



**Protective
&
Marine
Coatings**

EPOXY MASTIC ALUMINUM II

PART A **B62S100** **ALUMINUM**
PART B **B60V100** **HARDENER**

Revised 9/09

PRODUCT INFORMATION

4.60

PRODUCT DESCRIPTION

EPOXY MASTIC ALUMINUM II is a high solids, aluminum filled, polyamine bisphenol A epoxy coating formulated to provide a high performance system over marginally prepared steel surfaces.

- Outstanding adhesion over marginally prepared surfaces
- Chemical and moisture barrier
- As a barrier or universal primer when applying high performance coatings over alkyds, to prevent lifting
- Low temperature application (35°F / 1.6°C)
- Outstanding application properties

PRODUCT CHARACTERISTICS

Finish:	Flat
Color:	Aluminum
Volume Solids:	78% ± 2%, mixed ASTM D2697 (disk method) 80% ± 2%, mixed, calculated ASTM D5201
Weight Solids:	89% ± 2%, mixed
VOC (EPA Method 24):	Unreduced: <180 g/L; 1.50 lb/gal mixed Reduced 10%: <235 g/L; 1.96 lb/gal
Mix Ratio:	1:1 by volume

Recommended Spreading Rate per coat:

	Minimum		Maximum	
Wet mils (microns)	5.0	125	7.5	188
Dry mils (microns)	4.0	100	6.0	150
~Coverage sq ft/gal (m²/L)	214	5.2	320	7.8
Theoretical coverage sq ft/gal (m²/L) @ 1 mil / 25 microns dft	1248	30.5		

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

Drying Schedule @ 7.5 mils wet (188 microns):

	@ 35°F/1.6°C	@ 50°F/10°C	@ 77°F/25°C 50% RH	@ 120°F/49°C
To touch:	20 hours	10 hours	2.5 hours	1 hour
Tack free:	60 hours	24 hours	5 hours	3 hours
To recoat:				
minimum:	4 days	24 hours	6 hours	3 hours
maximum:	1 year	1 year	1 year	1 year
To cure:	21 days	21 days	10 days	7 days

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

Pot Life:	6 hours	5 hours	3 hours	1.5 hours
Sweat-in-time:	45 minutes	30 minutes	15 minutes	10 minutes

Shelf Life:	12 months, unopened Store indoors at 40°F (4.5°C) to 100°F (38°C).
Flash Point:	102°F (39°C), PMCC, mixed
Reducer/Clean Up:	
Below 80°F (27°C):	Xylene, R2K4
Above 80°F (27°C):	Reducer #100, R7K100

RECOMMENDED USES

For use over marginally prepared substrates such as steel, aluminum, and galvanizing in industrial environments.

- Primer / topcoat for ferrous surfaces
- As a primer over rusted / pitted steel when abrasive blasting is not possible
- Where chemical and moisture resistance is needed in a high build coating
- Marine applications
- Storage tanks
- Refineries
- Conforms to AWWA D102-03 OCS #5

PERFORMANCE CHARACTERISTICS

Substrate*: Steel

Surface Preparation*: SSPC-SP6/NACE 3

System Tested*:

1 ct. Epoxy Mastic Aluminum II @ 5.0 mils (125 microns) dft/ct

*unless otherwise noted below

Test Name	Test Method	Results
Abrasion Resistance	ASTM D4060, CS17 wheel, 1000 cycles, 1 kg load	124 mg loss
Adhesion	ASTM D4541	1000+ psi
Direct Impact Resistance	ASTM D2794, 1/4" steel	160 in. lbs.
Dry Heat Resistance	ASTM D2485	200°F (93°C)
Exterior Durability	1 year at 45° South	Excellent, chalks
Flexibility	ASTM D522, 180° bend, 3/4" mandrel	Passes
Moisture Condensation Resistance	ASTM D4585, 100°F (38°C), 1500 hours	No blisters, rust, or delamination
Pencil Hardness	ASTM D3363	2H
Salt Fog Resistance	ASTM B117, 1000 hours	No blistering, cracking, softening, or delamination. No more than 1/8" rust creepage. Rating 10 per ASTM D610 for rusting.

Epoxy coatings may darken or yellow following application and curing.



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RECOMMENDED SYSTEMS

	Dry Film Thickness / ct.	
	Mils	(Microns)
Steel, light/moderate service:		
1 ct. Epoxy Mastic Aluminum II	4.0-6.0	(100-150)
Steel, severe service:		
2 cts. Epoxy Mastic Aluminum II	4.0-6.0	(100-150)
Steel, high build epoxy topcoat:		
1 ct. Epoxy Mastic Aluminum II	4.0-6.0	(100-150)
1-2 cts. Tile-Clad HS Epoxy	2.5-4.0	(63-100)
Steel, acrylic latex topcoat:		
1 ct. Epoxy Mastic Aluminum II	4.0-6.0	(100-150)
1-2 cts. DTM Acrylic Coating	2.5-4.0	(63-100)
Steel, polyurethane topcoat:		
1 ct. Epoxy Mastic Aluminum II	4.0-6.0	(100-150)
1 ct. Acrolon 218 HS Polyurethane	3.0-6.0	(75-150)
Aluminum / Galvanized Metal:		
1 ct. Epoxy Mastic Aluminum II	4.0-6.0	(100-150)

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 adequate adhesion.

Refer to product Application Bulletin for detailed surface preparation information.

Minimum recommended surface preparation:

Iron & Steel: SSPC-SP2
Aluminum: SSPC-SP1
Galvanizing: SSPC-SP1

Condition of Surface	Surface Preparation Standards			
	ISO 8501-1 BS7079:A1	Swedish Std. SIS055900	SSPC	NACE
White Metal	SSa 3	SSa 3	SSP 5	1
Near White Metal	SSa 2.5	SSa 2.5	SSP 10	2
Commercial Blast	SSa 2	SSa 2	SSP 7	3
Brush-Off Blast	SSa 1	SSa 1	SSP 6	4
Hand Tool Cleaning	CSa 2	CSa 2	SSP 3	-
Rusted Pitted & Rusted	CSa 3	CSa 3	SSP 3	-
Rusted	CSa 2	CSa 2	SSP 3	-
Power Tool Cleaning Pitted & Rusted	DSa 3	DSa 3	SSP 3	-

TINTING

Do not tint.

APPLICATION CONDITIONS

Temperature: 35°F (1.6°C) minimum, 120°F (49°C) maximum
(air, surface, and material)
At least 5°F (2.8°C) above dew point

Relative humidity: 85% maximum

Refer to product Application Bulletin for detailed application information.

ORDERING INFORMATION

Packaging:
Parts A & B: 1 gallon (3.78L) and 5 gallon (18.9L) containers

Weight: 12.99 ± 0.2 lb/gal ; 1.56 Kg/L, 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.

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.

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.



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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

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 / 50 microns). 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. Remove all oil, grease, dirt, oxide and other foreign material by Solvent Cleaning 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.

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 6	3
Brush-Off Blast	Sa 1	Sa 1	SP 7	4
Hand Tool Cleaning	St 2	St 2	SP 3	-
Pitted & Rusted	St 3	St 3	SP 3	-
Rusted	St 3	St 3	SP 3	-
Power Tool Cleaning	St 3	St 3	SP 3	-

APPLICATION CONDITIONS

Temperature: 35°F (1.6°C) minimum, 120°F (49°C) maximum
(air, surface, and material)
At least 5°F (2.8°C) above dew point

Relative humidity: 85% maximum

APPLICATION EQUIPMENT

The following is a guide. Changes in pressures and tip sizes may be needed for proper spray characteristics. Always purge spray equipment before use with listed reducer. Any reduction must be compliant with existing VOC regulations and compatible with the existing environmental and application conditions.

Reducer/Clean Up

Below 80°FXylene, R2K4
Above 80°FReducer #100, R7K100

Airless Spray (use Teflon packings)

Pressure.....2800-3000 psi
Hose.....3/8" - 1/2" ID
Tip0.021"
Filter30 mesh
Reduction.....As needed up to 10% by volume

Conventional Spray

GunBinks 95
Fluid Nozzle68
Air Nozzle.....68 PB
Atomization Pressure.....55 psi
Fluid Pressure.....35 psi
Reduction.....As needed up to 10% by volume

Brush

Brush.....Nylon/Polyester or Natural Bristle
Reduction.....Not recommended

Roller

Cover3/8" - 1/2" 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 with low speed 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. Re-stir before using.

If reducer solvent 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:

	Minimum	Maximum
Wet mils (microns)	5.0 125	7.5 188
Dry mils (microns)	4.0 100	6.0 150
~Coverage sq ft/gal (m²/L)	214 5.2	320 7.8
Theoretical coverage sq ft/gal (m²/L) @ 1 mil / 25 microns dft	1248 30.5	

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

Drying Schedule @ 7.5 mils wet (188 microns):

	@ 35°F/1.6°C	@ 50°F/10°C	@ 77°F/25°C 50% RH	@ 120°F/49°C
To touch:	20 hours	10 hours	2.5 hours	1 hour
Tack free:	60 hours	24 hours	5 hours	3 hours
To recoat:				
minimum:	4 days	24 hours	6 hours	3 hours
maximum:	1 year	1 year	1 year	1 year
To cure:	21 days	21 days	10 days	7 days
<i>If maximum recoat time is exceeded, abrade surface before recoating. Drying time is temperature, humidity, and film thickness dependent.</i>				
Pot Life:	6 hours	5 hours	3 hours	1.5 hours
Sweat-in-time:	45 minutes	30 minutes	15 minutes	10 minutes

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.

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.

Excessive film build, poor ventilation, and cool temperatures may cause solvent entrapment and premature coating failure.

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 Xylene, R2K4.

Do not use on sheet galvanizing.

Do not use on roofs.

Do not topcoat with alkyd or epoxy ester finishes.

Do not apply to damp surfaces.

May be applied at a relative humidity of up to 95%. Note: Condensation forming on the coating during curing may result in longer cure times, solvent entrapment, premature failure, discoloration, or a surface haze or blush that must be removed before recoating.

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

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