

Amercoat® 240

Universal epoxy coating

Product Data/ Application Instructions

- Formulated for direct-to-metal application with excellent substrate wetting while retaining excellent edge coverage
- Exceptional corrosion protection in salt and fresh water immersion and corrosive chemical environments
- Surface tolerant, lowers the cost of surface preparation
- Excellent adhesion to tight rust
- Compatible with water jetted or hand and power tool cleaned surfaces.
- Low temperature cure down to 0°F (-18°C) without additives or alternate curing agents
- Fast dry-to-recoat and rapid handling properties
- High-build (up to 12 mils) in one coat
- Abrasion resistant

Very low solvent content meets VOC requirements, reduces the risk of pinholing and solvent entrapment at the substrate-coating interface, often a major cause of coating failure with conventional epoxies and lower solids systems.

Typical Uses

Tank Linings and Pipe Coatings

- Ballast and fuel tanks
- Bilges, wet voids and other damp areas
- Crude oil tanks

Ships, Offshore and Marine Structures

- Exterior hull above and below waterline
- Decks and superstructures, piping, and equipment
- Interior surfaces

Fabrication and New Construction

- Heavy industry, structural steelwork, bridges, tankage
- Speeds up production, even at low temperatures
- A single coat multi-purpose, surface-tolerant coating

Qualifications

- *Classified by Marintek, as class B1 for use in ballast water tanks*
- *Tested by NOHC as being suitable as a lining for grain storage containers.*
- *Lloyd's Register - Provisionally recognized as acceptable for saltwater ballast tanks and double bottom tanks; Certificate Number MATS/3404/1*
- *NAVSEA - MIL-PRF23236(C) Class 7, Type VII, Grade C*
- *NAVSEA - MIL-PRF-24647*
- *Certified by Det Norske Veritas (DNV) to comply with IMO Resolution MSC.215(82) Performance Standard for Protective Coatings (PSPC) for seawater ballast tanks.*

Physical Data

Finish	Semigloss		
Color*	Buff, Haze gray, Pastel green, Oxide red, White		
Components	2		
Curing mechanism	Solvent release and chemical reaction between components		
Volume solids (ISO 3233 modified)	87% ± 3%		
Dry film thickness (per coat)	4-12 mils (100-300 microns)		
Coats	1 or 2		
Theoretical coverage per mil (25 microns)	ft ² /gal	m ² /L	
6 mils (150 microns)	1395	33.5	
	233	5.6	
**VOC (EPA 24) mixed	lb/gal	g/L	
	1.2	145	
VOC (EC SED 1999/13/EC) g/kg	lb/gal	g/L	
	1.28	153	102
Temperature resistance	dry		
	°F	°C	
continuous	250	121	
Flash point (SETA)	°F	°C	
Amercoat 240 resin	122	50	
Amercoat 240 cure	138	59	
T-10 Thinner	80	27	
Amercoat 12	2	-17	

* Surface discoloration may occur upon exposure to sunlight, elevated temperatures or chemicals. However, this does not impact performance.

** VOC figures quoted are according to both EPA Method 24 which is practically determined and EC directive 1999/13/ EC which is theoretically determined.

Suitable for the following Cargoes:

- Crude Oil
- Sour Crude Oil
- Drilling Mud
- Aviation Fuel
- 50% Sodium Hydroxide
- Fuel Oils
- Bunker Oil
- Brine
- Dry Bulk Commodities
- Seawater
- Fresh Water

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, Amercoat 240 can be applied over mechanically cleaned surfaces. All surfaces must be clean, dry and free of all contaminants, including salt deposits. Contact PPG for maximum allowable salt containment levels.

Steel—Remove all loose rust, dirt, grease or other contaminants by one of the following depending on the degree of cleanliness required: SSPC-SP2, 3, 6, 7 or 10 (ISO 8501-1 St-2, St-3, Sa 1, Sa 2.5). These minimum surface preparation standards apply to steel that has been previously abrasive blasted. The choice of surface preparation will depend on the system selected and end-use service conditions.

For more severe service and immersion, clean to SSPC-SP10 (ISO 8501-1 Sa 2.5). Blast to achieve an anchor profile of 2-3 mils (50-75 microns) as indicated by a Keane-Tator Surface profile Comparator or Testex Tape. Previously blasted steel may be ultra-high pressure water jetted to NACE No. 5/SSPC-SP 12 WJ-2L. The wet surface can be dried by blowing with dry compressed air giving special attention to horizontal surfaces and recesses.

Pre-primed steelwork—Amercoat 240 can be applied over steelwork shop primed with inorganic zinc silicate. Surfaces must be clean, dry and free of oil, grease, salts and other contamination by detergent washing and high pressure water washing. Specific attention should be paid to removal of white zinc salts. Weld areas, damaged and corroded areas should be blast cleaned to SSPC-SP 6 (ISO 8501-1 Sa 2.5). Overall sweep-blasting may be necessary for widespread breakdown of the zinc silicate shop primer.

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—Light abrasive blast per ASTM D4259 to remove all chalk, and surface glaze or laitance. If blasting is not possible, acid etch uncoated concrete per ASTM D4260 to obtain a glaze-free surface with a slightly granular texture. Rinse with clean water and allow to dry thoroughly. After blasting or acid etching, fill all small holes or voids with material such as Amercoat 114A filler compound.

Aged coatings—All surfaces must be clean, dry, tightly bonded and free of all loose paint, corrosion products or chalky residue. Abrade surface, or clean with Prep 88. Amercoat 240 is compatible over most types of properly applied and tightly adhering coatings, however, a test patch is recommended to confirm compatibility.

Repair—Prepare damaged areas to original surface preparation specifications, feathering edges of intact coating. Thoroughly remove dust or abrasive residue before touch-up.

Typical Systems

1 st coat	2 nd Coat	3 rd coat
Amercoat 240	None	None
Amercoat 240	Amercoat® 229 Series, 450 Series, Amershield, PSX® 700	None
Amercoat 240	Amercoat 240	None
Amercoat 240 ‡	Amercoat 240	PPG Antifoulings
Dimetcote® 9 Series,		
Amercoat 68 Series or Dimetcote 302H	Amercoat 240	None
Dimetcote 9 Series, Amercoat 68 Series or Dimetcote 302H	Amercoat 240	450 Series, 229 Series, PSX 700

Tank Coating System—Two coats of Amercoat 240 at 4 to 12 mils (100 to 300 microns) per coat, to give a total of 12-16mils (300-400 microns) plus stripe coating over sharp edges, cutouts and welds. Use contrasting colors for each coat and stripe coat.

‡ *Outside the U.S., a tiecoat such as Amercoat 71TC is required. In the U.S. tie coats are typically avoided for VOC compliance.*

Application Data

Applied over	Steel, concrete, aluminum, galvanizing		
Surface preparation			
Steel	Abrasive blasting, manual preparation or UHP waterjetting SSPC-SP 2, SP 3, SP 7, SP6, SP10 (ISO 8501-1 St-2,St-3, Sa 1,Sa 2, Sa 2.5)		
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)	4 part resin to 1 part cure		
Induction time (minutes)	70°F/21°C 15		
Environmental conditions			
air and surface temperature	20° to 122°F (-7° to 50°C)		
material temperature	50° to 80°F (10° to 27°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.			
Thinner	T-10		
Equipment cleaner	Thinner or Amercoat 12		
Pot life			
(including induction time)	°F/°C		
	90/32	80/27	70/21
	40 min.	60 min.	90 min.

Drying time @ 6 mils (150 microns) DFT (hours)

	°F/°C				
	90/32	70/21	50/10	32/0	16/-5
dry to touch	3	5	10	24	28
dry hard	6	8	13	30	48

Cure to Immersion* - Tank Lining Service

°F/°C (days)	120/49	90/32	70/21	50/10	32/0	20/-7
	2	3	7	7	7	7

* These cure-to-immersion times refer to tanks with forced ventilation. On underwater hull systems with PPG Antifoulings, the vessel can be launched after the specified dry-to-launch period indicated in the application in the application instruction for the antifouling.

Recoat/Topcoat time @ 6 mils (150 microns) DFT

	°F/°C				
minimum (hours)	90/32	70/21	50/10	32/0	20/-7
Amercoat 240	3	5	10	24	28
Amercoat 229 Series, 450 Series, PSX 700	4	8	16	36	48

	°F/°C				
maximum (months)**	90/32	70/21	50/10	32/0	20/-7
Amercoat 240	6	6	6	6	6
Amercoat 229 Series, 450 Series, PSX 700	3	3	3	3	3

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.

** Surface must be clean and dry. Any contamination must be identified and adequately removed. A detergent wash with Prep 88 or equivalent is required prior to application of topcoats after 30 days of exposure. However particular attention must be paid to surfaces that have been exposed to sunlight and where chalking may be present. In those situations, a further degree of cleaning may be required. PPG Technical Service can advise on suitable cleaning methods. If the maximum recoat/topcoat time is exceeded, then roughen surface.

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 with pump ratio of 45:1 or larger, with a 0.021- to 0.025-inch fluid tip, 3/8" (9mm) ID hose with 50 ft. maximum length. Long hose runs or location of work at heights 20-30 feet (6-9m) higher than the pump location may require higher pump ratios, increase hose diameters or other adjustments. A typical arrangement for shipyard use would include a 68:1 (or higher) pump ratio with 1/2" (12mm) to 3/4" (18mm) fluid hose.

Conventional spray—Standard conventional air spray equipment. A moisture and oil equipment trap in the main air supply line, a pressure material pot, and separate regulators for 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. (Brushing and rolling typically give about 3 mils [75 microns] dft.)

To obtain the maximum performance, adhere to all application instructions, precautions, conditions and limitations. For conditions outside the requirements or limitations described, contact your PPG representative.

Application Procedure

1. Flush all equipment with thinner or Amercoat® 12 before use. Stir resin using an explosion-proof power mixer to disperse into a homogeneous mixture.
2. Add cure to resin. Mix thoroughly until uniformly blended to a workable consistency.

Induction time (minutes)	70°F/21°C
	15
3. Do not mix more material than can be used within the expected pot life, 1.5 hours at 70°F. Higher material temperatures will shorten the pot life considerably.
4. For optimum application, material should be between 50° to 90°F (10° to 32°C).
5. Use only T-10 thinner at 10% by volume, maximum.
6. 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 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 primer, surface roughness and conditions during curing.
10. Ventilate confined areas with clean air during application, between coats, 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: 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.

For compliance with IMO standard for Ballast Tank Coatings, please refer to the project Ballast Tank Coatings Specification.

Shipping Data

Packaging unit-US Shipping weight (approx.)	1 gal lbs/kg	5 gal lbs/kg
1-gal unit		
240 resin	11.8/5.4	5.4/2.45
240 cure	2.0/0.9	0.9/0.41
5-gal unit		
240 resin	59.0/26.80	26.8/12.20
240 cure	9.1/4.10	4.1/1.86
Packaging unit-European manufacture		
20 L unit	kg/lbs.	
240 resin (16 L)	28.2/62.0	
240 cure (4 L)	7.2/15.8	

Shelf life when stored indoors at 40° to 100°F (4° to 38°C)
resin and cure 3 years from date of manufacture.

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 both components. 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.

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



**PPG Protective &
Marine Coatings**
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