Industrial & Marine Coatings

Certified to NSF/ANSI 61

4.54 MACROPOXY® 846 NSF WINTER GRADE EPOXY

PART A	B58W710	OFF WHITE
PART A	B58L700	LIGHT BLUE
PART B	B58V700	HARDENER

PRODUCT INFORMATION

Revised 5/05

PRODUCT DESCRIPTION

MACROPOXY 846 NSF WINTER GRADE EPOXY is a high solids, fast drying polyamide epoxy certified by NSF to Standard 61 as a tank lining for potable water storage tanks. Recommended for use at temperatures as low 35°F. Ideal for maintenance painting and fabrication shops when minimum downtime and short handling times are required. Can be used over marginally prepared steel surfaces. For severe exposures, a primer is recommended.

- Chemical resistant
- Abrasion resistant
- Approved by NSF to Standard 61 for potable water storage tanks of 1,500 gallons and larger and pipe interiors of 36" and greater

RECOMMENDED USES

- Immersion service - potable water tanks: Meets NSF Standard 61 for use in potable water storage tanks
- Not recommended for use at temperatures above 75°F

For use over prepared steel surfaces in industrial exposures such as:

- Marine applications
- Pulp and paper mills
- Power plants
- Offshore platforms
- Water treatment plants
- Refineries
- Chemical Plants
- Tank exteriors
- Fabrication shops
- Conforms to AWWA D102-03 ICS #1, #2, and #5, and OCS #5.

PRODUCT CHARACTERISTICS

Finish: Semi-Gloss

Color: Off White and Light Blue

Volume Solids: 68% ± 2%, mixed

Weight Solids: 82% ± 2%, mixed

VOC (EPA Method 24): mixed
Unreduced: <300g/L; 2.50 lb/gal
Reduced 12%: <340 g/L; 2.80 lb/gal

Mix Ratio: 1:1 by volume

Recommended Spreading Rate per coat:

Wet mils:	6.0 - 12.0
Dry mils:	4.0 - 8.0*
Coverage:	136 - 272 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 @ 6.0 mils wet @ 50% RH:

	@ 40°F	@ 75°F
To touch:	1 hour	45 minutes
To handle:	8 hours	4 hours
To recoat:		
minimum	8 hours	4 hours
maximum:	30 days	30 days
Cure for		
service:	7 days	7 days
immersion	14 days	7 days
Pot Life:	3 hours	2 hours
Sweat-in-time:	30 minutes	15 minutes

If maximum recoat time is exceeded, abrade surface before recoating.
Drying time is temperature, humidity and film thickness dependent.
For **Potable Water Service**, allow a minimum cure time of 7 days at 77°F prior to placing in service. Sterilize and rinse per AWWA C652.

Shelf Life: 36 months, unopened
Store indoors at 40°F to 100°F

Flash Point: 80°F TCC, mixed

Reducer/Clean Up: Reducer R7K15

PERFORMANCE CHARACTERISTICS

System Tested: (unless otherwise indicated)
Substrate: Steel
Surface Preparation: SSPC-SP10
Finish: 1 ct. Macropoxy 846 NSF Winter Grade Epoxy @ 6.0 mils dft

Abrasion Resistance:
Method: ASTM D4060, CS17 wheel, 1000 cycles, 1 kg load
Result: 100 mg loss

Adhesion:
Method: ASTM D4541
Result: 710 psi

Direct Impact Resistance:
Method: ASTM G14
Result: 25 in. lb.

Dry Heat Resistance:
Method: ASTM D2485
Result: 250°F

Exterior Durability:
Method: 1 year at 45° South
Result: Excellent, chalk face developing in 3 to 6 months

Flexibility:
Method: ASTM D522, 180° bend, 1¼" mandrel
Result: Passes

Immersion:
Method: 1 year fresh and salt water
Result: Passes, no rusting, blistering, or loss of adhesion

Pencil Hardness:
Method: ASTM D3363
Result: 3H

Salt Fog Resistance:
Method: ASTM B117, 1000 hours
Result: Passes

Epoxy coatings may darken or discolor following application and curing.

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PRODUCT INFORMATION

RECOMMENDED SYSTEMS

Immersion and atmospheric:

Steel:
2 cts. Macropoxy 846 NSF @ 4.0 - 8.0 mils dft/ct

***Steel, Shop Applied System, New Construction, AWWA D102-03:**
1 ct. Macropoxy 846 NSF @ 3.0 - 8.0 mils dft
1-2 cts. Macropoxy 846 NSF @ 4.0 - 8.0 mils dft/ct

Concrete Block:
1 ct. Kem Cati-Coat Epoxy Filler/Sealer @ 10.0 - 30.0 mils dft
2 cts. Macropoxy 846 NSF @ 4.0 - 8.0 mils dft/ct

Concrete/Masonry, smooth:
2 cts. Macropoxy 846 NSF @ 4.0 - 8.0 mils dft/ct

Maximum dry film thickness allowed by NSF for Macropoxy 846 NSF Winter Grade Epoxy is 16 mils for two coats.

Atmospheric:

Steel:
1 ct. Recoatable Epoxy Primer @ 4.0 - 6.0 mils dft
2 cts. Macropoxy 846 NSF @ 4.0 - 8.0 mils dft/ct

Steel:
1 ct. Recoatable Epoxy Primer @ 4.0 - 6.0 mils dft
1 ct. Macropoxy 846 NSF @ 4.0 - 8.0 mils dft/ct
1 ct. Hi-Solids Polyurethane @ 3.0 - 5.0 mils dft

Aluminum:
2 cts. Macropoxy 846 NSF @ 4.0 - 8.0 mils dft/ct

Galvanizing:
2 cts. Macropoxy 846 NSF @ 4.0 - 8.0 mils dft/ct

Check minimum application temperatures of primers and topcoats prior to use.

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

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 good adhesion.

Refer to product Application Bulletin for detailed surface preparation information.
Minimum recommended surface preparation:

Iron & Steel	
Atmospheric:	SSPC-SP2
Immersion:	SSPC-SP10/NACE 2, 2-3 mil profile
Aluminum:	SSPC-SP1
Galvanizing:	SSPC-SP1
Concrete & Masonry	
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, CSP1-3

TINTING

Tint with Hüls 844 colorants at 75% tint strength into Part A. Tinted colors will be slightly darker than the standards. Five minutes minimum mixing on a mechanical shaker is required for complete mixing of color.

Tinting is not recommended for immersion service.

APPLICATION CONDITIONS

Temperature:	35°F minimum, 75°F maximum (air, surface, and material) Surface temperature must be at least 5°F above dew point
Relative humidity:	85% maximum

Refer to product Application Bulletin for detailed application information.

ORDERING INFORMATION

Packaging:	
Part A:	1 and 5 gallon container
Part B:	1 and 5 gallon container
Weight per gallon:	12.3 ± 0.2 lb, mixed

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.

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APPLICATION BULLETIN

Revised 5/05

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.

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.

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.

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 (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.

Concrete and Masonry, Atmospheric:
For surface preparation, refer to SSPC-SP13/NACE 6, 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.
Brick must be allowed to weather for one year prior to surface preparation and painting.

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.

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.

APPLICATION CONDITIONS

Temperature:	35°F minimum, 75°F maximum (air, surface, and material) Surface temperature must be at least 5°F 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 ..... Reducer R7K15

Airless Spray
- Unit ..... 30:1 Pump
- Pressure ..... 2800-3000 psi
- Hose ..... 1/4" ID
- Tip ..... .017" - .023"
- Filter ..... 60 mesh
- Reduction ..... As needed up to 12% by volume

Conventional Spray
- Oil and moisture separators recommended
- Gun ..... DeVilbiss MBC-510
- Fluid Tip ..... E
- Air Cap 704
- Atomization Pressure ... 60-65 psi
- Fluid Pressure ..... 10-20 psi
- Reduction ..... As needed up to 12% by volume

Brush
- Brush ..... Nylon/Polyester or Natural Bristle
- Reduction ..... As needed up to 12% by volume

Roller
- Cover ..... 3/8" woven with phenolic core
- Reduction ..... As needed up to 12% by volume

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.

Mix contents of each component thoroughly using 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:	6.0 - 12.0
Dry mils:	4.0 - 8.0*
Coverage:	136 - 272 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 @ 6.0 mils wet @ 50% RH:

	@ 40°F	@ 75°F
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Pot Life:	3 hours	2 hours
Sweat-in-time:	30 minutes	15 minutes

If maximum recoat time is exceeded, abrade surface before recoating.
Drying time is temperature, humidity and film thickness dependent.
For **Potable Water Service**, allow a minimum cure time of 7 days at 77°F prior to placing in service. Sterilize and rinse per AWWA C652.

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 R7K15.

Not recommended for use at temperatures greater than 75°F.

Tinting is not recommended for immersion service.

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. Follow manufacturer's safety recommendations when using any solvent.

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