

Amerlock[®] 2

Amerlock Series

Fast drying surface tolerant VOC compliant epoxy

Product Data/ Application Instructions

- Fast dry, dry to touch in 2 hours at 70°F (21°C)
- Recoat in 3 hours at 70°F (21°C)
- Low temperature cure down to 0°F (-18°C)
- Exceptional corrosion protection in industrial and marine corrosive environments
- Surface tolerant, excellent adhesion to tight rust and prepared damp surfaces
- Self priming topcoat over most existing coatings
- Can be overcoated with a wide range of topcoats
- Temperature resistance to 450°F on insulated or uninsulated surfaces when mixed with Amercoat 880 glass flake additive.

Amerlock 2's low solvent level meets most VOC requirements, reduces the chances for film pinholing and solvent entrapment at the substrate-coating interface, often a major cause of coating failure with conventional epoxies and lower solids systems.

Amerlock 2 is available in a variety of colors, and therefore does not require a topcoat. For extended weatherability or special uses, a topcoat may be desired.

Typical Uses

Amerlock 2 is designed for use in a variety of areas, even those where surface preparation is impossible. As a maintenance coating, Amerlock 2 protects steel structures in industrial facilities, bridges, tank exteriors, marine weathering, offshore, oil tanks, piping, roofs, water towers and other exposures. Amerlock 2 has good chemical resistance to splash/spillage, fumes and immersion in neutral, fresh and salt water (see resistance table). Contact your PPG representative for specific information.

Qualifications (Amerlock 2)

1. USDA – Incidental food contact
2. NSF Standard 61* - For use in drinking water.
3. FDA 21 CFR 175.300 extraction test for direct food contact

*For NSF application information, please visit our website at www.ppgamercoat.ppgpmc.com/NSF/



Physical Data

Finish	Semigloss			
Color	Standard, Rapid Response, custom colors and aluminum			
Components	2			
Curing mechanism	Solvent release and chemical reaction between components			
Volume solids (ASTM D2697 modified)				
Amerlock 2	83% ± 3%			
Amerlock 2AL	85% ± 3%			
Dry film thickness (per coat)	4-8 mils (100-200 microns)			
Coats	1 or 2			
Theoretical coverage	ft ² /gal	m ² /L		
1mil (25 microns)	1331		32.6	
Amerlock 2	1363		33.1	
Amerlock 2AL				
5 mils (125 microns)	266		6.5	
Amerlock 2	273		6.7	
Amerlock 2AL				
VOC	lb/gal	g/L		
Amerlock 2 mixed*	1.5	180		
mixed/thinned (½ pt/gal)*	1.8	216		
Amerlock 2AL mixed**	1.0	123		
mixed/thinned (½ pt/gal)**	2.0	234		
* EPA method 24				
** Calculated				
Temperature resistance,*	wet		dry	
	°F	°C	°F	°C
continuous	100	38	200	93
intermittent	100	38	350	177
with 880 (1 gal can/ 2gal mix)	wet		dry	
continuous	100°F (38°C)	425°F (218°C)		
intermittent	100°F (38°C)	450°F (232°C)		
Flash point (SETA)	°F		°C	
Amerlock 2/400 resin*	131		55	
Amerlock 2 cure	114		46	
Amerlock 2AL resin	110		43	
Amerlock 2AL cure	122		50	
Amercoat [®] 8	20		-7	
Amercoat 65	78		25	
Amercoat 101	145		63	
Amercoat 12	2		-17	

* At temperatures above 200°F, dry film thickness must not exceed 10 mils (250 mils).

* Amerlock 2 resin and Amerlock 400 resin are identical, and are packaged under a common label as Amerlock 2/400 resin. Amerlock 2 cure and Amerlock 400 cure are different, and are labeled individually.

Topcoats

Amercoat 450 Series, Amershield, PSX 700, PSX 1001

Primers

Dimetcote, Amercoat 68 Series, Self Priming

Surface Preparation

Coating performance is, in general, proportional to the degree of surface preparation. Abrasive blasting is usually the most effective and economical method. When this is impossible or impractical, Amerlock 2 can be applied over mechanically cleaned surfaces. All surfaces must be clean, dry and free of all contaminants, including salt deposits.

Amerlock 2 may be used over most types of properly prepared and tightly adhering coatings. A test patch is recommended for use over existing coatings.

Steel – Remove all loose rust, dirt, moisture, grease or other contaminants from surface. Power-tool clean SSPC-SP3 or hand-tool clean SSPC-SP2. For more severe environments, dry abrasive blast SSPC-SP7. Water jetting is also acceptable. For immersion service – dry abrasive blast SSPC-SP10.

Aluminum – Remove oil, grease or soap film with neutral detergent or emulsion cleaner; treat with Alodine® 1200, Alumiprep® or equivalent or blast lightly with fine abrasive.

Galvanizing – Remove oil or soap film with detergent or emulsion cleaner; then use zinc treatment such as Galvaprep® or equivalent or blast lightly with fine abrasive. Not recommended over chromate treated galvanizing.

Concrete – Acid etching (ASTM D4260) or abrasive blast (ASTM D4259) new concrete cured a minimum of 14 days.

Application Data

Applied over Steel, concrete, aluminum, galvanizing

Mixing ratio (by volume) 1 part resin to 1 part cure

Environmental conditions Air and surface temperature 20° to 120°F (-6° to 49°C)

Surface temperatures must be at least 5°F (3°C) above dew point to prevent condensation. At freezing temperatures, surface must be free of ice.

Drying time (ASTM D1640) (hours)

	touch					
	°F/°C					
	120/49	90/32	70/21	50/10	32/0	20/-6
Amerlock 2	0.5	1	2	8	24	48
Amerlock 2AL	0.5	2	3.5	11	30	—
through						
Amerlock 2	1	2	4.5	13	38	96
Amerlock 2AL	1.5	3.5	7	17	48	—
Amerlock 2	cure to immersion* (days)					
	1	2	3	7	21	—

*non-potable water

Thinner Amercoat 8 or 65

Equipment cleaner Thinner or Amercoat 12

	°F/°C		
Recoat/Topcoat time minimum (hours)	90/32	70/21	50/10
	1	3	6

Recoat/Topcoat time @ 70°F (21°C)

System	Maximum time
Amerlock 2/Amerlock 2	1 month
Amerlock 2/Amershield or 450H Series	1 week
Amerlock 2/Amercoat 5405	1 day
Amerlock 2AL/Amerlock 2AL	2 weeks

Drying times are dependent on air and surface temperatures as well as film thickness, ventilation and relative humidity. Maximum recoating time is highly dependent upon actual surface temperatures - not simply ambient air temperatures. Surface temperatures should be monitored, especially with sun-exposed or otherwise heated surfaces. Higher surface temperatures shorten the maximum recoat window.

Note: If maximum time is exceeded, roughen surface. For topcoats (finish coats) not listed, see Product Data sheet for specific topcoat time limitations.

Pot life (hours)	°F/°C			
	90/32	70/21	50/10	32/0
Amerlock 2				
unthinned	0.75	1	2	4
½ pint thinner	1	1.5	2.5	5
Amerlock 2AL				
unthinned	0.5	0.75	1.5	—
½ pint thinner	1	1.25	2	—

Pot life is the period of time after mixing that a five-gallon unit of material is sprayable when thinned as recommended. Mixture may appear fluid beyond this time, but spraying and film build characteristics may be impaired.

Application Equipment

The following is a guide; suitable equipment from other manufacturers may be used. Changes in pressure, hose and tip size may be needed for proper spray characteristics.

Airless spray – Standard equipment having a 45:1 or higher pump ratio, with a 0.017- to 0.021-inch fluid tip.

Conventional spray – Industrial equipment, such as DeVilbiss MBC or JGA or Binks 18 or 62 spray gun. A moisture and oil trap in the main air supply line, a pressure material pot with mechanical agitator and separate regulators of air and fluid pressure are recommended.

Power mixer – Jiffy Mixer powered by an air or explosion-proof electric motor.

Brush or roller – Additional coats may be required to attain proper thickness. Natural bristle brush, 3/8" nap roller with solvet resistant core.

Application Procedure

1. Flush all equipment with thinner or Amercoat® 12 before use.
2. Stir resin and cure using an explosion-proof power mixer to disperse pigments.
3. Add cure to resin. Mix thoroughly until uniformly blended to a workable consistency.
4. Do not mix more material than can be used within the expected pot life.
5. For optimum application, material should be from 50° to 90°F (10° to 32°C). Above 122°F (50°C), sagging may occur.
6. Use only PPG recommended thinners. For potable water applications, see current NSF listing at www.nsf.org for approved thinners and thinning restrictions. For other applications above 85°F (29°C) use Amercoat 8 or Amercoat 101, at lower temperatures use Amercoat 65. A small amount of thinner greatly reduces viscosity; excessive thinning will cause running or sagging. Thin cautiously as follows:

	Amerlock 2	Amerlock 2AL
Airless – up to	½ pt/gal	1pt/gal
Conventional – up to	½ pt/gal	1pt/gal

Below 50°F additional thinning may be needed and multiple coats required to achieve specified thickness.

7. To minimize orange peel appearance, adjust conventional spray equipment to obtain adequate atomization at lowest air pressure.
8. Apply a wet coat in even, parallel passes with 50 percent overlap to avoid holidays, bare areas and pinholes. If required, cross spray at right angles.
9. When applying Amerlock 2 directly over inorganic zincs or zinc rich primers, a mist coat/full coat technique may be required to minimize bubbling. This will depend on the age of the Dimetcote®, surface roughness and conditions during curing.
10. Ventilate confined areas with clean air during application and while curing the final coat. Prevent moisture condensation on the surface between coats.
11. Repair damaged areas by brush or spray.
12. Clean equipment with thinner or Amercoat 12 immediately after use.

Note: Do not apply Amerlock 2AL on water-damp surfaces.

Shipping Data

Packaging unit	2 gal	5 gal
cure	1-gal can	2.5-gal can
resin	1-gal can	2.5-gal in 5-gal can
Shipping weight (approx)	lbs	kg
2-gal unit		
Amerlock 2 cure	12.8	5.8
Amerlock 2/400 resin	13.7	6.2
Amerlock 2AL resin	11.0	5.0
Amerlock 2AL cure	13.3	15.9
5-gal unit		
Amerlock 2 cure	33.0	15.0
Amerlock 2/400 resin	35.0	15.9
Amerlock 2AL resin	28.3	12.8
Amerlock 2AL cure	34.5	15.6

Shelf life when stored indoors at 40° to 100°F (4° to 38°C) resin and cure 1 year from shipment date.

Numerical values are subject to normal manufacturing tolerances, color and testing variances. Allow for application losses and surface irregularities.

This mixed product is photochemically reactive as defined by the South Coast Air Quality Management District's Rule 102 or equivalent regulations.

Safety Precautions

Read each component's material safety data sheet before use. Mixed material has hazards of each component. Safety precautions must be strictly followed during storage, handling and use.

CAUTION – Improper use and handling of this product can be hazardous to health and cause fire or explosion.

Do not use this product without first taking all appropriate safety measures to prevent property damage and injuries. These measures may include, without limitation: implementation of proper ventilation, use of proper lamps, wearing of proper protective clothing and masks, tenting and proper separation of application areas. Consult your supervisor. Proper ventilation and protective measures must be provided during application and drying to keep solvent vapor concentrations within safe limits and to protect against toxic hazards. Necessary safety equipment must be used and ventilation requirements carefully observed, especially in confined or enclosed spaces, such as tank interiors and buildings.

This product is to be used by those knowledgeable about proper application methods. PPG makes no recommendation about the types of safety measures that may need to be adopted because these depend on application and space, of which PPG is unaware and over which it has no control.

If you do not fully understand the warnings and instructions or if you cannot strictly comply with them, do not use the product.

Note: Consult Code of Federal Regulations Title 29, Labor, parts 1910 and 1915 concerning occupational safety and health standards and regulations, as well as any other applicable federal, state and local regulations on safe practices in coating operations.

This product is for industrial use only. Not for residential use.



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