

Amercoat® 238

Abrasion resistant epoxy coating

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

- Abrasion resistance
 - Tough epoxy binder and special hard reinforcing minerals outwear glass flake polyesters
- Impact resistance
 - Resists heavy direct impacts without delamination or separation
- Excellent water and chemical resistance
 - Seawater immersion
 - Many chemicals and solvents
- Versatility
 - Suitable for areas subject to mechanical damage
 - Compatible with antifouling paints
- Application - Cure
 - Use standard airless or air spray equipment
 - Excellent low temperature cure

Typical Uses

Amercoat 238 coating is designed to protect surfaces subject to unusual abrasive and wear conditions common to many heavy-duty marine and industrial service operations.

- Underwater hull areas such as bulbous bows, keel strakes, rudders, rakes, bottom flats, chain and ice damaged areas
- Areas of high fender abrasion or impact on the boottop and freeboard
- Work decks, cargo loading areas and walkways
- Work boats, supply vessels, tugs, barges, cargo vessels, offshore structures and fish boats
- Cargo holds, vehicle decks, lash holds, drydocks and other areas subject to heavy-duty service conditions
- Pipe linings, drill pipe storage areas and other surfaces subject to corrosive wear

Systems Using Amercoat 238

Service	1st Coat	2nd Coat
Mild	Amercoat 201 or Dimetcote® 302,	Amercoat 238
Heavy duty	Amercoat 238	Amercoat 238

Do not use shop primers

Physical Data

Finish	Semigloss	
Color	Haze gray, Oxide red, black	
Components	2	
Curing mechanism	Solvent release and chemical reaction between components	
Volume solids (ASTM D2697 modified)	77% ± 3%	
Dry film thickness per coat	10 mils (250 microns)	
Coats	2	
Theoretical coverage	ft ² /gal	m ² /L
1 mil (25 microns)	1235	30.3
10 mils (250 microns)	124	3.0
VOC (EPA method 24)	lb/gal	g/L
	1.7	206
Temperature	Dry	
	°F	°C
continuous	250	121
Flash point (SETA)	°F	°C
T-10	80	27
Amercoat 12	2	-17
Amercoat 238 base	85	33
Amercoat 238 converter	117	47

Application Data

Applied over substrates	Steel, concrete, masonry block, aluminum, galvanizing, coated surfaces
Primer/s	See Systems Table
Method	Airless
Mixing ratio (by volume)	4 parts base to 1 part converter

Pot life (hours)	°F/°C		
	90/32	70/21	50/10
Induction time (min.)	2	4	6
	10	20	40

Environmental conditions

Temperature	°F	°C
air and surface	32 to 120	0 to 49

Surface temperatures must be at least 5°F (3°C) above dew point to prevent condensation.

Drying time (ASTM D1640) @ 10 mils, DFT (hours)

	°F/°C			
	90/32	70/21	50/10	32/0
hard	4	12	24	60
through	8	16	28	168

Adhere to all application instructions, precautions, conditions and limitations to obtain the maximum performance. When used over recommended primers, refer to Application Instructions for the specific primer being used for surface preparation data and application and drying procedures. For conditions outside the requirements or limitations described, contact your PPG representative.

Surface Preparation

Coating performance is proportional to the degree of surface preparation. Refer to specifications for the specific primer being used. Prior to coating, primed surface must be clean, dry, undamaged and free of all contaminants including salt deposits. Round off all rough welds and remove all weld spatter.

Steel – Remove all loose rust, dirt, grease or other contaminants by SSPC-SP10. Blast to achieve an anchor profile of 2 mils (50 microns) as indicated by a Keane-Tator Surface Profile Comparator or Testex Tape.

Aluminum – Remove oil, grease or soap film with neutral detergent or emulsion cleaner. Abrasive blast to achieve an anchor profile of 2 mils (5 microns).

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

Application Equipment

Airless spray – Standard equipment such as Graco King 63:1 or 45:1 with a 0.025- to 0.031- in. (0.64 to 0.79 mm) fluid tip, inlet hose 1" diameter minimum. Use ½" ID fluid hose for 50 ft. and longer lines. Remove screens or other restrictions to obtain maximum pressure transfer from pump to gun.

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

Application Procedure

Amercoat 238 consists of two components which must be mixed together before use. It is packaged in the proper portions in 1- or 5-gallon units.

1. Flush equipment with thinner or Amercoat 12 before use.
2. Stir each component thoroughly, then combine base and converter and mix until uniform at slow speed.
3. Thin only if necessary for workability, add T-10 up to 1 pint (approximately 10%) per gallon.
4. Do not mix more material than will be used within pot life. Pot life is shortened by higher temperatures.
5. Allow induction time before application.
6. Apply a wet coat in even, parallel passes; overlap each pass 50 percent. If required, cross-spray at right angles to avoid holidays, bare areas and pinholes.

Note: 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 coating, surface roughness and environmental conditions during application and curing.

7. When applying antifouling coatings, apply first antifouling coat while Amercoat 238 is still tacky or soft to fingernail. Failure to apply antifouling while still tacky may result in poor adhesion between coatings and eventual delamination of the antifouling.
8. Normal recommended dry film thickness per coat is 10 mils.
9. A wet film thickness of 13 mils (330 microns) normally provides 10 mils (254 microns) of dry film.
10. Clean all equipment with thinner or Amercoat 12 immediately after use.

Topcoat or recoat time minimum (hours)	90/32	70/21	50/10	32/0
	3½	6	14	38

Topcoat or recoat time (days) (maximum)	°F/°C			
	90/32	70/21	50/10	32/0
Amercoat 450HS or Amershield™	4	5	5	7
Amercoat 238	12	14	21	21

Failure to apply antifouling while coating is still tacky or soft to fingernail may result in poor adhesion and eventual delamination.

Time before service @ 10 mils (days)	°F/°C			
	90/32	70/21	50/10	32/0
immersion	3	7	14	NR
Thinner (up to 1 pint)	T-10			
Equipment cleaner	Thinner or Amercoat 12			

Shipping Data

Packaging	1- and 5-gal units	
Shipping weight (approx.)	lb	kg
1-gal unit		
base	11.82	5.4
converter	2.0	0.9
5-gal unit		
base	58.7	26.6
converter	9.1	4.1

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

Numerical values are subject to normal manufacturing tolerances, color and testing variances. Allow for application losses and surface irregularities. See application instructions for complete information and safety precautions.

The 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 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 professional use only. Not for residential use in California.



**PPG Protective &
Marine Coatings**
www.ppgpmc.com

One PPG Place, Pittsburgh, PA 15272 • Tel: (800) 441-9695