ACROLO™ 218 HS
ACRYLIC POLYURETHANE

**PRODUCT INFORMATION**

**Relevant Uses**
Specifically formulated for in-shop applications.
For use over prepared metal and masonry surfaces in industrial environments such as:
- Structural steel
- Rail cars and locomotives
- Conveyors
- Bridges
- Wind Towers - onshore and offshore
- Offshore platforms - exploration and production
- Suitable for use in USDA inspected facilities
- Conforms to AWWA D102 Outside Coating Systems #4 (OCS-4), #5 (OCS-5) & #6 (OCS-6)
- Suitable for use on high performance architectural applications
- A component of INFINITANK
- Over FIRETEX® hydrocarbon systems
- Suitable for use in the Mining & Minerals Industry

**Performance Characteristics**

**Substrate**: Steel
**Surface Preparation**: SSPC-SP10/NACE 2
**System Tested**:
1 ct. Macropoxy 646 @ 6.0 mils (150 microns) dft
1 ct. Acrolon 218 HS Gloss @ 4.0 mils (100 microns) dft

*unless otherwise noted below

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**Product Description**
ACROLO® 218 HS is a polyester modified, aliphatic, acrylic polyurethane formulated specifically for in-shop applications. Also suitable for industrial applications. A fast drying, urethane that provides color and gloss retention for exterior exposure.
- Can be used directly over organic zinc rich primers (epoxy zinc primer and moisture cure urethane zinc primer)
- Color and gloss retention for exterior exposure
- Fast dry
- Outstanding application properties

**Product Characteristics**

**Finish**: Gloss or Semi-Gloss
**Color**: Wide range of colors available
**Volume Solids**: 65% ± 2%, mixed, may vary by color
**Weight Solids**: 78% ± 2%, mixed, may vary by color
**VOC (EPA Method 24)**:
- Unreduced: <300 g/L; 2.5 lb/gal
- Reduced 10% with R7K15: <340 g/L; 2.8 lb/gal
**Mix Ratio**: 6:1 by volume, 1 gallon or 5 gallon mixes premeasured components

**Drying Schedule @ 6.0 mils wet (150 microns)**:
- @ 35°F/1.7°C
  - 4 hours to touch
  - 18 hours to handle
  - 18 hours to recoat
  - 14 days to cure
- @ 77°F/25°C
  - 30 minutes to touch
  - 6 hours to handle
  - 8 hours to recoat
  - 7 days to cure
- @ 120°F/49°C
  - 20 minutes to touch
  - 4 hours to handle
  - 6 hours to recoat
  - 5 days to cure

**Theoretical coverage sq ft/gal (m²/L)**:
- 175 (4.3)
- 346 (8.5)

**Recommended Spreading Rate per coat**:
- Minimum
- Maximum
- Wet mils (microns)
  - 4.5 (112.5)
  - 9.0 (225)
- Dry mils (microns)
  - 3.0 (75)
  - 6.0 (150)
- Coverage sq ft/gal (m²/L)
  - 1040 (25.5)

**Recommended Uses**
- For use over prepared metal and masonry surfaces in industrial environments such as:
  - Structural steel
  - Rail cars and locomotives
  - Conveyors
  - Bridges
  - Wind Towers - onshore and offshore
  - Offshore platforms - exploration and production
  - Suitable for use in USDA inspected facilities
  - Conforms to AWWA D102 Outside Coating Systems #4 (OCS-4), #5 (OCS-5) & #6 (OCS-6)
  - Acceptable for use in high performance architectural applications
  - Acceptable for use over and/or under Loxon S1 and Loxon H1 Caulking
  - A component of INFINITANK
  - Over FIRETEX® hydrocarbon systems
  - Suitable for use in the Mining & Minerals Industry

**Performance Characteristics**

<table>
<thead>
<tr>
<th>Test Name</th>
<th>Test Method</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abrasion Resistance</td>
<td>ASTM D4060, CS17 wheel, 1000 cycles, 1 kg load</td>
<td>43 mg loss</td>
</tr>
<tr>
<td>Adhesion</td>
<td>ASTM D4541</td>
<td>1976 psi</td>
</tr>
<tr>
<td>Corrosion Weathering</td>
<td>ASTM D5894, 27 cycles, 9072 hours</td>
<td>Rating 10 per ASTM D610, for rusting; Rating 10 per ASTM D714, for blistering</td>
</tr>
<tr>
<td>Direct Impact Resistance</td>
<td>ASTM D2794</td>
<td>50 in. lb.</td>
</tr>
<tr>
<td>Dry Heat Resistance</td>
<td>ASTM D2485, Method A</td>
<td>200°F (93°C)</td>
</tr>
<tr>
<td>Flexibility</td>
<td>ASTM D522, 180° bend, 1/8” mandrel</td>
<td>Passes</td>
</tr>
<tr>
<td>Humidity Resistance</td>
<td>ASTM D4585, 100°F (38°C), 1500 hours</td>
<td>Rating 10 per ASTM D610, for rusting; Rating 10 per ASTM D714, for blistering</td>
</tr>
<tr>
<td>Pencil Hardness</td>
<td>ASTM D3363</td>
<td>3H</td>
</tr>
<tr>
<td>Salt Fog Resistance</td>
<td>ASTM B117, 15,000 hours</td>
<td>Rating 10 per ASTM D610, for rusting; Rating 10 per ASTM D714, for blistering</td>
</tr>
</tbody>
</table>

Meets the requirements of SSPC Paint No. 36, Level 3 for white and light colors. Dark colors may require a clear coat.

Complies with ISO 12944-5 C5I and C5M requirements.
**ACROLON™ 218 HS ACRYLIC POLYURETHANE**

**PRODUCT INFORMATION**

**SURFACE PREPARATION**

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.

Refer to product Application Bulletin for detailed surface preparation information.

Minimum recommended surface preparation:
- **Iron & Steel:** SSPC-SP6/NACE 3, 1-2 mil (25-50 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>BS7079:A1</th>
<th>SIS055900</th>
<th>SSPC</th>
<th>NACE</th>
</tr>
</thead>
<tbody>
<tr>
<td>White Metal</td>
<td>Sa 3</td>
<td>Sa 3</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Near White Metal</td>
<td>Sa 2.5</td>
<td>Sa 2.5</td>
<td>Sa 10</td>
<td>Sa 2</td>
<td>Sa 2</td>
</tr>
<tr>
<td>Commercial Blast</td>
<td>Sa 2</td>
<td>Sa 2</td>
<td>Sa 6</td>
<td>Sa 2</td>
<td>Sa 2</td>
</tr>
<tr>
<td>Brush-Off Blast</td>
<td>Sa 1</td>
<td>Sa 1</td>
<td>Sa 4</td>
<td>Sa 3</td>
<td>Sa 4</td>
</tr>
<tr>
<td>Hand Tool Cleaning</td>
<td>Rusted</td>
<td>Rusted</td>
<td>Rusted</td>
<td>Rusted</td>
<td>Rusted</td>
</tr>
<tr>
<td>Power Tool Cleaning</td>
<td>Rusted</td>
<td>Rusted</td>
<td>Rusted</td>
<td>Rusted</td>
<td>Rusted</td>
</tr>
</tbody>
</table>

**TINTING**

Tint Part A with Maxitoner Colorants.
- Extra white tints at 100% tint strength
- Ultradeep base tints at 150% tint strength

Five minutes minimum mixing on a mechanical shaker is required for complete mixing of color.

**APPLICATION CONDITIONS**

Temperature: 35°F (1.7°C) minimum, 120°F (49°C) maximum (air and surface)
40°F (4.5°C) minimum, 120°F (49°C) maximum (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:
- 1 gallon (3.78L) mix: 5 gallon (18.9L) mix
- Part A: .86 gal (3.25L) 4.29 gal (16.2L)
- Part B: .14 gal (0.53L) 0.71 gal (2.7L)

Weight: 11.2 ± 0.2 lb/gal : 1.3 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.

**DISCLAIMER**

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**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.

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**RECOMMENDED SYSTEMS**

<table>
<thead>
<tr>
<th>Dry Film Thickness / ct.</th>
<th>Mile</th>
<th>Microns</th>
</tr>
</thead>
<tbody>
<tr>
<td>Steel:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 ct. Macroproxy 646</td>
<td>5.0-10.0</td>
<td>(125-250)</td>
</tr>
<tr>
<td>1-2 cts. Acrolon 218 HS Polyurethane</td>
<td>3.0-6.0</td>
<td>(75-150)</td>
</tr>
<tr>
<td>Steel:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 ct. Zinc Clad II Plus</td>
<td>3.0-5.0</td>
<td>(75-125)</td>
</tr>
<tr>
<td>1 ct. Macroproxy 646</td>
<td>5.0-10.0</td>
<td>(125-250)</td>
</tr>
<tr>
<td>1-2 cts. Acrolon 218 HS Polyurethane</td>
<td>3.0-6.0</td>
<td>(75-150)</td>
</tr>
<tr>
<td>Steel:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 ct. Zinc Clad IV</td>
<td>3.0-5.0</td>
<td>(75-125)</td>
</tr>
<tr>
<td>1-2 cts. Acrolon 218 HS Polyurethane</td>
<td>3.0-6.0</td>
<td>(75-150)</td>
</tr>
<tr>
<td>Steel:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 ct. Epoxy Mastic Aluminum II</td>
<td>6.0</td>
<td>(150)</td>
</tr>
<tr>
<td>1-2 cts. Acrolon 218 HS Polyurethane</td>
<td>3.0-6.0</td>
<td>(75-150)</td>
</tr>
<tr>
<td>Steel:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 ct. Recoatable Epoxy Primer</td>
<td>4.0-6.0</td>
<td>(100-150)</td>
</tr>
<tr>
<td>1-2 cts. Acrolon 218 HS Polyurethane</td>
<td>3.0-6.0</td>
<td>(75-150)</td>
</tr>
<tr>
<td>Concrete/Masonry:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 ct. Kem Cat-Coat HS Epoxy Filler/Sealer</td>
<td>10.0-20.0 (250-500)</td>
<td></td>
</tr>
<tr>
<td>1-2 cts. Acrolon 218 HS Polyurethane</td>
<td>3.0-6.0</td>
<td>(75-150)</td>
</tr>
<tr>
<td>Aluminum/Galvanizing:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 ct. DTM Wash Primer</td>
<td>0.7-1.3</td>
<td>(18-32)</td>
</tr>
<tr>
<td>1-2 cts. Acrolon 218 HS Polyurethane</td>
<td>3.0-6.0</td>
<td>(75-150)</td>
</tr>
</tbody>
</table>

**FIRETEX ONLY:**

Finish Coat for FIRETEX Hydrocarbon Systems:
- 1 ct. Acrolon 218 HS Polyurethane*
  *Consult FIRETEX FFP Specialist for recommended dft range

The systems listed above are representative of the product’s use, other systems may be appropriate.
Surface Preparation Standards

<table>
<thead>
<tr>
<th>Condition of Surface</th>
<th>ISO 8501-1</th>
<th>Swedish Std</th>
<th>SSPC</th>
<th>NACE</th>
</tr>
</thead>
<tbody>
<tr>
<td>White Metal</td>
<td>Sa 3</td>
<td>Sa 3</td>
<td>SP 5</td>
<td>1</td>
</tr>
<tr>
<td>Near White Metal</td>
<td>Sa 2.5</td>
<td>Sa 2.5</td>
<td>SP 10</td>
<td>2</td>
</tr>
<tr>
<td>Commercial Blast</td>
<td>Sa 2.5</td>
<td>Sa 2.5</td>
<td>SP 10</td>
<td>2</td>
</tr>
<tr>
<td>Brush-Off Blast</td>
<td>Sa 3</td>
<td>Sa 1</td>
<td>SP 7</td>
<td>4</td>
</tr>
<tr>
<td>Hand Tool Cleaning</td>
<td>St 2</td>
<td>St 2</td>
<td>St 2</td>
<td>2</td>
</tr>
<tr>
<td>Power Tool Cleaning</td>
<td>St 3</td>
<td>St 3</td>
<td>SP 3</td>
<td>-</td>
</tr>
</tbody>
</table>

Surface Preparation Standards

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 (1-2 mils / 25-50 microns). Prime any bare steel the same day as it is cleaned or before flash rusting occurs.

Aluminum
Remove all oil, grease, dirt and other foreign material by Solvent Cleaning per SSPC-SP1. Primer required.

Galvanized Steel
Allow to weather a minimum of six months prior to coating. Solvent Clean 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 (1-2 mils / 25-50 microns). Prime any bare steel the same day as it is cleaned or before flash rusting occurs. Rusty galvanizing requires a minimum of Hand Tool Cleaning per SSPC-SP2, prime the area the same day as cleaned or before flash rusting occurs. 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.

Application Conditions

Temperature: 35°F (1.7°C) minimum, 120°F (49°C) maximum (air and surface)
40°F (4.5°C) minimum, 120°F (49°C) maximum (material)
At least 5°F (2.8°C) above dew point
Relative humidity: 85% maximum

Application Equipment

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:
Spray..............................Reducer R7K15, MEK, Reducer #58, or R7K111
Brush/Roll ......................Reducer #132, R7K132, Reducer #58, or R7K111

If reducer is used, reduce at time of catalyzation.

Airless Spray
Pressure.........................2500 - 2800 psi
Hose...............................3/8” ID
Tip ...............................0.13” - 0.17”
Filter .............................60 mesh
Reduction.........................As needed up to 10% by volume with R7K15 or R7K111, or up to 9% with MEK, R6K10*

Conventional Spray
Gun .............................Binks 95
Cap ................................63P
Atomization Pressure ....50 - 70 psi
Fluid Pressure .................20 - 25 psi
Reduction .........................As needed up to 10% by volume with R7K15 or R7K111, or up to 9% with MEK, R6K10*

Brush
Brush..............................Natural Bristle
Reduction.........................As needed up to 10% by volume*

Roller
Cover .............................3/8” woven with solvent resistant core
Reduction .........................As needed up to 10% by volume*

If specific application equipment is not listed above, equivalent equipment may be substituted.

* Note: Reducing more than maximum recommended level will result in VOC exceeding 340g/L

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**Application Bulletin**

**Application Procedures**

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 six parts by volume of Part A with one part by volume of Part B (premeasured components). Thoroughly agitate the mixture with power agitation. Re-stir before using.

If reducer 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>Recommended Spreading Rate per coat:</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wet mils (microns)</td>
<td>4.5 (112.5)</td>
<td>9.0 (225)</td>
</tr>
<tr>
<td>Dry mils (microns)</td>
<td>3.0 (75)</td>
<td>6.0 (150)</td>
</tr>
<tr>
<td>Coverage sq ft/gal (m²/L)</td>
<td>175 (4.3)</td>
<td>346 (8.5)</td>
</tr>
<tr>
<td>Theoretical coverage sq ft/gal</td>
<td>1040 (25.5)</td>
<td></td>
</tr>
</tbody>
</table>

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

**Drying Schedule @ 6.0 mils wet (150 microns):**

<table>
<thead>
<tr>
<th>@ 35°F/1.7°C</th>
<th>@ 77°F/25°C</th>
<th>@ 120°F/49°C</th>
</tr>
</thead>
<tbody>
<tr>
<td>50% RH</td>
<td></td>
<td></td>
</tr>
<tr>
<td>To touch:</td>
<td>4 hours</td>
<td>30 minutes</td>
</tr>
<tr>
<td>To handle:</td>
<td>18 hours</td>
<td>6 hours</td>
</tr>
<tr>
<td>To recoat:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>minimum:</td>
<td>18 hours</td>
<td>8 hours</td>
</tr>
<tr>
<td>maximum:</td>
<td>3 months</td>
<td>3 months</td>
</tr>
<tr>
<td>To cure:</td>
<td>14 days</td>
<td>7 days</td>
</tr>
<tr>
<td>Pot Life:</td>
<td>4 hours</td>
<td>2 hours</td>
</tr>
</tbody>
</table>

(reduced 5% with Reducer R7K15)

Sweat-in-Time: None

*Drying time is temperature, humidity, and film thickness dependent.*

Paint temperature must be at least 40°F (4.5°C) minimum.

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

**Clean Up Instructions**

Clean spills and spatters immediately with Reducer #132, R7K132. Clean tools immediately after use with Reducer #132, R7K132. Follow manufacturer's safety recommendations when using any solvent.

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**Performance Tips**

Stripe coat all crevices, welds, and sharp angles to prevent early failure in these areas.

When using spray application, use a 50% overlap with each pass of the gun to avoid holidays, bare areas, and pinholes. If necessary, cross spray at a right angle.

Spreading rates are calculated on volume solids and do not include an application loss factor due to surface profile, roughness or porosity of the surface, skill and technique of the applicator, method of application, various surface irregularities, material lost during mixing, spillage, overthinning, climatic conditions, and excessive film build.

Excessive reduction of material can affect film build, appearance, and adhesion.

Do not apply the material beyond recommended pot life.

Do not mix previously catalyzed material with new.

In order to avoid blockage of spray equipment, clean equipment before use or before periods of extended downtime with Reducer #15, R7K15 or MEK, R6K10.

Mixed coating is sensitive to water. Use water traps in all air lines. Moisture contact can reduce pot life and affect gloss and color.

Quick-Thane Urethane Accelerator is acceptable for use. See data page 5.97 for details.

E-Z Roll Urethane Defoamer is acceptable for use. See data page 5.99 for details.

If maximum recoat time is exceeded, a light abrasion may be necessary to roughen the surface to promote adhesion before recoating.

When over coating for maintenance or covering graffiti, solvent clean with MEK or similar solvent/cleaner prior to overcoating.

Refer to Product Information sheet for additional performance characteristics and properties.

**Safety Precautions**

Refer to the MSDS sheet before use.

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**Warranty**

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