

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
- Meets all existing VOC regulations including SCAQMD Rule 1113 requirements for 2002
- 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 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.amercoatings.com/usa/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) | | | |
| Amerlock 2 | 1331 | 32.6 | |
| Amerlock 2AL | 1363 | 33.1 | |
| 5 mils (125 microns) | | | |
| Amerlock 2 | 266 | 6.5 | |
| Amerlock 2AL | 273 | 6.7 | |
| 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.

Typical Properties (Amerlock 2)

Physical

| | |
|--|----------------------------|
| Abrasion resistance (ASTM D4060) | |
| 1 kg load/1000 cycles | weight loss |
| CS-17 wheel | 102 mg |
| Impact resistance (ASTM D2794) | |
| Direct | 24 in · lb |
| Reverse | 6 in · lb |
| Moisture vapor transmission (ASTM F1249) | |
| | 4.0 gm/m ² /day |
| Adhesion (ASTM D4541) | |
| | 1200 psi |

Performance

| | | |
|------------------------------------|--|------|
| Salt spray (ASTM B117) 3500 hours | | |
| Face corrosion/blistering | | None |
| Humidity (ASTM D2247) 1500 hours | | |
| Face corrosion/blistering | | None |
| Prohesion (ASTM G85-A5) 3000 hours | | |
| Face corrosion/blistering | | None |

Chemical Resistance Guide

| Environment | Immersion | | Splash and Spillage | | Fumes and Weather | |
|-------------|-----------|-------------|---------------------|-----|-------------------|-----|
| | 2 | 2AL | 2 | 2AL | 2 | 2AL |
| Acidic | * | * | F | F | G | G |
| Alkaline | * | * | E | G | E | E |
| Solvents | * | * | G | G | E | E |
| Salt water | E | * | E | E | E | E |
| Water | E | * | E | E | E | E |
| F-Fair | G-Good | E-Excellent | | | | |

*Contact your PPG representative.

This table is only a guide to show typical resistances of Amerlock 2 and Amerlock 2AL. For specific recommendations, contact your PPG representative for your particular corrosion protection needs.

Systems using Amerlock 2 or Amerlock 2AL

| 1 st coat | 2 nd Coat | 3 rd coat |
|----------------------|----------------------|----------------------|
| Amerlock 2 | None | None |
| Amerlock 2 | Amerlock 2 | None |
| Amerlock 2 | 450H Series | None |
| Amerlock 2 | Amershield | None |
| Amerlock 2 | PSX 1001 | None |
| Dimetcote® 9 Series | Amerlock 2 | None |
| Dimetcote 9 Series | Amerlock 2 | 450H Series |

Note: For color contrast when two coats of Amerlock 2 Aluminum are used, Amerlock 2 Aluminum Red can be used as the first coat.

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.

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 |
| Surface preparation | |
| Steel | SSPC-SP2, 3, 6, 7, 10 or 11 |
| Concrete | ASTM D4259 or 4260 |
| Aluminum | Alodine®, Alumiprep® or light abrasive blast |
| Galvanizing | Galvaprep® or light abrasive blast |
| Method | Airless or conventional spray. Brush or roller may require additional coats. |
| 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 | | |
|-------------------------------------|-------|-------|-------|
| | 90/32 | 70/21 | 50/10 |
| Recoat/Topcoat time minimum (hours) | 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.

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 70°F (29°C) use Amercoat 8, 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.

Note: For potable water tanklining applications, see current NSF listing at www.nsf.org for approved thinner and thinning restrictions.

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 Dimetecote®, 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 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.



**PPG Protective &
Marine Coatings**
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