



**Industrial
&
Marine
Coatings**

5.23

**POLY-LON® 1900
POLYESTER POLYURETHANE**

**PART A
PART B**

**B65-500
B65V500**

**SERIES
HARDENER**

PRODUCT INFORMATION

Revised 6/05

PRODUCT DESCRIPTION	RECOMMENDED USES																												
<p>POLY-LON 1900 POLYESTER POLYURETHANE is a heavy duty, high performance, two component, exterior/interior, VOC compliant, high solids, polyester-aliphatic urethane. When properly cured, this dries to a super tough, "wet look", high gloss, flexible finish with maximum gloss retention, color retention, and chalk resistance. Designed to withstand aggressive industrial environments and provide excellent durability against severe weather conditions, prolonged exterior exposure, abrasion, impact, and general chemical attack.</p> <ul style="list-style-type: none"> Retains its exterior appearance over a wide range of chemical, weather, and mechanical conditions. Superior exterior color and gloss retention. 	<p>For use over prepared metal and masonry surfaces in industrial environments such as:</p> <ul style="list-style-type: none"> Tank exteriors Pipelines Structural steel Bridges Marine vessels Rolling stock Conveyors Refineries Walls Floors <p>Conforms to AWWA D102-03 OCS #5 & #6.</p> <ul style="list-style-type: none"> Suitable for use in USDA inspected facilities. 																												
PRODUCT CHARACTERISTICS	PERFORMANCE CHARACTERISTICS																												
<p>Finish: High Gloss</p> <p>Color: Wide range of colors available</p> <p>Volume Solids: 65% ± 2%, mixed, may vary by color</p> <p>Weight Solids: 76% ± 2%, mixed, may vary by color</p> <p>VOC (EPA Method 24): Unreduced: <340 g/L; 2.80 lb/gal mixed Reduced 10%: <388 g/L; 3.23 lb/gal May vary by Color</p> <p>Mix Ratio: 3:1 by volume, 4 gallon mix</p> <p>Recommended Spreading Rate per coat: Wet mils: 3.0 - 4.5 Dry mils: 2.0 - 3.0 Coverage: 360 - 545 sq ft/gal approximate</p> <p>NOTE: Brush or roll application may require multiple coats to achieve maximum film thickness and uniformity of appearance.</p> <p>Drying Schedule @ 3.0 mils wet @ 50% RH:</p> <table border="1"> <thead> <tr> <th></th> <th>@50°F</th> <th>@ 77°F</th> <th>@100°F</th> </tr> </thead> <tbody> <tr> <td>To touch:</td> <td>16 hours</td> <td>2 hours</td> <td>30 minutes</td> </tr> <tr> <td>To handle:</td> <td>24 hours</td> <td>10 hours</td> <td>2 hours</td> </tr> <tr> <td>To recoat:</td> <td></td> <td></td> <td></td> </tr> <tr> <td> minimum:</td> <td>24 hours</td> <td>12 hours</td> <td>2 hours</td> </tr> <tr> <td> maximum:</td> <td>3 days</td> <td>48 hours</td> <td>24 hours</td> </tr> <tr> <td>To cure:</td> <td>7 days</td> <td>7 days</td> <td>5 days</td> </tr> </tbody> </table> <p>If maximum recoat time is exceeded, abrade surface before recoating. Drying time is temperature, humidity, and film thickness dependent.</p> <p>Pot Life: 5 hours 4 hours 45 minutes</p> <p>Sweat-in-Time: None required</p> <p>Shelf Life: 12 months, unopened Store indoors at 40°F to 100°F.</p> <p>Flash Point: 102°F TCC, mixed</p> <p>Reducer/Clean Up: Reducer #132, R7K132</p>		@50°F	@ 77°F	@100°F	To touch:	16 hours	2 hours	30 minutes	To handle:	24 hours	10 hours	2 hours	To recoat:				minimum:	24 hours	12 hours	2 hours	maximum:	3 days	48 hours	24 hours	To cure:	7 days	7 days	5 days	<p>System Tested: (unless otherwise indicated) Substrate: Steel Surface Preparation: SSPC-SP10 2 cts. Epolon II Primer @ 2.5 mils dft/ct 1 ct. Poly-Lon 1900 @ 2.0 mils dft</p> <p>Abrasion Resistance: Method: ASTM D4060, CS17 wheel, 1000 cycles, 1 kg load Result: 76 mg loss (average of 5 trials)</p> <p>Adhesion: Method: ASTM D3359 Method B Result: 5B, 100% Retention Method: ASTM D4541 Result: 1200 psi</p> <p>Direct Impact Resistance: Method: ASTM D2794 Result: 100 in. lb.</p> <p>Dry Heat Resistance: Method: ASTM D2485 Result: 200°F, 250°F intermittent</p> <p>Exterior Durability: Method: 2 years at 45° South Result: Excellent, 87% gloss retention</p> <p>Flexibility: (urethane only) Method: ASTM D522, 180° bend, 1/4" mandrel Result: Passes</p> <p>Humidity Resistance: Method: ASTM D4585, 100°F, 2000 hours Result: No blistering, cracking, softening or delamination</p> <p>Pencil Hardness: Method: ASTM D3363 Result: 6H</p> <p>Salt Fog Resistance: Method: ASTM B117, 1000 hours Result: Rating 10 per ASTM D610 for rusting, less than 1/16" creepage at scribe. No blistering, cracking, softening, or delamination of the film.</p> <p>Meets the requirements of SSPC Paint No. 36, Levels 2 & 3</p>
	@50°F	@ 77°F	@100°F																										
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**POLY-LON® 1900
POLYESTER POLYURETHANE**

**PART A B65-500
PART B B65V500**

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HARDENER**

PRODUCT INFORMATION

RECOMMENDED SYSTEMS	SURFACE PREPARATION															
<p>Steel: 1-2 cts. Epolon II Epoxy Primer @ 2.0 - 4.0 mils dft/ct 1-2 cts. Poly-Lon 1900 Polyester Polyurethane @ 2.0 - 3.0 mils dft/ct</p> <p>Steel: 1 ct. Zinc Clad II Plus @ 3.0 - 5.0 mils dft 1 ct. Epolon II Epoxy Primer @ 2.0 - 4.0 mils dft 1-2 cts. Poly-Lon 1900 Polyester Polyurethane @ 2.0 - 3.0 mils dft/ct</p> <p>Steel: 1 ct. Epoxy Mastic Aluminum II @ 6.0 mils dft 1-2 cts. Poly-Lon 1900 Polyester Polyurethane @ 2.0 - 3.0 mils dft/ct</p> <p>Galvanizing: 1-2 cts. Epolon II Epoxy Primer @ 2.0 - 4.0 mils dft/ct 1-2 cts. Poly-Lon 1900 Polyester Polyurethane @ 2.0 - 3.0 mils dft/ct</p> <p>Concrete/Masonry: 1 ct. Kem Cati-Coat HS Epoxy Filler/Sealer @ 10.0 - 20.0 mils dft 1-2 cts. Poly-Lon 1900 Polyester Polyurethane @ 2.0 - 3.0 mils dft/ct</p> <p>The systems listed above are representative of the product's use. Other systems may be appropriate.</p>	<p>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.</p> <p>Refer to product Application Bulletin for detailed surface preparation information.</p> <p>Minimum recommended surface preparation: * Iron & Steel: SSPC-SP6/NACE 3, 1-2 mils profile * Galvanizing: SSPC-SP1 * Concrete & Masonry: SSPC-SP13/NACE 6, or ICRI 03732, CSP 1-3 * Primer required</p> <p style="text-align: center;">TINTING</p> <p>Tint Part A with 844 Colorant at 200% tint strength. Five minutes minimum mixing on a mechanical shaker is required for complete mixing of color.</p> <p style="text-align: center;">APPLICATION CONDITIONS</p> <p>Temperature: 40°F minimum, 100°F maximum (air, surface, and material) Relative humidity: At least 5°F above dew point 75% maximum</p> <p>Refer to product Application Bulletin for detailed application information.</p> <p style="text-align: center;">ORDERING INFORMATION</p> <table border="0"> <tr> <td>Packaging:</td> <td><u>1 gallon mix:</u></td> <td><u>4 gallon mix:</u></td> </tr> <tr> <td>Part A:</td> <td>.75 gallons</td> <td>3 gallons</td> </tr> <tr> <td>Part B:</td> <td>1 quart</td> <td>1 gallon</td> </tr> <tr> <td></td> <td colspan="2">(premeasured components)</td> </tr> <tr> <td>Weight per gallon:</td> <td colspan="2">11.4 ± 0.2 lb mixed, may vary with color</td> </tr> </table> <p style="text-align: center;">SAFETY PRECAUTIONS</p> <p>Refer to the MSDS sheet before use.</p> <p>Published technical data and instructions are subject to change without notice. Contact your Sherwin-Williams representative for additional technical data and instructions.</p>	Packaging:	<u>1 gallon mix:</u>	<u>4 gallon mix:</u>	Part A:	.75 gallons	3 gallons	Part B:	1 quart	1 gallon		(premeasured components)		Weight per gallon:	11.4 ± 0.2 lb mixed, may vary with color	
Packaging:	<u>1 gallon mix:</u>	<u>4 gallon mix:</u>														
Part A:	.75 gallons	3 gallons														
Part B:	1 quart	1 gallon														
	(premeasured components)															
Weight per gallon:	11.4 ± 0.2 lb mixed, may vary with color															
DISCLAIMER	WARRANTY															
<p>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.</p>	<p>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.</p>															



**Industrial
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5.23A

**POLY-LON® 1900
POLYESTER POLYURETHANE**

**PART A B65-500
PART B B65V500**

**SERIES
HARDENER**

APPLICATION BULLETIN

Revised 6/05

SURFACE PREPARATION	APPLICATION CONDITIONS		
<p>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.</p> <p>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). Prime any bare steel the same day as it is cleaned or before flash rusting occurs.</p> <p>Galvanized Steel Allow to weather a minimum of six months prior to coating. Solvent Clean 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 or before flash rusting occurs.</p> <p>Poured Concrete New For surface preparation, refer to SSPC-SP13/NACE 6, or ICRI 03732, CSP 1-3. Surfaces must be clean, dry, sound and offer sufficient profile to achieve adequate adhesion. Minimum substrate cure is 28 days at 75°F. Remove all form release agents, curing compounds, salts, efflorescence, laitance, and other foreign matter by sandblasting, shotblasting, mechanical scarification, or suitable chemical means. Refer to ASTM D4260. Rinse thoroughly to achieve a final pH between 8.0 and 10.0. Allow to dry thoroughly prior to coating.</p> <p>Old Surface preparation is done in much the same manner as new concrete, however, if the concrete is contaminated with oils, grease, chemicals, etc., they must be removed by cleaning with a strong detergent. Refer to ASTM D4258. Form release agents, hardeners, etc. must be removed by sandblasting, shotblasting, mechanical scarification, or suitable chemical means. If surface deterioration presents an unacceptably rough surface, Kem Cati-Coat HS Epoxy Filler/Sealer is recommended to patch and resurface damaged concrete. Fill all cracks, voids and bugholes with ArmorSeal Crack Filler.</p> <p>Always follow the standard methods listed below: 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 03732, Concrete Surface Preparation</p>	<p>Temperature: 40°F minimum, 100°F maximum (air, surface, and material) At least 5°F above dew point</p> <p>Relative humidity: 75% maximum</p> <tr> <th colspan="2" data-bbox="829 766 1523 808">APPLICATION EQUIPMENT</th> </tr> <p>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 compatible with the existing environmental and application conditions.</p> <p>Reducer/Clean Up Reducer #132, R7K132</p> <p>Airless Spray Pressure 2400 - 3000 psi Hose 3/8" ID Tip013" - .017" Filter 60 mesh Reduction As needed up to 10% by volume</p> <p>Conventional Spray Gun Binks 95 Cap 63P Tip 66 Atomization Pressure ... 50 - 60 psi Fluid Pressure 20 - 30 psi Reduction As needed up to 10% by volume</p> <p>Brush Brush Natural Bristle Reduction Not recommended</p> <p>Roller Cover 1/4" woven with phenolic core Reduction Not recommended</p> <p>If specific application equipment is not listed above, equivalent equipment may be substituted.</p>	APPLICATION EQUIPMENT	
APPLICATION EQUIPMENT			



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5.23A

**POLY-LON® 1900
POLYESTER POLYURETHANE**

**PART A B65-500
PART B B65V500**

**SERIES
HARDENER**

APPLICATION BULLETIN

APPLICATION PROCEDURES

Surface preparation must be completed as indicated.

Mix contents of each component thoroughly with power agitation. Make certain no pigment remains on the bottom of the can. Then combine three parts by volume of Part A with one part by volume of Part B. Thoroughly agitate the mixture with power agitation. Allow the material to sweat-in as indicated. Re-stir before using.

If reducer is used, add only after both components have been thoroughly mixed, after sweat-in.

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

Recommended Spreading Rate per coat:

Wet mils: 3.0 - 4.5
Dry mils: 2.0 - 3.0
Coverage: 360 - 545 sq ft/gal approximate

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

Drying Schedule @ 3.0 mils wet @ 50% RH:

	@50°F	@77°F	@100°F
To touch:	16 hours	2 hours	30 minutes
To handle:	24 hours	10 hours	2 hours
To recoat:			
minimum:	24 hours	12 hours	2 hours
maximum:	3 days	48 hours	24 hours
To cure:	7 days	7 days	5 days

If maximum recoat time is exceeded, abrade surface before recoating. Drying time is temperature, humidity, and film thickness dependent.

Pot Life: 5 hours 4 hours 45 minutes

Sweat-in-Time: none required

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

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 #132, R7K132.

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

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

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

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

CLEAN UP INSTRUCTIONS

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

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

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.

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.



Protective & Marine Coatings

TILE-CLAD® HIGH SOLIDS

PART A	B62Z	SERIES
PART B	B60VZ70	GLOSS HARDENER
PART B	B60VZ75	EG-SHEL HARDENER
PART B	B60VZX70	MILDEW RESISTANT GLOSS HARDENER

PRODUCT INFORMATION

Revised 12/08

PRODUCT DESCRIPTION	RECOMMENDED USES																																								
<p>TILE-CLAD HIGH SOLIDS is a VOC compliant, two-package, epoxy-polyamide coating for use in industrial maintenance environments and high performance architectural applications.</p> <ul style="list-style-type: none"> • Chemical resistant • Dry film resists bacterial attack • Abrasion resistant • Low VOC • Mildew resistant version available 	<p>For use over prepared substrates such as steel, galvanizing, and concrete in industrial environments.</p> <ul style="list-style-type: none"> • Laboratories • Masonry surfaces • Offshore structures • Storage tanks • Structural & support steel • Institutional kitchens • Chemical processing equipment • Institutional & commercial wall coating • Suitable for use in USDA inspected facilities <p>Conforms to AWWA D 102-03, OCS #5 Acceptable for use in high performance architectural applications.</p> <ul style="list-style-type: none"> • Lavatories • Power plants • Schools • Marine applications • Clean rooms • Nuclear power facilities 																																								
PRODUCT CHARACTERISTICS	PERFORMANCE CHARACTERISTICS																																								
<p>Finish: Gloss and Eg-Shel</p> <p>Color: Wide range of colors available, including safety colors</p> <p>Volume Solids: 56% ± 2%, mixed, may vary by color</p> <p>Weight Solids: 70% ± 2%, mixed, may vary by color</p> <p>VOC (EPA Method 24): Unreduced: <400 g/L; 3.33 lb/gal mixed Reduced 10%: <413 g/L; 3.44 lb/gal</p> <p>Mix Ratio: 1:1 by volume</p> <p>Recommended Spreading Rate per coat: Wet mils: 4.0 - 7.0 Dry mils: 2.5 - 4.0 Coverage: 225 - 359 sq ft/gal approximate</p> <p>NOTE: Brush or roll application may require multiple coats to achieve maximum film thickness and uniformity of appearance.</p> <p>Drying Schedule @ 4.0 mils wet @ 50% RH:</p> <table> <thead> <tr> <th></th> <th>@ 55°F</th> <th>@ 77°F</th> <th>@ 110°F</th> </tr> </thead> <tbody> <tr> <td>To touch:</td> <td>3 hours</td> <td>1 hour</td> <td>20 minutes</td> </tr> <tr> <td>Tack free:</td> <td>6 hours</td> <td>2 hours</td> <td>30 minutes</td> </tr> <tr> <td>To recoat:</td> <td></td> <td></td> <td></td> </tr> <tr> <td> minimum:</td> <td>6 hours</td> <td>2 hours</td> <td>30 minutes</td> </tr> <tr> <td> maximum:</td> <td>30 days</td> <td>30 days</td> <td>30 days</td> </tr> <tr> <td>To stack:</td> <td>18 hours</td> <td>16 hours</td> <td>3 hours</td> </tr> <tr> <td>To cure:</td> <td>21 days</td> <td>14 days</td> <td>7 days</td> </tr> <tr> <td>Pot life:</td> <td>4 hours</td> <td>4 hours</td> <td>2 hours</td> </tr> <tr> <td>Sweat-in-Time:</td> <td>1 hour</td> <td>30 minutes</td> <td>10 minutes</td> </tr> </tbody> </table> <p>If maximum recoat time is exceeded, abrade surface before re-coating. Drying time is temperature, humidity, and film thickness dependent.</p> <p>Shelf Life: 36 months, unopened Store indoors at 40°F to 100°F.</p>		@ 55°F	@ 77°F	@ 110°F	To touch:	3 hours	1 hour	20 minutes	Tack free:	6 hours	2 hours	30 minutes	To recoat:				minimum:	6 hours	2 hours	30 minutes	maximum:	30 days	30 days	30 days	To stack:	18 hours	16 hours	3 hours	To cure:	21 days	14 days	7 days	Pot life:	4 hours	4 hours	2 hours	Sweat-in-Time:	1 hour	30 minutes	10 minutes	<p>System Tested: (unless otherwise indicated) Substrate: Steel Surface Preparation: SSPC-SP6/NACE 3 1 ct. Recoatable Epoxy Primer @ 4.0 - 6.0 mils dft 1 ct. Tile-Clad HS @ 3.0 mils dft</p> <p>Abrasion Resistance: Method: ASTM D4060, CS17 wheel, 1000 cycles, 1 kg load Result: 80 mg loss</p> <p>Accelerated Weathering - QUV: Method: ASTM D4587, QUV-A, 5,000 hours Results: passes</p> <p>Adhesion: Method: ASTM D4541 Result: 1050 psi</p> <p>Corrosion Weathering: Method: ASTM D5894, 10 cycles, 3336 hours Result: Rating 9 per ASTM D610 for rusting Rating 10 per ASTM D714 for blistering</p> <p>Direct Impact Resistance: Method: ASTM D2794 Result: 95 in. lbs.</p> <p>Dry Heat Resistance: Method: ASTM D2485 Result: 200°F</p> <p>Exterior Durability: Method: 1 year 45° South Result: Excellent, chalks</p> <p>Flexibility: Method: ASTM D522, 180° bend, 1/4" mandrel Result: Passes</p> <p>Irradiation-Effects on Coatings used in Nuclear Power Plants: Method: ANSI 5.12 / ASTM D4082-89 Result: Passes</p> <p>Moisture Condensation Resistance: Method: ASTM D4585, 100°F, 1000 hours Result: Passes, no blistering, rust, or delamination</p> <p>Pencil Hardness: Method: ASTM D3363 Result: F-H</p> <p>Salt Fog Resistance: Method: ASTM B117, 2,500 hours Result: Rating 10 per ASTM D610 for rusting Rating 10 per ASTM D714 for blistering</p> <p>Epoxy coatings may darken or yellow following application and curing. Provides performance comparable to products formulated to federal specification: TT-C-535B</p>
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4.30

TILE-CLAD® HIGH SOLIDS

PART A	B62Z	SERIES
PART B	B60VZ70	GLOSS HARDENER
PART B	B60VZ75	EG-SHEL HARDENER
PART B	B60VZX70	MILDEW RESISTANT GLOSS HARDENER

PRODUCT INFORMATION

RECOMMENDED SYSTEMS	SURFACE PREPARATION
<p>Steel, Epoxy Primer: 1 ct. Recoatable Epoxy Primer @ 4.0 - 6.0 mils dft/ct 1-2 cts. Tile-Clad High Solids @ 2.5 - 4.0 mils dft/ct</p> <p>Steel, Universal Primer: 1 ct. Kem Bond HS @ 2.0 - 5.0 mils dft/ct 1-2 cts. Tile-Clad High Solids @ 2.5 - 4.0 mils dft/ct</p> <p>Steel, Acrylic Primer: 1 ct. Pro-Cryl WB Universal Primer @ 2.0-4.0 mils dft 1-2 cts. Tile-Clad High Solids @ 2.5 - 4.0 mils dft/ct</p> <p>Steel, Epoxy Mastic Primer: 1 ct. Epoxy Mastic Aluminum II @ 4.0 - 6.0 mils dft/ct 1-2 cts. Tile-Clad High Solids @ 2.5 - 4.0 mils dft/ct</p> <p>Aluminum: 1 ct. DTM Wash Primer @ 0.7 - 1.3 mils dft/ct 1-2 cts. Tile-Clad High Solids @ 2.5 - 4.0 mils dft/ct</p> <p>Concrete Block: 1 ct. Heavy Duty Block Filler @ 10.0 - 18.0 mils dft/ct 1-2 cts. Tile-Clad High Solids @ 2.5 - 4.0 mils dft/ct</p> <p>Galvanized Metal: 1-2 cts. Tile-Clad High Solids @ 2.5 - 4.0 mils dft/ct</p> <p>Poured Concrete/Tilt-Up Concrete (including floors): 1-2 cts. Tile-Clad High Solids @ 2.5 - 4.0 mils dft/ct</p> <p>Wood, including floors: 1-2 cts. Tile-Clad High Solids @ 2.5 - 4.0 mils dft/ct</p> <p>The systems listed above are representative of the product's use. Other systems may be appropriate.</p>	<p>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.</p> <p>Refer to product Application Bulletin for detailed surface preparation information.</p> <p>Minimum recommended surface preparation: * Iron & Steel: SSPC-SP2 Aluminum: SSPC-SP1 Galvanizing: SSPC-SP1 Concrete & Masonry: SSPC-SP13/NACE 6, or ICRI 03732, CSP 1-3 Wood, interior: Clean, smooth, dust free</p> <p>* Primer required</p>
	TINTING
	<p>Tint Part A with 844 colorants or Blend-A-Color Toner at 200% strength into Part A. Five minutes minimum mixing on a mechanical shaker is required for complete mixing of color.</p>
	APPLICATION CONDITIONS
	<p>Temperature: 55°F minimum, 110°F maximum (air, surface, and material) At least 5°F above dew point</p> <p>Relative humidity: 85% maximum</p>
	<p>Refer to product Application Bulletin for detailed application information.</p>
	ORDERING INFORMATION
	<p>Packaging: Parts A & B: 1 and 5 gallon containers</p>
	<p>Weight per gallon: 10.78 ± 0.2 lb mixed, may vary by color</p>
	SAFETY PRECAUTIONS
	<p>Refer to the MSDS sheet before use.</p>
	<p>Published technical data and instructions are subject to change without notice. Contact your Sherwin-Williams representative for additional technical data and instructions.</p>
DISCLAIMER	WARRANTY
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**Protective
&
Marine
Coatings**

TILE-CLAD® HIGH SOLIDS

PART A	B62Z	SERIES
PART B	B60VZ70	GLOSS HARDENER
PART B	B60VZ75	EG-SHEL HARDENER
PART B	B60VZX70	MILDEW RESISTANT GLOSS HARDENER

APPLICATION BULLETIN

Revised 12/08

SURFACE PREPARATION	APPLICATION CONDITIONS				
<p>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.</p> <p>Iron & Steel Minimum surface preparation is Hand Tool Clean per SSPC-SP2. Remove all oil and grease from surface by Solvent Cleaning per SSPC-SP1. For better performance, use Commercial Blast Cleaning per SSPC-SP6/NACE 3, blast clean all surfaces using a sharp, angular abrasive for optimum surface profile (2 mils). Prime any bare steel within 8 hours or before flash rusting occurs. Primer Required.</p> <p>Aluminum Remove all oil, grease, dirt, oxide and other foreign material by Solvent Cleaning per SSPC-SP1. Primer Required.</p> <p>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.</p> <p>Concrete and Masonry For surface preparation, refer to SSPC-SP13/NACE 6, or ICRI 03732, CSP 1-3. Surfaces must be clean, dry, sound and offer sufficient profile to achieve adequate adhesion. Concrete and mortar must be cured at least 28 days @ 75°F. 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 ArmorSeal Crack Filler.</p> <p>Wood Surface must be clean, dry and sound. Remove any oils and dirt from the surface using a degreasing solvent or strong detergent. Sand to remove any loose or deteriorated surface wood and to obtain a proper surface profile. Prime with recommended primer and paint as soon as possible. No painting should be done immediately after a rain or during foggy weather. Knots and pitch streaks must be scraped or sanded and spot primed before full coat of primer is applied. All nail holes or small openings must be properly caulked.</p>	<p>Temperature: 55°F minimum, 110°F maximum (air, surface, and material) At least 5°F above dew point</p> <p>Relative humidity: 85% maximum</p> <tr> <th colspan="2" style="text-align: center;">APPLICATION EQUIPMENT</th> </tr> <tr> <td colspan="2"> <p>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.</p> <p>Reducer/Clean Up Reducer #54, R7K54, R6K25</p> <p>Airless Spray</p> <p>Pressure..... 2400 psi Hose..... 3/8" ID Tip019" Filter 60 mesh Reduction..... R7K54 as needed up to 10% by volume</p> <p>Conventional Spray</p> <p>Gun Binks 95 Fluid Nozzle 66 Air Nozzle..... 69 PB Atomization Pressure..... 60 psi Fluid Pressure..... 20 psi Reduction..... R7K54 as needed up to 10% by volume</p> <p>Brush</p> <p>Brush..... Nylon/Polyester or Natural Bristle Reduction..... R6K25 as needed up to 10% by volume</p> <p>Roller</p> <p>Cover 1/4"-3/8" " woven with phenolic core Reduction..... R6K25 as needed up to 10% by volume</p> <p>If specific application equipment is not listed above, equivalent equipment may be substituted.</p> </td> </tr>	APPLICATION EQUIPMENT		<p>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.</p> <p>Reducer/Clean Up Reducer #54, R7K54, R6K25</p> <p>Airless Spray</p> <p>Pressure..... 2400 psi Hose..... 3/8" ID Tip019" Filter 60 mesh Reduction..... R7K54 as needed up to 10% by volume</p> <p>Conventional Spray</p> <p>Gun Binks 95 Fluid Nozzle 66 Air Nozzle..... 69 PB Atomization Pressure..... 60 psi Fluid Pressure..... 20 psi Reduction..... R7K54 as needed up to 10% by volume</p> <p>Brush</p> <p>Brush..... Nylon/Polyester or Natural Bristle Reduction..... R6K25 as needed up to 10% by volume</p> <p>Roller</p> <p>Cover 1/4"-3/8" " woven with phenolic core Reduction..... R6K25 as needed up to 10% by volume</p> <p>If specific application equipment is not listed above, equivalent equipment may be substituted.</p>	
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**Protective
&
Marine
Coatings**

4.30A

TILE-CLAD® HIGH SOLIDS

PART A	B62Z	SERIES
PART B	B60VZ70	GLOSS HARDENER
PART B	B60VZ75	EG-SHEL HARDENER
PART B	B60VZX70	MILDEW RESISTANT GLOSS HARDENER

APPLICATION BULLETIN

APPLICATION PROCEDURES	PERFORMANCE TIPS																																								
<p>Surface preparation must be completed as indicated.</p> <p>Mix contents of each component thoroughly with power agitation. Make certain no pigment remains on the bottom of the cans. Then combine one part by volume of Part A with one part by volume of Part B. Thoroughly agitate the mixture with power agitation. Allow the material to sweat-in as indicated. Re-stir before using.</p> <p>If reducer solvent is used, add only after both components have been thoroughly mixed, after sweat-in.</p> <p>Apply paint at the recommended film thickness and spreading rate as indicated below:</p> <p>Recommended Spreading Rate per coat: Wet mils: 4.0 - 7.0 Dry mils: 2.5 - 4.0 Coverage: 225 - 359 sq ft/gal approximate</p> <p>NOTE: Brush or roll application may require multiple coats to achieve maximum film thickness and uniformity of appearance.</p> <p>Drying Schedule @ 4.0 mils wet @ 50% RH:</p> <table border="0"> <tr> <td></td> <td>@ 55°F</td> <td>@ 77°F</td> <td>@ 110°F</td> </tr> <tr> <td>To touch:</td> <td>3 hours</td> <td>1 hour</td> <td>20 minutes</td> </tr> <tr> <td>Tack free:</td> <td>6 hours</td> <td>2 hours</td> <td>30 minutes</td> </tr> <tr> <td>To recoat:</td> <td></td> <td></td> <td></td> </tr> <tr> <td> minimum:</td> <td>6 hours</td> <td>2 hours</td> <td>30 minutes</td> </tr> <tr> <td> maximum:</td> <td>30 days</td> <td>30 days</td> <td>30 days</td> </tr> <tr> <td>To stack:</td> <td>18 hours</td> <td>16 hours</td> <td>3 hours</td> </tr> <tr> <td>To cure:</td> <td>21 days</td> <td>14 days</td> <td>7 days</td> </tr> <tr> <td>Pot life:</td> <td>4 hours</td> <td>4 hours</td> <td>2 hours</td> </tr> <tr> <td>Sweat-in-Time:</td> <td>1 hour</td> <td>30 minutes</td> <td>10 minutes</td> </tr> </table> <p>If maximum recoat time is exceeded, abrade surface before re-coating. Drying time is temperature, humidity, and film thickness dependent.</p> <p>Application of coating below minimum or above maximum</p>		@ 55°F	@ 77°F	@ 110°F	To touch:	3 hours	1 hour	20 minutes	Tack free:	6 hours	2 hours	30 minutes	To recoat:				minimum:	6 hours	2 hours	30 minutes	maximum:	30 days	30 days	30 days	To stack:	18 hours	16 hours	3 hours	To cure:	21 days	14 days	7 days	Pot life:	4 hours	4 hours	2 hours	Sweat-in-Time:	1 hour	30 minutes	10 minutes	<p>Stripe coat all crevices, welds, and sharp angles to prevent early failure in these areas.</p> <p>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.</p> <p>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.</p> <p>Excessive reduction of material can affect film build, appearance, and adhesion.</p> <p>Do not apply the material beyond recommended pot life.</p> <p>Do not mix previously catalyzed material with new.</p> <p>In order to avoid blockage of spray equipment, clean equipment before use or before periods of extended downtime with Reducer #54, R7K54.</p> <p>Quik-Kick Epoxy Accelerator is acceptable for use. See data page 4.99 for details.</p> <p>Refer to Product Information sheet for additional performance characteristics and properties.</p>
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CLEAN UP INSTRUCTIONS	SAFETY PRECAUTIONS
<p>Clean spills and spatters immediately with Reducer #54, R7K54. Clean tools immediately after use with Reducer #54, R7K54. Follow manufacturer's safety recommendations when using any solvent.</p>	<p>Refer to the MSDS sheet before use.</p> <p>Published technical data and instructions are subject to change without notice. Contact your Sherwin-Williams representative for additional technical data and instructions.</p>

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**Industrial
&
Marine
Coatings**

4.53 MACROPOXY® 646 FAST CURE EPOXY

**PART A
PART B**

**B58-600
B58V600**

**SERIES
HARDENER**

PRODUCT INFORMATION

Revised 9/07

PRODUCT DESCRIPTION		RECOMMENDED USES																																					
<p>MACROPOXY 646 FAST CURE EPOXY is a high solids, high build, fast drying, polyamide epoxy designed to protect steel and concrete in industrial exposures. Ideal for maintenance painting and fabrication shop applications. The high solids content ensures adequate protection of sharp edges, corners, and welds. This product can be applied directly to marginally prepared steel surfaces.</p> <ul style="list-style-type: none"> • Low VOC • Low odor • Chemical resistant • Abrasion resistant 		<ul style="list-style-type: none"> • Marine applications • Fabrication shops • Pulp and paper mills • Power plants • Offshore platforms • Mill White and Black are acceptable for immersion use for salt water and fresh water, not acceptable for potable water • Suitable for use in USDA inspected facilities • Refineries • Chemical plants • Tank exteriors • Water treatment plants <p>Conforms to AWWA D102-03 OCS #5</p>																																					
PRODUCT CHARACTERISTICS		PERFORMANCE CHARACTERISTICS																																					
<p>Finish: Semi-Gloss</p> <p>Color: Mill White, Black and a wide range of colors available through tinting</p> <p>Volume Solids: 72% ± 2%, mixed Mill White</p> <p>Weight Solids: 85% ± 2%, mixed Mill White</p> <p>VOC (EPA Method 24): Unreduced: <250 g/L; 2.08 lb/gal mixed Reduced 10%: <300 g/L; 2.50 lb/gal</p> <p>Mix Ratio: 1:1 by volume</p> <p>Recommended Spreading Rate per coat: Wet mils: 7.0 - 13.5 Dry mils: 5.0 - 10.0* Coverage: 116 - 232 sq ft/gal approximate</p> <p>NOTE: Brush or roll application may require multiple coats to achieve maximum film thickness and uniformity of appearance. * See Recommended Systems</p> <p>Drying Schedule @ 7.0 mils wet and 50% RH:</p> <table border="1"> <thead> <tr> <th></th> <th>@ 40°F</th> <th>@ 77°F</th> <th>@ 100°F</th> </tr> </thead> <tbody> <tr> <td>To touch:</td> <td>4-5 hours</td> <td>2 hours</td> <td>1½ hours</td> </tr> <tr> <td>To handle:</td> <td>48 hours</td> <td>8 hours</td> <td>4½ hours</td> </tr> <tr> <td>To recoat:</td> <td></td> <td></td> <td></td> </tr> <tr> <td> minimum:</td> <td>48 hours</td> <td>8 hours</td> <td>4½ hours</td> </tr> <tr> <td> maximum:</td> <td>1 year</td> <td>1 year</td> <td>1 year</td> </tr> <tr> <td>Cure for</td> <td></td> <td></td> <td></td> </tr> <tr> <td> service:</td> <td>10 days</td> <td>7 days</td> <td>4 days</td> </tr> <tr> <td> immersion:</td> <td>14 days</td> <td>7 days</td> <td>4 days</td> </tr> </tbody> </table> <p>If maximum recoat time is exceeded, abrade surface before recoating. Drying time is temperature, humidity and film thickness dependent.</p> <p>Pot Life: 10 hours 4 hours 2 hours</p> <p>Sweat-in-time: 30 minutes 30 minutes 15 minutes</p> <p>Shelf Life: 36 months, unopened Store indoors at 40°F to 100°F.</p> <p>Flash Point: 91°F, TCC, mixed</p> <p>Reducer/Clean Up: Reducer, R7K15 In California: Reducer R7K111 or Oxsol 100</p>			@ 40°F	@ 77°F	@ 100°F	To touch:	4-5 hours	2 hours	1½ hours	To handle:	48 hours	8 hours	4½ hours	To recoat:				minimum:	48 hours	8 hours	4½ hours	maximum:	1 year	1 year	1 year	Cure for				service:	10 days	7 days	4 days	immersion:	14 days	7 days	4 days	<p>System Tested: (unless otherwise indicated) Substrate: Steel Surface Preparation: SSPC-SP10 1 ct. Macroxy 646 Fast Cure @ 6.0 mils dft</p> <p>Abrasion Resistance: Method: ASTM D4060, CS17 wheel, 1000 cycles, 1 kg load Result: 84 mg loss</p> <p>Accelerated Weathering - QUV, Zinc Clad II Plus Primer: Method: ASTM D4587, QUV-A, 12,000 hours Results: passes</p> <p>Adhesion: Method: ASTM D4541 Result: 1,037 psi</p> <p>Corrosion Weathering, Zinc Clad II Plus Primer: Method: ASTM D5894, 36 cycles, 12,000 hours Result: Rating 10 per ASTM D714 for blistering Rating 9 per ASTM D610 for rusting</p> <p>Direct Impact Resistance: Method: ASTM D2794 Result: 30 in. lb.</p> <p>Dry Heat Resistance: Method: ASTM D2485 Result: 250°F</p> <p>Exterior Durability: Method: 1 year at 45° South Result: Excellent, chalks</p> <p>Flexibility: Method: ASTM D522, 180° bend, 3/4" mandrel Result: Passes</p> <p>Humidity Resistance Method: ASTM D4585, 6000 hrs Result: No blistering, cracking, or rusting</p> <p>Immersion: Method: 1 year fresh and salt water Result: Passes, no rusting, blistering, or loss of adhesion</p> <p>Irradiation-Effects on Coatings used in Nuclear Power Plants Method: ANSI 5.12 / ASTM D4082-89 Result: Passes</p> <p>Pencil Hardness: Method: ASTM D3363 Result: 3H</p> <p>Water Vapor Permeance: Method: ASTM D1653, Method B Result: 1.16 US perms</p> <p>Salt Fog Resistance, Zinc Clad II Plus Primer:: Method: ASTM B117, 6,500 hours Result: Rating 10 per ASTM D610 for rusting Rating 9 per ASTM D1654 for corrosion</p> <p>Slip Coefficient, Mill White: Method: AISC Specification for Structural Joints Using ASTM A325 or ASTM A490 Bolts Result: Class A, 0.36</p> <p>Epoxy coatings may darken or discolor following application and curing.</p>	
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**Industrial
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Coatings**

4.53

MACROPOXY® 646 FAST CURE EPOXY

**PART A B58-600
PART B B58V600**

**SERIES
HARDENER**

PRODUCT INFORMATION

RECOMMENDED SYSTEMS	SURFACE PREPARATION
<p>Immersion and atmospheric:</p> <p>Steel: 2 cts. Macropoxy 646 @ 5.0 - 10.0 mils dft/ct</p> <p>Concrete/Masonry, smooth: 2 cts. Macropoxy 646 @ 5.0 - 10.0 mils dft/ct</p> <p>Concrete Block: 1 ct. Kem Cati-Coat HS Epoxy Filler/Sealer @ 10.0 - 20.0 mils dft, as needed to fill voids and provide a continuous substrate. 2 cts. Macropoxy 646 @ 5.0 - 10.0 mils dft/ct</p>	<p>Surface must be clean, dry, and in sound condition. Remove all oil, dust, grease, dirt, loose rust, and other foreign material to ensure good adhesion. Refer to product Application Bulletin for detailed surface preparation information.</p> <p>Minimum recommended surface preparation:</p> <p>Iron & Steel</p> <p>Atmospheric: SSPC-SP2/3 Immersion: SSPC-SP10/NACE 2, 2-3 mil profile</p> <p>Aluminum: SSPC-SP1 Galvanizing: SSPC-SP1</p> <p>Concrete & Masonry</p> <p>Atmospheric: SSPC-SP13/NACE 6, or ICRI 03732, CSP 1-3 Immersion: SSPC-SP13/NACE 6-4.3.1 or 4.3.2, or ICRI 03732, CSP 1-3</p>
<p>Atmospheric:</p> <p>*Steel: (Shop applied system, new construction, AWWA D102-03, can also be used at 3 mils minimum dft when used as an intermediate coat as part of a multi-coat system) 1 ct. Macropoxy 646 Fast Cure Epoxy @ 3.0 - 6.0 mils dft 1-2 cts. of recommended topcoat</p> <p>Steel: 1 ct. Recoatable Epoxy Primer @ 4.0 - 6.0 mils dft 2 cts. Macropoxy 646 @ 5.0 - 10.0 mils dft/ct</p>	<p style="text-align: center;">TINTING</p> <p>Tint Part A with 844 Colorants at 150% strength. Five minutes minimum mixing on a mechanical shaker is required for complete mixing of color.</p> <p>Tinting is not recommended for immersion service.</p>
<p>*Steel: 1 ct. Macropoxy 646 @ 4.0 - 6.0 mils dft 1-2 cts. Acrolon 218 Polyurethane @ 3.0 - 6.0 mils dft/ct or Hi-Solids Polyurethane @ 3.0 - 5.0 mils dft/ct or SherThane 2K Urethane @ 2.0 - 4.0 mils dft/ct</p> <p>Steel: 2 cts. Macropoxy 646 @ 5.0 - 10.0 mils dft/ct 1-2 cts. Tile-Clad HS Epoxy @ 2.5 - 4.0 mils dft/ct</p>	<p style="text-align: center;">APPLICATION CONDITIONS</p> <p>Temperature: 40°F minimum, 140°F maximum (air, surface, and material) At least 5°F above dew point</p> <p>Relative humidity: 85% maximum</p> <p>Refer to product Application Bulletin for detailed application information.</p>
<p>Steel: 1 ct. Zinc Clad II Plus @ 3.0 - 6.0 mils dft 1 ct. Macropoxy 646 @ 5.0 - 10.0 mils dft 1-2 cts. Acrolon 218 Polyurethane @ 3.0 - 6.0 mils dft/ct</p> <p>Steel: 1 ct. Zinc Clad III HS @ 3.0 - 5.0 mils dft or Zinc Clad IV @ 3.0 - 5.0 mils dft 1 ct. Macropoxy 646 @ 5.0 - 10.0 mils dft 1-2 cts. Acrolon 218 Polyurethane @ 3.0 - 6.0 mils dft/ct</p>	<p style="text-align: center;">ORDERING INFORMATION</p> <p>Packaging: Part A: 1 and 5 gallon containers Part B: 1 and 5 gallon containers</p> <p>Weight per gallon: 12.9 ± 0.2 lb mixed, may vary by color</p>
<p>Aluminum: 2 cts. Macropoxy 646 @ 5.0 - 10.0 mils dft/ct</p> <p>Galvanizing: 2 cts. Macropoxy 646 @ 5.0 - 10.0 mils dft/ct</p> <p>The systems listed above are representative of the product's use. Other systems may be appropriate.</p>	<p style="text-align: center;">SAFETY PRECAUTIONS</p> <p>Refer to the MSDS sheet before use.</p> <p>Published technical data and instructions are subject to change without notice. Contact your Sherwin-Williams representative for additional technical data and instructions.</p>
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FAST CURE EPOXY**

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PART B**

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**SERIES
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APPLICATION BULLETIN

Revised 9/07

SURFACE PREPARATION	APPLICATION CONDITIONS		
<p>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.</p> <p>Iron & Steel, Atmospheric Service: Minimum surface preparation is Hand Tool Clean per SSPC-SP2. Remove all oil and grease from surface by Solvent Cleaning per SSPC-SP1. For better performance, use Commercial Blast Cleaning per SSPC-SP6/NACE 3, blast clean all surfaces using a sharp, angular abrasive for optimum surface profile (2 mils). Prime any bare steel within 8 hours or before flash rusting occurs.</p> <p>Iron & Steel, Immersion Service: Remove all oil and grease from surface by Solvent Cleaning per SSPC-SP1. Minimum surface preparation is Near White Metal Blast Cleaning per SSPC-SP10/NACE 2. Blast clean all surfaces using a sharp, angular abrasive for optimum surface profile (2-3 mils). Remove all weld spatter and round all sharp edges by grinding. Prime any bare steel the same day as it is cleaned.</p> <p>Aluminum Remove all oil, grease, dirt, oxide and other foreign material by Solvent Cleaning per SSPC-SP1.</p> <p>Galvanized Steel Allow to weather a minimum of six months prior to coating. Solvent Clean per SSPC-SP1 (recommended solvent is VM&P Naphtha). 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.</p> <p>Concrete and Masonry, Atmospheric Service: For surface preparation, refer to NACE 6/SSPC-SP13, or ICRI 03732, CSP 1-3. Surfaces should be thoroughly clean and dry. Concrete and mortar must be cured at least 28 days @ 75°F. 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 a cement patching compound. Weathered masonry and soft or porous cement board must be brush blasted or power tool cleaned to remove loosely adhering contamination and to get to a hard, firm surface. Laitance must be removed by etching with a 10% muriatic acid solution and thoroughly neutralized with water.</p> <p>Concrete and Masonry, Immersion Service: For surface preparation, refer to SSPC-SP13/NACE 6, Section 4.3.1 or 4.3.2, or ICRI 03732, CSP 1-3.</p> <p>Previously Painted Surfaces If in sound condition, clean the surface of all foreign material. Smooth, hard or glossy coatings and surfaces should be dulled by abrading the surface. Apply a test area, allowing paint to dry one week before testing adhesion. If adhesion is poor, or if this product attacks the previous finish, removal of the previous coating may be necessary. If paint is peeling or badly weathered, clean surface to sound substrate and treat as a new surface as above.</p>	<p>Temperature: 40°F minimum, 140°F maximum (air, surface, and material) At least 5°F above dew point</p> <p>Relative humidity: 85% maximum</p> <tr> <th colspan="2" data-bbox="829 762 1524 804">APPLICATION EQUIPMENT</th> </tr> <p>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.</p> <p>Reducer/Clean Up Reducer R7K15 In California Reducer R7K111</p> <p>Airless Spray</p> <p>Pump 30:1 Pressure 2800 - 3000 psi Hose 1/4" ID Tip017" - .023" Filter 60 mesh Reduction As needed up to 10% by volume</p> <p>Conventional Spray</p> <p>Gun DeVilbiss MBC-510 Fluid Tip E Air Nozzle 704 Atomization Pressure .. 60-65 psi Fluid Pressure 10-20 psi Reduction As needed up to 10% by volume Requires oil and moisture separators</p> <p>Brush</p> <p>Brush Nylon/Polyester or Natural Bristle Reduction Not recommended</p> <p>Roller</p> <p>Cover 3/8" woven with phenolic core Reduction Not recommended</p> <p>If specific application equipment is listed above, equivalent equipment may be substituted.</p>	APPLICATION EQUIPMENT	
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**Industrial
&
Marine
Coatings**

**4.53A
MACROPOXY® 646
FAST CURE EPOXY**

**PART A B58-600
PART B B58V600**

**SERIES
HARDENER**

APPLICATION BULLETIN

APPLICATION PROCEDURES

Surface preparation must be completed as indicated.

Mix contents of each component thoroughly with power agitation. Make certain no pigment remains on the bottom of the can. Then combine one part by volume of Part A with one part by volume of Part B. Thoroughly agitate the mixture with power agitation. Allow the material to sweat-in as indicated prior to application. Re-stir before using.

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

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

Recommended Spreading Rate per coat:
 Wet mils: 7.0 - 13.5
 Dry mils: 5.0 - 10.0*
 Coverage: 116 - 232 sq ft/gal approximate

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

Drying Schedule @ 7.0 mils wet and 50% RH:

	@ 40°F	@ 77°F	@ 100°F
To touch:	4-5 hours	2 hours	1½ hours
To handle:	48 hours	8 hours	4½ hours
To recoat:			
minimum:	48 hours	8 hours	4½ hours
maximum:	1 year	1 year	1 year
Cure for			
service:	10 days	7 days	4 days
immersion:	14 days	7 days	4 days

If maximum recoat time is exceeded, abrade surface before recoating. Drying time is temperature, humidity and film thickness dependent.

Pot Life:	10 hours	4 hours	2 hours
Sweat-in-time:	30 minutes	30 minutes	15 minutes

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

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 mix previously catalyzed material with new.

Do not apply the material beyond recommended pot life.

In order to avoid blockage of spray equipment, clean equipment before use or before periods of extended downtime with Reducer R7K15. In California use Reducer R7K111.

Tinting is not recommended for immersion service.

Use only Mil White and Black for immersion service.

Quik-Kick Epoxy Accelerator is acceptable for use. See data page 4.99 for details.

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

CLEAN UP INSTRUCTIONS

Clean spills and spatters immediately with Reducer R7K15. Clean tools immediately after use with Reducer R7K15. In California use Reducer R7K111. Follow manufacturer's safety recommendations when using any solvent.

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.