



Protective & Marine Coatings

MACROPOXY™ 646 MR MILDEW RESISTANT EPOXY PRIMER FINISH

Revised 08/2019 Issue 1

PRODUCT INFORMATION

PRODUCT DESCRIPTION

MACROPOXY 646 MR is a mildew resistant epoxy primer finish. The high solids, high build, fast drying polyamide epoxy is designed to provide durable protection to steel structures while resisting the build-up of mildew often experienced during industrial exposure.

- Mildew Resistant
- Corrosion protection
- Simple application
- Suitable for onsite and in-shop application
- Applied on St3 or Sa 2½

PRODUCT CHARACTERISTICS

Finish:	Semi-Gloss
Colours:	White
Volume Solids:	72% ± 2%, mixed
Weight Solids:	85% ± 2%, mixed
VOC:	Unthinned: <250 g/ltr Thinned 10%: <300 g/ltr
Mix Ratio:	1:1 by volume

Recommended Spreading Rate per coat:

	Minimum	Maximum
Wet microns	174	347
Dry microns	125	250
Theoretical Coverage m²/ltr	5.8	2.9

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

Drying Schedule @ 175 microns:

	@ 2°C	@ 25°C 50% RH	@ 38°C
To touch:	5 hours	2 hours	1.5 hours
To handle:	48 hours	8 hours	4.5 hours
To recoat:			
minimum:	48 hours	8 hours	4.5 hours
maximum:	1 year	1 year	1 year
To cure:			
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. Paint temperature must be at least 4.5°C minimum.

Pot Life:	10 hours	4 hours	2 hours
Induction Time:	30 minutes	30 minutes	15 minutes

Shelf Life:	36 months, unopened Store indoors at 4.5°C to 38°C.
Flash Point:	33°C mixed
Cleanser / Thinner:	C50

RECOMMENDED USES

- Marine applications
- Pulp and paper mills
- Power plants
- Offshore platforms
- Water treatment plants
- Refineries
- Chemical plants
- Tank exteriors

RECOMMENDED SYSTEMS

Atmospheric:

Steel/Concrete/Masonry, smooth/Aluminium/Galvanising

		Microns (dft)
1 ct.	Macropoxy 646	125-250
1 ct.	Macropoxy 646 MR	125-250

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.

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/Sa2, blast clean all surfaces using a sharp, angular abrasive for optimum surface profile 50-75 microns. Prime any bare steel before flash rusting occurs.

Aluminium

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/NACE 4 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	BS EN ISO 8501-1:2007	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	D St 3	D St 3	SP 3	-



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APPLICATION CONDITIONS

Temperature:	2°C minimum, 49°C maximum (air and surface) 4.5°C minimum, 49°C maximum (material) At least 3°C above dew point
Relative humidity:	85% maximum
Refer to product Application Bulletin for detailed application information.	

ORDERING INFORMATION

Packaging:	
Base (Part A):	10ltr in 20ltr pail
Additive (Part B):	10ltr in 12.5ltr pail
Weight:	1.55 Kg/ltr mixed, may vary by colour

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 thinning must be compliant with existing VOC regulations and compatible with the existing environmental and application conditions.

Cleanser / ThinnerC50

Airless Spray

Pump.....	30:1
Pressure.....	2800 - 3000 psi
Hose.....	1/4" ID
Tip.....	.017" - .023"
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.....	10-20 psi
Thinning.....	As needed up to 10% by volume
Requires oil and moisture separators	

Brush

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

Roller

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

Plural Component Spray...Acceptable

Refer to Technical Bulletin - "Application Guidelines for Macropoxy 646 & Recoatable Epoxy Primer Utilising Plural Component Equipment"

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

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 Induction time as indicated prior to application. Re-stir before using.
If thinner solvent is used, add only after both components have been thoroughly mixed and after induction
Apply paint at the recommended film thickness and spreading rate as indicated below:

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 thinning of material can affect film build, appearance, and adhesion.

Do not mix previously mixed 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 recommended Cleanser.

Insufficient ventilation, incomplete mixing, miscatalyzation, and external heaters may cause premature yellowing.

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

When coating over aluminum and galvanizing, recommended dft is 50-100 microns.

SAFETY PRECAUTIONS

Refer to the SDS 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.

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