressures above 170 MPa. Where wet blasted surfaces have been allowed to corrode, they should be mechanically cleaned or preferably sweep blasted, to remove the corrosion prior to painting. High pressure hydrosetting and water jetting are not suitable for use on galvanised steel.

When flash rusting is too heavy for coating application, it may be removed or reduced by brushing with a hard bristle brush, or by washing down with high pressure fresh water. High pressure washing, at pressures above 6.8 MPa using either the rotational nozzle, or fan jet nozzles of the hydroblasting equipment itself is the preferred method. It will cause the area to re-rust, but it is possible to reduce the degree of flash rusting from heavy to light using this method. Hand wire or bristle brushing to remove heavy flash rusting may be acceptable for small areas, but will generally produce an inadequate surface. Mechanical rotary wire brushing can however produce acceptable surfaces for large areas. When large areas are hydroblasted, flash rusting which obscures the original blast standard may occur, before an inspection can be carried out. Establishing the required standard by blasting a small test area prior to the main blast may help, providing the rest of the job is blasted to the same standard. To prevent the point corrosion, you can use water soluble anti-rust agent. When water is evaporated, the anti-rust agent may leave the crystalline surface layer on the steel surface, if overcoating on such surface, it will cause the coating adhesion decreased, and foaming as a result of corrosion pressure. In marine/protective coatings applications, we do not recommend anti-rust agent to prevent the generation of point corrosion on the steel surface hydroblasted. If use anti-rust agent, it must be washed thoroughly with fresh water before overcoating.

The temperature of steel substrates can rise during the hydroblasting process. There are two reasons for this:

1. The velocity of the water striking the steel will impart energy to it as heat. This temperature rise can be substantial and may help hydroblasted surfaces dry off more quickly, with a corresponding reduction in the severity of flash rusting. An important property of the hydroblasting process is that it can emulsify and remove oil and grease from a surface as it is blasted.

For many coatings based on non-saponifiable polymers can be applied directly to galvanised surfaces prepared in this way. When flash blasting is not possible, then an acid etch solution or etch primer should be used to passivate the surface and provide a key for further paint coatings. When steel has been treated with a passivating treatment immediately after galvanising, then this must either be allowed to weather off over a period of several months exterior exposure or be abraded before application of a coating. In general etch treatments have no effect on fresh materials of this type.

**OTHER NON FERROUS METALS**

The surface should be clean, dry and grease free (see under Steel – Degreasing). Degreasing of most galvanised surfaces requires some effort to obtain a clean surface. Any zinc corrosion products should be removed by high pressure fresh water washing, or fresh water washing with scrubbing. When using the preferred method of surface preparation, i.e. sweep blasting, it is advisable to fresh water wash to remove soluble zinc salts. Many coatings based on non-saponifiable polymers can be applied directly to galvanised surfaces prepared in this way. When flash blasting is not possible, then an acid etch solution or etch primer should be used to passivate the surface and provide a key for further paint coatings. When steel has been treated with a passivating treatment immediately after galvanising, then this must either be allowed to weather off over a period of several months exterior exposure or be abraded before application of a coating. In general etch treatments have no effect on fresh materials of this type.

**CONCRETE AND MASONRY SURFACE**

Concrete or masonry moisture content should be less than 8%, according to the experience, in a temperate climate conditions made of concrete may not fully dry solid in less than 28 days. Note: if apply coating on the surface not fully dry, the coating will appear blistering and peeling, this is because the internal moisture will slowly release. The new concrete laitance and loose surface mud powder must be removed. To paint the concrete or masonry, we must also consider the effect of surface treatment for painting, but more laborious. In addition, you can also carry out special acid washing treatment, then rinse thoroughly with water and dry totally the clean surface. Prior to painting, all crack should be filled with suitable fillers. Must holes may also need to fill in. This information, please contact the Hilong group, so as to obtain the detailed guidance.

**THE CEMENT GROUND**

Surface treatment method of cement ground including injection processing, scraping, sanding and artificial processing. The specific choice of which method depends on the surface condition, area, Whether easy to use surface treatment equipment, and the type of paint. 1. Injection processing: cement ground should use recyclable injection processing device for processing. 2. The scraping: use the spatula machine with fast rotating scraper, can deal with aging coating, and make the cement surface roughness. The scraping machine is generally applicable to the surface area of 5000 m². As for the large surface area, often using spray processing mode. 3. Thorough: the ground can be used a mechanical grinding machine completely remove floating puf, fine dust and all the dirt. No matter what kind of surface treatment method is used, it should be cleared at the end use vacuum cleaner dust all residues. Safety note: operators should be carefully read and fully comply with safety procedures and matters for products of tools, equipment, surface treatment of the supplier’s specifications, and comply with the site safety rules. The operator should carefully read and follow the safety procedures specified by coating supplier and related product description. These are general statements to alert you to the importance of specific warnings and instructions on individual products. These statements are not intended to be specific warnings or advice.
Definitions and Abbreviations

TOLERANCES
The numerical information quoted on this product datasheets has been derived from laboratory test data obtained under controlled conditions for the products described. Whilst every effort has been made to ensure accuracy, this information will be subject to minor variations obtained in normal manufacturing tolerances, and any fluctuations in ambient conditions during the application and curing periods.

GLOSS LEVEL
Typical gloss values have been determined in accordance with ISO 2813:1978 using a 60° gloss head. The categories used in the data sheet are:
- Finish (Shine): Gloss (60°) Head
- Matt: 0 – 15
- Eggshell: 16 – 30
- Semi-Gloss: 31 – 60
- Gloss: 61 – 85
- High Gloss: > 85

In practice, the level of sheen and surface finish will be dependent upon a number of factors, including application and the condition of the surface to be overcoated.

DRY FILM THICKNESS (DFT)
The initial thickness of the wet coating applied to the substrate.

WET FILM THICKNESS (WFT)
The measured thickness of the final dried film applied to the substrate.

VOLUME SOLIDS
The volume solids figure given on the product data sheet is the percentage of the wet film, which remains as the dry film, and is obtained from a given wet film thickness under specified application method and conditions. These figures have been determined under laboratory conditions using a modification of the test method described in ISO 3233:1998/Cor 1:1999 – Determination of Volume Solids by Measurement of Dry Film Density. This method is a modification of ASTM D-2697 (1986) which determines the volume solids of a coating using the recommended dry film thickness of the coating quoted on the product data sheet, and a specified drying schedule at ambient temperature, i.e. 7 days at 23°C ± 1°C. The measured thickness of the final dried film applied to the substrate.

DRYING TIME
The drying times quoted in the product data sheet have been determined in the laboratory using a typical dry film thickness, the ambient temperature quoted in the relevant product data sheet, and the appropriate test method, i.e.
- Touch Dry (ISO 1517 – 1973): The surface drying state of a coating when Ballotini (small glass spheres) can be lightly brushed away without damaging the surface of the coating.
- Hard Dry (ISO 9117 – 1980): The condition of the film in which it is dry throughout its thickness, as opposed to that condition in which the surface of the film is dry but the bulk of the coating is still mobile. This through drying state is determined by the use of a "mechanical thumb" device. In situ at the temperature quoted. The drying times achieved in practice may show some slight fluctuation, particularly in climatic conditions where the substrate temperature differs significantly from the ambient air temperature.

OVERCOATING INTERVAL
The product data sheet gives both a "minimum" and "maximum" overcoating interval and the figures quoted at the various temperatures are intended as guidelines, consistent with good painting practices.

Minimum
The "minimum overcoating time" quoted is an indication of the time required for the coating to attain the necessary state of dryness and hardness to allow the application of a further coat of paint without the development of any film irregularities such as lifting or loss of adhesion of the first coat. It assumes:
1. The coating has been applied at the normal recommended thickness.
2. Environmental conditions both during and after application were as recommended for that particular coating, especially in respect of temperature, relative humidity and ventilation.

Maximum
The "maximum overcoating time" indicates the allowable time period within which overcoating should take place in order to ensure acceptable intercoat adhesion is achieved.

Extended
Where an "extended" overcoating time is stated, the anticipated level of intercoat adhesion can only be achieved if:
1. The coating has been applied in accordance with good painting practices and at the specified film thickness.
2. The aged coating has the "intended" surface characteristics required for long term overcoatability. For example, an over-applied epoxy MIO may not have its usual "textured" surface and will no longer be overcoatable after ageing unless it is abraded.
3. The coating to be overcoated must be intact, tightly adherent, clean, dry and free from all contaminants.
4. Coatings having a glossy surface which could have a detrimental effect on the adhesion of subsequent coats should be treated by light surface abrasion, sweep blasting, or other suitable processes which will not cut through or detract from the performance of the underlying coating.

FLASH POINT
The measurement of ultimate "adhesion strength" can often be a difficult process, and interpretation of results can be subjective. Excellent adhesion does not necessarily mean good performance, nor does relatively poor adhesion necessarily mean poor performance. Although the adhesion of coatings applied to aged / cured coats may be deemed satisfactory for the specified end use, actual numerical values obtained for adhesion may be less than with coatings applied within "minimum / short" overcoating intervals.

For more product details and coating compatibility, please consult Hilonggroup.

VOLATILE ORGANIC COMPOUND (VOC)
Values quoted for VOC on the product data sheet are calculated from the product formulation or have been determined practically in the laboratory using USA – EPA Federal Reference Method 24. Values quoted for VOC on the product data sheet are calculated from the product formulation or have been determined practically in the laboratory using USA – EPA Federal Reference Method 24.

WORKING POT LIFE
The maximum time during which the product supplied as separate components should be used after they have been mixed together at the specified temperature.

The values quoted have been obtained from a combination of laboratory tests, and application trials, and refer to the time periods under which satisfactory coating performance will be achieved.

Shelf life quoted on the product datasheets is generally a conservative value, and it is probable that the coating can be applied without any deterioration in performance after this period has elapsed. Exceeding the shelf life of a product does not necessarily render it unusable. However, if the specified shelf life has been exceeded, it is recommended that the condition of the material is checked before any large scale application is undertaken using materials beyond the quoted shelf life. If this occurs contact Hilonggroup for advice on how to progress.

UNIT
Generally use "litre".