PPG Amercoat

Amercoat® 236

Multi-purpose epoxy coating - Formerly Bar-Rust™ 236

Product Data/ Application Instructions (For Marine & Offshore use)

- Low VOC
- Outstanding corrosion resistance
- Lowers cost of surface preparation
- Low temperature cure
- Self priming

Typical Uses

Amercoat 236 is a true universal coating.

Tank lining:

- Ballast tanks, water tanks, bilges and any other water containment structures

Ships, Offshore and Marine Structures:

- Above and below water hulls, decks and superstructures, internal tanks, voids and wet spaces, ideal maintenance coating

Fabrication and New Construction:

- Speeds up production; fast recoat and cure even at low temperatures

Qualifications

- Grain cargo-North England Ind. Health Ser.
- MIL-P-23236C(SH) Type VI Class 5 & 7 Grade C
- USDA approval for incidental food contact (off-white only)

Chemical Resistance Guide

ASTM D 1308, 24 hour contact at 77°F	Excellent, no effect on film integrity
50% Sodium hydroxide	10% Hydrochloric acid
28% Ammonia	20% Tannic acid
5% Trisodium phosphate	Crude oil
25% Citric acid	5% Sodium chloride
25% Lactic acid	10% Ammonium hydroxide
10% Sulfuric acid	Sewage

Physical Data

Finish	Semigloss	
Color	Buff, medium gray, haze gray, off white, light blue, oxide red	
Components	2	
Curing mechanism	Solvent release and chemical reaction between components	
Volume solids (ASTM D2697 modified)	80% ± 3%	
Dry film thickness (per coat)	4-8 mils (100-200 microns)	
Coats	1 or 2	
Theoretical coverage	ft^2/gal	m^2/L
1 mil (25 microns)	1283	31.6
VOC (EPA 24)	lb/gal	g/L
mixed	1.41	169
Temperature resistance	dry	
	°F	°C
continuous	250	121
Flash point (SETA)	°F	°C
Amercoat 236 resin	108	42
Amercoat 236 cure	155	68
T-10	80	27
Amercoat 65	81	27
Amercoat 101	145	63
Amercoat 12	2	-17

Application Data

Applied over	Steel, concrete, aluminum, galvanizing			
Surface preparation				
Steel	SSPC-SP2, 3, 7 or 10			
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			
Thinner	T-10, 65 or 101			
Equipment cleaner	Thinner or Amercoat 12			
Pot life (hours)	77°F/25°C			
	4			
Drying time @ 6 mils DFT	°F/°C			
	90/32	70/21	50/10	32/0
dry through (hours)	6	8	13	30

Typical Properties

Physical

Property	Method	Result
Abrasion resistance	ASTM D 4060, CS-17 1000 gram load, 1000 cycles	110 mg loss
Adhesion	ASTM D 4541	1000 psi
Humidity resistant	ASTM D 2247,1000 hours.	No effect on film integrity or adhesion.
	Less than 1/32 inch undercutting at scribe. Less than 2% rust at edges.	
Immersion resistance	ASTM D 1308 Water, 24 months at 77°F	No effect
Impact resistance	ASTM D 2794, 10 ga. steel	60 inch-pounds
Moisture permeability	ASTM E 96	0.7 perms
Salt fog resistance	ASTM B 117, 1500 hours	No effect on film integrity or adhesion.
	Less than 1/16 inch undercutting at scribe.	

Systems

1st coat	2nd Coat	3rd coat
Amercoat 236	None	None
Amercoat 236	Amercoat 229C	None
Amercoat 236*	Amercoat 236*	None
Amercoat 236	Amercoat 236	Antifouling Systems ABC® 3, ABC 4, ABC® Release
Dimetcote® 9 Series or 302 Series	Amercoat 236	None
Dimetcote 9 Series or 302 Series	Amercoat 236	Amercoat 450 Series

**Immersion service.*

Tank Coating System – Two coats of Amercoat 236 at 4 to 8 mils (100 to 200 microns) per coat, plus two stripe coats over sharp edges, cutouts and welds. Use contrasting colors for each coat and stripe coat.

Mixing and Thinning

Amercoat 236 coating is a two component product supplied in 5 gallon and 1 gallon kits which contain the proper ratio of ingredients. The entire contents of each container must be mixed together. Power mix the base portion first to obtain a smooth, homogeneous condition. After mixing the base portion, add the converter slowly with continued agitation. After the converter add is complete, continue to mix slowly. Amercoat 236 coating requires a 15 minute induction time at 77°F (25°C).

Thinning is not normally required or desired; however, at extreme environmental conditions, **small** amounts (10% or less by volume) of a recommended thinner can be added depending on local VOC and air quality regulations. Any solvent addition should be made after the two components are thoroughly mixed. The pot life of the mixed material is 4 hours at 77°F (25°C). Higher temperatures will reduce working life of the coating; lower temperatures will increase it.

Recoat/Topcoat time (@ 5 mils DFT)

	°F/°C				
minimum (hours)	90/32	70/21	50/10	32/0	20/-7
Amercoat 236	2	5	8	14	28
Amercoat 229C	3	5	7	12	40

	°F/°C				
maximum (days)	90/32	70/21	50/10	32/0	20/-7
Amercoat 236	30	30	30	30	30
Amercoat 229C	3	5	5	7	7
Amercoat 450HS/S	3	5	5	7	7

Cure to immersion 7 days

Roughen surface if maximum recoat/topcoat time is exceeded.

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, coating can be applied over mechanically cleaned surfaces.

Amercoat 236 may be used over most types of tightly adhering coatings prepared with Prep 88. A test patch is recommended for use over existing coatings.

The surface preparation recommended for Amercoat 236 is to include removal of water, salt, dirt, oil, loose rust and **all rust scale**. For maximum performance, treat all surfaces with Prep 88 Cleaner, followed by high pressure wash. The minimum standard for non-immersion service is Steel Structures Painting Council Standard SSPC-SP2 or Swedish Standard DSt2; for immersion service, the minimum standard is SSPC-SP3 or Swedish Standard DSt3, in each case a coat of Amerlock sealer followed by a full coat of Amercoat 236 can also be used.

Steel – All direct to metal coatings provide the maximum performance over near white blasted surfaces. There are, however, situations and cost limitations, where grit blasting to near white metal is not possible. Amercoat coatings were designed to provide excellent protection over less than ideal surface preparation.

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 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 such as Graco Bulldog 30:1 or larger, with a 0.021- to 0.025-inch fluid tip, 3/8" ID hose with 50 ft. maximum length.

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 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.

Environmental conditions

Air and Surface Temperature
20° to 122°F (-7° to 50°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.

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 PMC representative.

Application Procedure

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

Induction time (minutes)	70°F/21°C
	15

4. Do not mix more material than can be used within the expected pot life, 4 hours at 77°F.
5. For optimum application, material should be from 50° to 90°F (10° to 32°C).
6. Use only PPG PMC recommended thinners at 1 pint/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 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 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.

Shipping Data

Packaging unit	1 gal	5 gal
Shipping weight (approx)	lbs	kg
1-gal unit		
236 resin	12.7	5.8
236 cure	2.0	0.9
5-gal unit		
236 resin	51.2	23.2
236 cure	8.8	4.0

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 storing, handling and use.

CAUTION – Improper use and handling of this product can be hazardous to health.

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 spray mists and 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 environment and space, of which PPG is unaware and over which it has no control.

If you do not fully understand these 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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