HI-SOLIDS POLYURETHANE 100 is a two-component, less than 100 g/l VOC, aliphatic, acrylic polyurethane enamel. It is designed for high performance protection with outstanding exterior gloss and color retention.

- Good/excellent resistance to corrosion and weathering
- Outstanding color and gloss retention
- Chemical resistant
- HAPS Free
- Resists film attack by mildew (MR White Tint Base only, B65WW625)

**Product Characteristics**

| Finish: | Gloss or Semi-gloss |
| Color: | Wide range of colors possible |
| Volume Solids: | 83% ± 2%, mixed, may vary by color |
| Weight Solids: | 87% ± 2%, mixed, may vary by color |
| VOC (EPA Method 24): | Unreduced: <100 g/L; 0.83 lb/gal mixed |
| Mix Ratio: | 3:1 by volume |

**Recommended Uses**

- For use over prepared substrates in industrial environments
- Heavy duty interior and exterior structural coating
- A chemical and abrasion resistant equipment and machinery finish
- A gloss and color retentive heavy duty maintenance coating for use in “high visibility” areas
- Exterior surfaces of steel tanks
- Chemical processing equipment
- Exterior metal siding and trim
- Marine Applications
- Oil Field Machinery
- Offshore structures
- Suitable for use in USDA inspected facilities
- Conforms to AWWA D102 OCS #5 & #6.
- Acceptable for use in high performance architectural applications.
- Suitable for use in USDA inspected facilities
- Approved for FIRETEX hydrocarbon finish coats
- Acceptable for use in Canadian Food Processing facilities categories: D1, D3 (Confirm acceptance of specific part numbers/recipes with your SW Sales Representative)

**Performance Characteristics**

**Substrate**: Steel
**Surface Preparation**: SSPC-SP6
**System Tested**: 1 cl. Corothane I Galvapac @ 3.0 mils (75 microns) dft
1 cl. Hi-Solids Polyurethane 100 @ 4.0 mils (100 microns) dft
*unless otherwise noted below

**Test Name** | Test Method | Results
--- | --- | ---
**Abrasion Resistance** | ASTM D4060, CS17 wheel, 1000 cycles, 1 kg load | 130 mg loss
**Accelerated Weathering / SSPC Paint No. 36, Level 3** | ASTM D4587, QUVA, 2000 hours, >70% gloss retention | Passes
**Adhesion** | ASTM D4541 | 1050 psi
**Corrosion Weathering** | ASTM D5994, 5 cycles, 1680 hours | Rating 10 per ASTM D714 for blistering; Rating 10 per ASTM D610 for rusting
**Direct Impact Resistance** | ASTM D2794 | 160 in. lbs.
**Dry Heat Resistance** | ASTM D2485 | 200°F (93°C)
**Flexibility** | ASTM D522, 180° bend, 1/8” mandrel | Passes
**Pencil Hardness** | ASTM D3363 | HB
**Salt Fog Resistance** | ASTM B117, 2000 hours | Rating 10 per ASTM D714 for blistering; Rating 9 per ASTM D610 for rusting
**Thermal Shock** | ASTM D2246, 15 cycles | Excellent

Meets the requirements of SSPC Paint No. 36, Level 3 for white and light colors. Dark colors may require a clear coat.
Surface must be clean, dry, and in sound condition. Remove all oil, dirt, rust, and other foreign material to ensure adequate adhesion.

Refer to product Application Bulletin for detailed surface preparation information.

Minimum recommended surface preparation:

* Iron & Steel: SSPC-SP6/NACE 3, 2 mil (50 micron) profile
* Galvanizing: SSPC-SP1
* Concrete & Masonry: SSPC-SP13/NACE 6, or ICRI No. 310.2R, CSP 1-3
* Primer Required

Surface Preparation Standards

<table>
<thead>
<tr>
<th>Condition of Surface</th>
<th>ISO 8501-1</th>
<th>SSPC</th>
<th>NACE</th>
</tr>
</thead>
<tbody>
<tr>
<td>White Metal</td>
<td>Sa 3</td>
<td>SP 5</td>
<td>1</td>
</tr>
<tr>
<td>近 White Metal</td>
<td>Sa 2.5</td>
<td>SP 10</td>
<td>2</td>
</tr>
<tr>
<td>Commercial Blast</td>
<td>Sa 2</td>
<td>SP 8</td>
<td>3</td>
</tr>
<tr>
<td>Brush-Off Blast</td>
<td>Sa 2</td>
<td>SP 6</td>
<td>4</td>
</tr>
<tr>
<td>Hand Tool Cleaning</td>
<td>Rusty</td>
<td>D St 1</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Pitted &amp; Rusted</td>
<td>D St 2</td>
<td>2</td>
</tr>
<tr>
<td>Power Tool Cleaning</td>
<td>Rusted</td>
<td>D St 3</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Pitted &amp; Rusted</td>
<td>D St 3</td>
<td>3</td>
</tr>
</tbody>
</table>

Tinting

Tint with Maxitoner Colorants only into Part A at 100% tint strength. Five minutes minimum mixing on a mechanical shaker is required for complete mixing of color.

Application Conditions

Temperature: 40°F (4.5°C) minimum, 120°F (49°C) maximum (air, surface, and material) At least 5°F (2.8°C) above dew point

Relative humidity: 85% maximum

Refer to product Application Bulletin for detailed application information.

Ordering Information

Packaging: 2 components premeasured 1 gallon / 3.78 liter mixes, and 4 gallon / 15.1 liter mixes A and B components ordered separately

Weight: 12.35 ± 0.2 lb/gal ; 1.5 Kg/L mixed, may vary with color

Safety Precautions

Refer to the MSDS sheet before use. Published technical data and instructions are subject to change without notice. Contact your Sherwin-Williams representative for additional technical data and instructions.

Warranty

The Sherwin-Williams Company warrants our products to be free of manufacturing defects in accord with applicable Sherwin-Williams quality control procedures. Liability for products proven defective, if any, is limited to replacement of the defective product or the refund of the purchase price paid for the defective product as determined by Sherwin-Williams. NO OTHER WARRANTY OR GUARANTEE OF ANY KIND IS MADE BY SHERWIN-WILLIAMS, EXPRESSED OR IMPLIED, STATUTORY, BY OPERATION OF LAW OR OTHERWISE, INCLUDING MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.
Surface must be clean, dry, and in sound condition. Remove all oil, dust, grease, dirt, loose rust, and other foreign material to ensure adequate adhesion.

Iron & Steel
Remove all oil and grease from surface by Solvent Cleaning per SSPC-SP1. Minimum surface preparation is Commercial Blast Cleaning per SSPC-SP6/NACE 3. For better performance, use Near White Metal Blast Cleaning per SSPC-SP10/NACE 2. Blast clean all surfaces using a sharp, angular abrasive for optimum surface profile (2 mils / 50 microns). Prime any bare steel the same day as it is cleaned or before flash rusting occurs.

Galvanized Steel
Allow to weather a minimum of six months prior to coating. Remove all oil, grease, dirt, oxide and other foreign material by Solvent Cleaning per SSPC-SP1. When weathering is not possible, or the surface has been treated with chromates or silicates, first Solvent Clean per SSPC-SP1 and apply a test patch. Allow paint to dry at least one week before testing adhesion. If adhesion is poor, brush blasting per SSPC-SP7 is necessary to remove these treatments. Rusty galvanizing requires a minimum of Hand Tool Cleaning per SSPC-SP2, prime the area the same day as cleaned. Primer required.

Concrete and Masonry
For surface preparation, refer to SSPC-SP13/NACE 6, or ICRI No. 310.2R, CSP 1-3. Surfaces should be thoroughly clean and dry. Concrete and mortar must be cured at least 28 days @ 75°F (24°C). Remove all loose mortar and foreign material. Surface must be free of laitance, concrete dust, dirt, form release agents, moisture curing membranes, loose cement and hardeners. Fill bug holes, air pockets and other voids with Steel-Seam FT910. Primer required.

Follow the standard methods listed below when applicable:
ASTM D4258 Standard Practice for Cleaning Concrete.
ASTM D4259 Standard Practice for Abrading Concrete.
ASTM D4260 Standard Practice for Etching Concrete.
ASTM F1869 Standard Test Method for Measuring Moisture Vapor Emission Rate of Concrete.
SSPC-SP 13/Nace 6 Surface Preparation of Concrete.
ICRI No. 310.2R Concrete Surface Preparation.

<table>
<thead>
<tr>
<th>Surface Preparation Standards</th>
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</thead>
<tbody>
<tr>
<td>Condition of Surface</td>
</tr>
<tr>
<td>-------------------------</td>
</tr>
<tr>
<td>White Metal</td>
</tr>
<tr>
<td>Near White Metal</td>
</tr>
<tr>
<td>Commercial Blast</td>
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<tr>
<td>Brush-Off Blast</td>
</tr>
<tr>
<td>Hand Tool Cleaning</td>
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<tr>
<td>Power Tool Cleaning</td>
</tr>
</tbody>
</table>

The following is a guide. Changes in pressures and tip sizes may be needed for proper spray characteristics. Always purge spray equipment before use with listed reducer. Any reduction must be compliant with existing VOC regulations and compatible with the existing environmental and application conditions.

Reducer/Clean Up: Reducer #111, R7K111, or Oxsol 100

Airless Spray
Pressure: 2500 - 2800 psi
Hose: 3/8" ID
Tip: 0.013" - 0.017"
Filter: None
Reduction: As needed up to 10% by volume

Conventional Spray
Gun: Binks 95
Fluid Nozzle: 63 B
Atomization Pressure: 50 - 70 psi
Fluid Pressure: 20 - 25 psi
Reduction: As needed up to 15% by volume

Brush
Brush: Natural bristle
Reduction: As needed up to 15% by volume

Roller
Cover: 3/8" woven with solvent resistant core
Reduction: As needed up to 15% by volume

If specific application equipment is not listed above, equivalent equipment may be substituted.
HI-SOLIDS POLYURETHANE 100

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Surface preparation must be completed as indicated.

Mix contents of each component thoroughly with low speed power agitation. Make certain no pigment remains on the bottom of the can. Then combine 3 parts by volume of Part A with 1 part by volume of Part B. Thoroughly agitate the mixture with power agitation.

If reducer solvent is used, add only after both components have been thoroughly mixed.

Apply paint at the recommended film thickness and spreading rate as indicated below:

<table>
<thead>
<tr>
<th>Wet mils (microns)</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.6 (90)</td>
<td>4.8 (120)</td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Dry mils (microns)</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.0 (75)</td>
<td>4.0 (100)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Coverage sq ft/gal (m²/L)</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>332 (8.1)</td>
<td>464 (11.4)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Theoretical coverage sq ft/gal (m²/L) @ 1 mil / 25 microns df</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>1328 (32.5)</td>
<td></td>
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</tr>
</tbody>
</table>

NOTE: Brush or roll application may require multiple coats to achieve maximum film thickness and uniformity of appearance.

Drying Schedule @ 4.0 mils wet (100 microns):

<table>
<thead>
<tr>
<th>To touch:</th>
<th>8 hours</th>
<th>4 hours</th>
<th>2 hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>To handle:</td>
<td>24 hours</td>
<td>14 hours</td>
<td>6 hours</td>
</tr>
<tr>
<td>To recoat:</td>
<td>36 hours</td>
<td>24 hours</td>
<td>12 hours</td>
</tr>
<tr>
<td>To cure:</td>
<td>14 days</td>
<td>14 days</td>
<td>10 days</td>
</tr>
</tbody>
</table>

If maximum recoat time is exceeded, abrade surface before recoating.

Drying is temperature, humidity, and film thickness dependent.

Pot Life: 4 hours 2 hours 1 hour

Sweat-in-Time: None required

Application of coating above maximum or below minimum recommended spreading rate may adversely affect coating performance.

Clean spills and spatters immediately with Reducer #111, R7K111. Clean tools immediately after use with Reducer #111, R7K111. Follow manufacturer’s safety recommendations when using any solvent.

The information and recommendations set forth in this Product Data Sheet are based upon tests conducted by or on behalf of The Sherwin-Williams Company. Such information and recommendations set forth herein are subject to change and pertain to the product offered at the time of publication. Consult your Sherwin-Williams representative to obtain the most recent Product Data Information and Application Bulletin.

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