



**Protective & Marine Coatings**  
PRODUCT DATA SHEET



**MACROPOXY® 646**  
FAST CURE EPOXY

Revised: May 13, 2019

**PRODUCT DESCRIPTION**

**MACROPOXY 646** Fast Cure Epoxy is a high solids, high build, fast drying, polyamide epoxy designed to protect steel and concrete in industrial exposures. Ideal for maintenance painting and fabrication shop applications. The high solids content ensures adequate protection of sharp edges, corners, and welds. This product can be applied directly to marginally prepared steel surfaces.

**INTENDED USES**

- Recommended for marine applications, refineries, offshore platforms, fabrication shops, chemical plants, tank exteriors, power plants, water treatment plants, and mining and minerals industry
- Mill White and Black are acceptable for immersion use for salt water and fresh water, not acceptable for potable water

**PRODUCT DATA**

<b>Finish:</b>	Semi-Gloss	<b>Average Drying Times @ 7.0 mils (175 microns) wet:</b>		
<b>Colors:</b>	Mill White, Black and a wide range of colors available through tinting	<b>35°F (1.7°C)</b>	<b>77°F (25°C)</b>	<b>100°F (38°C)</b>
<b>Volume Solids:</b>	72% ± 2%, mixed, Mill White	<b>50% RH</b>	<b>50% RH</b>	<b>50% RH</b>
<b>VOC (mixed):</b>	Unreduced: <250 g/L; 2.08 lb/gal Reduced 10%: <300 g/L; 2.50 lb/gal	<b>Touch:</b>	4-5 hours	2 hours
<b>Mix Ratio:</b>	1:1 by volume	<b>Handle:</b>	48 hours	8 hours
<b>Typical Thickness:</b>		<b>Recoat:</b>		4.5 hours
		<b>minimum:</b>	48 hours	8 hours
		<b>maximum:</b>	1 year	1 year
		<b>Cure to service:</b>		1 year
		<b>atmospheric:</b>	10 days	7 days
		<b>immersion:</b>	14 days	7 days
		<b>Average Drying Times as intermediate @ 5.0 mils (125 microns) wet:</b>		4 days
		<b>Touch:</b>	3 hours	1 hour
		<b>Handle:</b>	48 hours	4 hours
		<b>Recoat:</b>		2 hours
		<b>minimum:</b>	16 hours	4 hours
		<b>maximum:</b>	1 year	1 year
		<i>If maximum recoat time is exceeded, abrade surface before recoating. Drying time is temperature, humidity, and film thickness dependent. Paint temperature must be 40°F (4.5°C) minimum.</i>		
		<b>Pot Life:</b>	10 hours	4 hours
		<b>Sweat-in-time:</b>	30 minutes	30 minutes
				15 minutes

**Recommended Spreading Rate per coat:**

	Minimum	Maximum
<b>Wet mils (microns)</b>	<b>7.0</b> (175)	<b>13.5</b> (338)
<b>Dry mils (microns)</b>	<b>5.0*</b> (125)	<b>10.0</b> (250)
<b>~Coverage sq ft/gal (m<sup>2</sup>/L)</b>	<b>115</b> (2.9)	<b>230</b> (5.8)

Theoretical coverage **sq ft/gal (m<sup>2</sup>/L) @ 1 mil / 25 microns dft** **1152** (28.2)

\*May be applied at 3.0-10.0 mils (75-250 microns) dft as an intermediate in a multicoat system.

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

**Shelf Life:** 36 months, unopened  
Store indoors at 40°F (4.5°C) to 110°F (43°C).

**Flash Point:** 91°F (33°C), TCC, mixed

**Reducer/Clean Up:** Reducer #15 or Reducer #58  
(California) Reducer #111 or Oxsol 100

**Weight:** 12.9 ± 0.2 lb/gal ; 1.55 Kg/L, mixed, may vary by color

**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.

**Minimum recommended surface preparation:**

**Iron & Steel:** Atmospheric: SSPC-SP2/3/ ISO8501-1:2007 St 2 or SSPC-SP WJ-3 / NACE WJ-3L  
Immersion: SSPC-SP10 / NACE 2/ ISO8501-1:2007 Sa 2.5, 2-3 mil (50-75 micron) profile or SSPC-SP WJ-2/NACE WJ-2L

**Aluminum & Galvanizing:** SSPC-SP1

**Concrete & Masonry:** Atmospheric: SSPC-SP13/NACE 6, or ICRI No. 310.2R CSP 1-3  
Immersion: SSPC-SP13/NACE 6-4.3.1



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<p><b>Airless Spray*</b></p> <p>Pump.....30:1            Pressure.....2800-3000 psi (193-206 bar)            Hose.....1/4" ID (6.3 mm)            Tip......017"-.023" (0.43-0.58 mm)            Filter.....60 mesh            Reduction.....As needed up to 10% by volume</p> <p><b>Conventional Spray*</b></p> <p>Gun.....DeVilbiss MBC-510            Fluid Tip.....E            Air Nozzle.....704            Atomization Pressure.....60-65 psi (4.1-4.5 bar)            Fluid Pressure.....10-20 psi (0.7-1.4 bar)</p> <p><b>Brush*</b></p> <p>Brush.....Nylon/Polyester or Natural Bristle</p> <p><b>Roller*</b></p> <p>Cover.....3/8" woven with solvent resistant core</p> <p><b>Plural Component Spray</b> ..Acceptable</p> <p>*Reduction.....As needed up to 10% by volume</p> <p>If specific application equipment is not listed above, equivalent equipment may be substituted.</p>	<p><b>Temperature:</b></p> <p>Air: 35°F (1.7°C) minimum, 120°F (49°C) maximum            Surface*: 35°F (1.7°C) minimum, 250°F (120°C) maximum            Material: 40°F (4.5°C) minimum            At least 5°F (2.8°C) above dew point</p> <p>Relative humidity: 85% maximum</p> <p>*When spraying a surface above 120°F (49°C), reduce material 10% with Reducer #100, R7K100. Spray apply only. Product will produce an orange peel appearance when applied at elevated temperatures.</p>																																																																					
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	<ul style="list-style-type: none"> <li>• Suitable for use in USDA inspected facilities</li> <li>• Acceptable for use in Canadian Food Processing facilities, categories: D1, D2, D3 (Confirm acceptance of specific part numbers/rexes with your SW Sales Representative)</li> <li>• Conforms to AWWA D102 OCS #5</li> <li>• Conforms to MPI # 108</li> <li>• This product meets specific design requirements for non-safety related nuclear plant applications in Level II, III and Balance of Plant, and DOE nuclear facilities*</li> <li>• Meets Class A requirements for Slip Coefficient, 0.36 @ 6 mils / 150 microns dft (Mill White only)</li> </ul> <p>* Nuclear qualifications are NRC license specific to the facility</p>																																																																					
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