



Protective & Marine Coatings

POLYSILOXANE 1K ACRYLIC SILOXANE

B80B900 BLACK
B80R900 SAFETY RED
B80Y900 SAFETY YELLOW

B80W901 EXTRA WHITE BASE
B80T904 ULTRADEEP BASE

Revised: June 25, 2015

PRODUCT INFORMATION

1.50

PRODUCT DESCRIPTION

Polysiloxane 1K is a single component, high performing, acrylic siloxane finish coat. It has excellent chemical resistance and flexibility. Provides superior performance compared to typical aliphatic urethanes, plus, it is free from isocyanates.

- Single component
- <205 g/L VOC
- Chemical resistant
- Outstanding long term color and gloss performance
- No reportable HAPS
- Unlimited recoat window
- Isocyanate free
- Easy to maintain
- Simplifies maintenance, no pot life issues

PRODUCT CHARACTERISTICS

Finish: Gloss
Color: Wide range of colors available
Volume Solids: 60% ± 2%
Weight Solids: 69% ± 2%
VOC (EPA Method 24): <205 g/L; 1.71 lb/gal
 With 10% reduction: <250 g/L; 2.08 lb/gal

Recommended Spreading Rate per coat:

	Minimum	Maximum
Wet mils (microns)	2.5 (63)	4.0 (100)
Dry mils (microns)	1.5 (38)	2.5 (63)
~Coverage sq ft/gal (m²/L)	384 (9.4)	640 (15.7)
Theoretical coverage sq ft/gal (m²/L) @ 1 mil / 25 microns dft	962 (23.7)	

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

Drying Schedule @ 4.0 mils (100 microns):

	@ 40°F/4.5°C	@ 77°F/25°C 50% RH	@ 100°F/37°C
To touch:	2 hours	1 hour	30 minutes
To handle:	24 hours	18 hours	16 hours
To recoat:			
Min	5 hours	2 hours	1 hour
Max	Unlimited	Unlimited	Unlimited
To cure:	28 days	14 days	10 days

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

Shelf Life: 12 months, unopened
 Store indoors at 40°F (4.5°C) to 100°F (38°C).
 (Tinted colors must be used within 7 days after tinting)
Flash Point: >105°F (40.6°C), Seta Flash
Reduction:
 Spray and Brush: R6KH26, 10%, required
 Roller: R7K323, 1%, required
Clean Up: R6KH26 or Xylene, R2K4

RECOMMENDED USES

For use on prepared steel surfaces in industrial environments, including:

- Maintenance or new construction
- Structural steel
- Tank exteriors
- Silos
- Piping
- Amusement parks
- Marine - Ship topsides and superstructures
- FIRETEX® Hydrocarbon Coatings

PERFORMANCE CHARACTERISTICS

Substrate*: Steel

Surface Preparation*: SSPC-SP6/NACE 3

System Tested*:

1 ct. Macropoxy 646 @ 5.0-7.0 mils (125-150 microns) dft

1 ct. Polysiloxane 1K @ 1.5-2.5 mils (38-63 microns) dft

*unless otherwise noted below

Test Name	Test Method	Results
Abrasion Resistance (DTM)	ASTM D4060, CS17 wheel, 1000 cycles, 1 kg load	103 mg loss
Accelerated Weathering -QUV-A	ASTM D4587, QUV-A, 4,000 hours	91% gloss retention
Adhesion	ASTM D4541	1,053 psi
Chemical Spot Resistance	ASTM D2794	Excellent: Acids, Water Good: Alkalies, Alcohols, Fuels
Corrosion Weathering	ASTM D5894, 10 cycles, 3,360 hours	Rating 10 per ASTM D714 for blistering. Ratings 10 per ASTM D610 for rusting.
Direct Impact Resistance	ASTM D2794	60 in. lbs.
Dry Heat Resistance	ASTM D2485	250°F (121°C)
Flexibility	ASTM D522, 180° bend, 1/8" mandrel	Passes
Humidity Resistance	ASTM D4585, 2,000 hours	Rating 10 per ASTM D714 for blistering. Ratings 10 per ASTM D610 for rusting.
Pencil Hardness	ASTM D3363	4B
Surface Burning*	ASTME84/NFPA 255	Flame Spread Index 10; Smoke Development Index 5

*2 cts. Polysiloxane 1K @ 2.0 mils (50 microns) dft/ct



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RECOMMENDED SYSTEMS

		Dry Film Thickness (DFT)	
		Mils	(Microns)
Steel:			
1 ct.	Macropoxy 646	5.0-10.0	(125-250)
1 ct.	Polysiloxane 1K	1.5-2.5	(38-63)
Steel:			
1 ct.	Zinc Clad Primer	3.0-5.0	(75-125)
1 ct.	DTM Wash Primer	0.7-1.3	(18-33)
1 ct.	Polysiloxane 1K	1.5-2.5	(38-63)
Galvanizing:			
1 ct.	Macropoxy 646	5.0-10.0	(125-250)
1 ct.	Polysiloxane 1K	1.5-2.5	(38-63)
Aluminum:			
1 ct.	Macropoxy 646	5.0-10.0	(125-250)
1 ct.	Polysiloxane 1K	1.5-2.5	(38-63)
Concrete/Masonry (smooth):			
1 ct.	Macropoxy 646	5.0-10.0	(125-250)
1 ct.	Polysiloxane 1K	1.5-2.5	(38-63)
Steel/Aluminum/Galvanized:			
1 ct.	Pro Industrial Pro-Cryl Universal Primer	2.0-4.0	(50-100)
1 ct.	Polysiloxane 1K	1.5-2.5	(38-63)
Stainless Steel/Aluminum/Galvanized:			
1 ct.	DTM Wash Primer	0.7-1.3	(18-33)
1 ct.	Polysiloxane 1K	1.5-2.5	(38-63)

The systems listed above are representative of the product's use, other systems may be appropriate.

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.

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:		
Atmospheric	SSPC-SP12, WJ-3 (with existing profile) or SSPC-SP 6/NACE 3, 2.0 mil profile	
Aluminum:	SSPC-SP1 or blast lightly	
Galvanizing:	SSPC-SP1 or blast lightly	
Concrete & Masonry:	SSPC-SP13/NACE 6, or ICRI No. 310.2R, CSP 1-3	

Surface Preparation Standards

Condition of Surface	ISO 8501-1 BS7079:A1	Swedish Std. SIS055900	SSPC	NACE
White Metal	Sa 3	Sa 3	SP 5	1
Near White Metal	Sa 2.5	Sa 2.5	SP 10	2
Commercial Blast	Sa 2	Sa 2	SP 6	3
Brush-Off Blast	Sa 1	Sa 1	SP 7	4
Hand Tool Cleaning	C St 2	C St 2	SP 2	-
Pitted & Rusted	D St 2	D St 2	SP 2	-
Rusted	C St 3	C St 3	SP 3	-
Power Tool Cleaning	Pitted & Rusted D St 3	D St 3	SP 3	-

TINTING

Tint B80W901 and B80T904 only with Maxitoner colorants at 150% tint strength. Mix immediately after tinting. Five minutes minimum mixing on a mechanical shaker is required for complete mixing of color. **Must be used within 7 days after tinting.**

APPLICATION CONDITIONS

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

Refer to product Application Bulletin for detailed application information.

ORDERING INFORMATION

Packaging: 1 gallon (3.78L) and 5 gallon (18.9L) containers
 Weight: B80W901 10.51 ± 0.2 lb/gal 1.26 Kg/L
 B80T904 9.42 ± 0.2 lb/gal 1.13 Kg/L

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.**



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APPLICATION BULLETIN

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SURFACE PREPARATIONS

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, 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.

Aluminum:

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

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.

Concrete and Masonry, Atmospheric Service:

For surface preparation, refer to NACE 6/SSPC-SP13, 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 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.

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.

Surface Preparation Standards

Condition of Surface	ISO 8501-1 BS7079:A1	Swedish Std. SIS055900	SSPC	NACE
White Metal	Sa 3	Sa 3	SP 5	1
Near White Metal	Sa 2.5	Sa 2.5	SP 10	2
Commercial Blast	Sa 2	Sa 2	SP 10	3
Brush-Off Blast	Sa 1	Sa 1	SP 10	4
Hand Tool Cleaning	OCSt 2	OCSt 2	SP 3	-
Pitted & Rusted	OCSt 2	OCSt 2	SP 3	-
Rusted	OCSt 3	OCSt 3	SP 3	-
Power Tool Cleaning	Pitted & Rusted	D St 3	SP 3	-

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: 40% minimum, 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.

Clean UpR6KH26 or Xylene, R2K4

Airless Spray

Unit.....30:1 pump
 Pressure.....3000-3300 psi
 Hose.....3/8" ID
 Tip0.017" - .021"
 Filter60 mesh
 Reduction.....10% R6KH26, required

Conventional Spray

GunBinks 95
 Tip and needle66/65
 Air cap.....65 PR
 Atomization Pressure.....75-95 psi
 Fluid Pressure.....12-20 psi
 Reduction.....10% R6KH26, required

Brush

Brush.....Natural bristle
 Reduction.....10% R6KH26, required

Roller

Cover3/8" woven with solvent resistant core
 Reduction.....R7K323, 1%, required

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



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APPLICATION PROCEDURES

Surface preparation must be completed as indicated.

Mixing Instructions: Mix paint thoroughly to a uniform consistency with slow speed power agitation prior to use.

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

Recommended Spreading Rate per coat:

	Minimum	Maximum
Wet mils (microns)	2.5 (63)	4.0 (100)
Dry mils (microns)	1.5 (38)	2.5 (63)
~Coverage sq ft/gal (m ² /L)	384 (9.4)	640 (15.7)
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NOTE: Brush or roll application may require multiple coats to achieve maximum film thickness and uniformity of appearance.

Drying Schedule @ 4.0 mils (100 microns):

	@ 40°F/4.5°C	@ 77°F/25°C 50% RH	@ 100°F/37°C
To touch:	2 hours	1 hour	30 minutes
To handle:	24 hours	18 hours	16 hours
To recoat:			
Min	5 hours	2 hours	1 hour
Max	Unlimited	Unlimited	Unlimited
To cure:	28 days	14 days	10 days

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

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 Xylene, R2K4. Clean tools immediately after use with Xylene, R2K4. 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

During the early stages of drying, the coating is sensitive to dirt pick-up and marring. If possible, plan painting schedules to avoid these influences during the first 24 to 48 hours of curing.

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.

In order to avoid blockage of spray equipment, clean before use or before periods of extended downtime with R6KH26 or Xylene, R2K4.

If the can will be open more than an hour, pour a small amount of R6KH26 over the top of the paint in the can to prevent skinning or gelling.

Place a temporary cover over the pail to keep excessive moisture, condensation, fog, or rain from contaminating the coating.

Do not exceed recommended dry film thickness.

Tinted colors must be used within 7 days after tinting.

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

SAFETY PRECAUTIONS

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