Protective & Marine Coatings

MACROPOXY® 80

MULTI-PURPOSE, LOW TEMPERATURE EPOXY

PART A	B58-750	SERIES
PART B	B58V755	STANDARD HARDENER
PART B	B58V750	LOW TEMP HARDENER

Revised 1/12

PRODUCT INFORMATION

4.84

PRODUCT DESCRIPTION

MACROPOXY 80 is a modified epoxy phenalkamine, formulated specifically for immersion and atmospheric service in marine and offshore environments. Macropoxy 80 is a versatile anti-corrosive coating that can be applied at temperatures as low as 0°F (-18°C).

- Self-priming
- Low temperature application
- Surface tolerant - damp surfaces
- Provides salt water and fresh water immersion resistance

PRODUCT CHARACTERISTICS

Finish: Semi-Gloss

Colors: Red Oxide, Gray, and Black (other colors available as special order / make-n-ship)

Volume Solids: 80% ± 2%, mixed

Weight Solids: 87.5% ± 2%, mixed

VOC (EPA Method 24):
Unreduced: <180 g/L; 1.50 lb/gal
Reduced (10%): <250 g/L; 2.08 lb/gal

Mix Ratio: 4:1 by volume (2 component)

Recommended Spreading Rate per coat:

	Minimum	Maximum
Wet mils (microns)	**6.0** (150)	**10.0** (250)
Dry mils (microns)	**5.0** (125)	**8.0** (200)
~Coverage sq ft/gal (m^2/L)	**160** (3.9)	**266** (6.6)
Theoretical coverage **sq ft/gal** (m^2/L) @ 1 mil / 25 microns dft	**1280** (31.4)	

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

Drying Schedule @ 8.0 mils wet (200 microns):

With B58V755	@ 40°F/4.5°C	@ 77°F/25°C *50% RH*	@ 120°F/49°C
To touch:	4 hours	2 hours	1 hour
To handle:	24 hours	8 hours	2 hours
To recoat:			
minimum:	24 hours	8 hours	2 hours
maximum:	30 days	30 days	30 days
Cure to service:	14 days	7 days	3 days
If maximum recoat time is exceeded, abrade surface before recoating.			
Drying time is temperature, humidity, and film thickness dependent.			
Pot Life:	4 hours	1.5 hours	30 minutes
Sweat-in-time:	1 hour	N/A	N/A

PRODUCT CHARACTERISTICS (CONT'D)

Drying Schedule @ 8.0 mils wet (200 microns):

With B58V750	@ 20°F/-7°C	@ 32°F/0°C	@ 40°F/4.5°C	@ 77°F/25°C *50% RH*
To touch:	16 hours	2 hours	2 hours	45 minutes
To handle:	18 hours	4 hours	3.5 hours	2 hours
To recoat:				
minimum:	18 hours	4 hours	3.5 hours	2 hours
maximum:	14 days	14 days	14 days	14 days
Cure to service:	7 days	5 days	4 days	2 days
If maximum recoat time is exceeded, abrade surface before recoating.				
Drying time is temperature, humidity, and film thickness dependent.				
Pot Life:	4 hours	2 hours	2 hours	1 hour
Sweat-in-time:	N/A	N/A	N/A	N/A

Shelf Life: 24 months, unopened
Store indoors at 40°F (4.5°C) to 100°F (38°C).

Flash Point: 116°F (47°C) Seta Flash

Reducer/Clean Up:
Above 50°F (10°C): R6K30 (MAK)
Below 50°F (10°C): Butanol

RECOMMENDED USES

For use over properly prepared steel substrates, including:

- Aggressive industrial, coastal, marine, and offshore environments
- Salt water and fresh water immersion service
- Offshore and marine structures
- Bilges and wet void areas
- Decks and superstructures
- Underwater hulls
- Fabrication and new construction
- Maintenance and repair
- As an anti-corrosive primer when used as part of an underwater hull system with antifouling coatings

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PERFORMANCE CHARACTERISTICS

Substrate*: Steel
Surface Preparation*: SSPC-SP10/NACE 2
System Tested*:
2 cts. Macropoxy 80 @ 5.0-8.0 mils (125-200 microns) dft/ct
*unless otherwise noted below

Test Name	Test Method	Results
Corrosion Weathering	ASTM D5894, 15 cycles, 5,000 hours	Rating 10 per ASTM D714 for blistering; Rating 10 per ASTM D610 per rusting
Direct Impact Resistance	ASTM D2794	80 in. lb.
Flexibility	ASTM D522, 180° bend, 1" mandrel	Passes
Immersion	1 year fresh and salt water	Passes, no rusting, blistering, or loss of adhesion
Moisture Resistance	ASTM D4585, 5000 hours, 100°F (38°C)	Rating 10 per ASTM D714 for blistering; Rating 10 per ASTM D610 per rusting
Pencil Hardness	ASTM D3363	5H

IMMERSION
(Ambient temperature)
- Salt Water.....Recommended
- Fresh Water.....Recommended

Epoxy coatings may darken or yellow following application and curing.

RECOMMENDED SYSTEMS

		Dry Film Thickness / ct. Mils	Microns
Steel, Atmospheric Service, Epoxy			
1-2 cts.	Macropoxy 80	5.0-8.0	(125-200)
1-2 cts.	Macropoxy 646	5.0-10.0	(125-250)
Steel, Atmospheric Service, Polyurethane			
1-2 cts.	Macropoxy 80	5.0-8.0	(125-200)
1-2 cts.	Waterbased Acrolon 100	2.0-4.0	(50-100)
Steel, Immersion Service			
2 cts.	Macropoxy 80	5.0-8.0	(125-200)
Steel, Underwater Hull with Antifouling*			
2 cts.	Macropoxy 80	5.0-8.0	(125-200)

*Consult your Sherwin-Williams Marine Representative for the appropriate antifouling coating.

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

DISCLAIMER

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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-SP2 or SSPC-SP12/NACE No. 5, WJ-3/SC-2
Immersion: SSPC-SP10/NACE 2, 2.0 mil (50 micron) profile or SSPC-SP-12/NACE No. 5, WJ-2/SC-2

Galvanized, atmospheric: SSPC-SP1

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	Rusted	C St 2	C St 2	SP 2	-
	Pitted & Rusted	D St 2	D St 2	SP 2	-
Power Tool Cleaning	Rusted	C St 3	C St 3	SP 3	-
	Pitted & Rusted	D St 3	D St 3	SP 3	-

TINTING

Do not tint.

APPLICATION CONDITIONS

Temperature: 0°F (-18°C) minimum, 120°F (49°C) maximum
(air and surface)
At least 5°F (2.8°C) above dew point

Material should be at least 20°F (-6.7°C) for optimal performance.

Relative humidity: 85% maximum

Refer to product Application Bulletin for detailed application information.

ORDERING INFORMATION

Packaging:
Part A: 1 gallon (3.78L) and 4 gallon (15.1L) kits
Part B: quarts (0.94L) and gallons (3.78L)

Weight: 11.35 ± 0.5 lb/gal ; 1.36 Kg/L mixed, may vary with color

SAFETY PRECAUTIONS

Refer to the MSDS sheet before use.

Published technical data and instructions are subject to change without notice. Contact your Sherwin-Williams representative for additional technical data and instructions.

WARRANTY

The Sherwin-Williams Company warrants our products to be free of manufacturing defects in accord with applicable Sherwin-Williams quality control procedures. Liability for products proven defective, if any, is limited to replacement of the defective product or the refund of the purchase price paid for the defective product as determined by Sherwin-Williams. NO OTHER WARRANTY OR GUARANTEE OF ANY KIND IS MADE BY SHERWIN-WILLIAMS, EXPRESSED OR IMPLIED, STATUTORY, BY OPERATION OF LAW OR OTHERWISE, INCLUDING MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

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APPLICATION BULLETIN

4.84

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, 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 or SSPC-SP12/NACE No. 5. For SSPC-SP10/NACE 2, blast clean all surfaces using a sharp, angular abrasive for optimum surface profile (2.0 mils). For SSPC-SP12/NACE No. 5, all surfaces to be coated shall be cleaned in accordance with WJ-2/SC-2 standards. Pre-existing profile should be approximately 2.0 mils. Light rust bloom is allowed. Remove all weld spatters and round all sharp edges by grinding. Prime any bare steel the same day as it is cleaned.

Iron & Steel, Atmospheric Service:
Minimum surface preparation is Hand Tool Clean per SSPC-SP2 or SSPC-SP12/NACE No. 5. For surfaces prepared by SSPC-SP2, first 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 (2.0 mils). For surfaces prepared by SSPC-SP12/NACE No. 5, all surfaces shall be cleaned in accordance with WJ-3/SC-2. Pre-existing profile should be approximately 2.0 mils. Prime any bare steel the same day as it is cleaned.

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 of the steel is not possible, or the steel surfaces have been treated with chromates or silicates, 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.

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	Rusted	C St 2	C St 2	SP 2	-
	Pitted & Rusted	D St 2	D St 2	SP 2	-
Power Tool Cleaning	Rusted	C St 3	C St 3	SP 3	-
	Pitted & Rusted	D St 3	D St 3	SP 3	-

APPLICATION CONDITIONS

Temperature:	0°F (-18°C) minimum, 120°F (49°C) maximum (air and surface) At least 5°F (2.8°C) above dew point

Material should be at least 20°F (-6.7°C) for optimal performance.

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:
Above 50°F (10°C):.....R6K30 (MAK)
Below 50°F (10°C): .....Butanol

Airless Spray
Unit.....30:1 Pump
Pressure.....3000 - 3600 psi
Hose.....1/4" - 3/8" ID
Tip .....017" - .021"
Filter .....60 mesh
Reduction.....As needed, up to 10% by volume

Conventional Spray
Gun .....DeVilbiss MBC-510
Fluid Tip .....E
Air Nozzle.....704
Atomization Pressure.....60-65 psi
Fluid Pressure.....5-15 psi
Reduction.....As needed, up to 10% by volume

Brush
Brush.....Natural bristle
Reduction.....Not recommended

Roller
Cover .....3/8" woven with solvent resistant core
Reduction.....Not recommended

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 4 parts by volume of Part A with 1 part by volume of Part B. Thoroughly agitate the mixture with power agitation.

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

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

Recommended Spreading Rate per coat:

	Minimum	Maximum
Wet mils (microns)	**6.0** (150)	**10.0** (250)
Dry mils (microns)	**5.0** (125)	**8.0** (200)
~Coverage sq ft/gal (m^2/L)	**160** (3.9)	**266** (6.6)
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NOTE: Brush or roll application may require multiple coats to achieve maximum film thickness and uniformity of appearance.

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To touch:	4 hours	2 hours	1 hour
To handle:	24 hours	8 hours	2 hours
To recoat:			
minimum:	24 hours	8 hours	2 hours
maximum:	30 days	30 days	30 days
Cure to service:	14 days	7 days	3 days
Pot Life:	4 hours	1.5 hours	30 minutes
Sweat-in-time:	1 hour	N/A	N/A

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

With B58V750	@ 20°F/-7°C	@ 32°F/0°C	@ 40°F/4.5°C	@ 77°F/25°C *50% RH*
To touch:	16 hours	2 hours	2 hours	45 minutes
To handle:	18 hours	4 hours	3.5 hours	2 hours
To recoat:				
minimum:	18 hours	4 hours	3.5 hours	2 hours
maximum:	14 days	14 days	14 days	14 days
Cure to service:	7 days	5 days	4 days	2 days
Pot Life:	4 hours	2 hours	2 hours	1 hour
Sweat-in-time:	N/A	N/A	N/A	N/A

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

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PERFORMANCE TIPS

Stripe coat 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 R6K30.

Anti-slip additives may be added to the coating to provide some slip resistance.

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

CLEAN UP INSTRUCTIONS

Clean spills and spatters immediately with R6K30 (MAK). Clean tools immediately after use with R6K30 (MAK). Follow manufacturer's safety recommendations when using any solvent.

SAFETY PRECAUTIONS

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