

Amercoat® 78HB

78 Series

Amine-cured coal-tar epoxy

Product Data/ Application Instructions

- Protection in only one coat, eliminating intercoat adhesion problems of two-coat coal-tar epoxies
- One-coat application for significantly reduced labor costs
- Superior application by airless and conventional spray
- For tank lining, immersion or nonimmersion service
- Suitable for waste treatment plant service

Amercoat 78HB displays exceptional application versatility. Easily applied in one-coat thicknesses of 16 mils (400 microns) or more. Alternatively, two coats at 5 - 8 mils (125 - 200 microns) each may be applied if required by specification. These features, combined with its high solids content and broad spectrum of water and chemical resistance, provide in Amercoat 78HB a durable, high performance, economical coating suitable for use over both steel and concrete.

Typical Uses

Marine structures, piling, bilges, ballast tanks, crude oil cargo/ballast tanks, ship bottoms; pipe coating and lining; industrial coating in power plants, oil production and refining plants, wastewater treatment plants. Lining for intermittent or continuous immersion in crude oil, salt solutions, and fresh or brackish water or seawater.

Systems Using Amercoat 78HB

Amercoat 78HB normally does not require a primer or any additional topcoats. In the event a holding primer is required, Amercoat 370 may be used.

Dimetcote® can be used as a primer for Amercoat 78HB when the cathodic protection provided by an inorganic zinc is required. For immersion service, Amercoat 370 is recommended as a tiecoat between Dimetcote and Amercoat 78HB.

Systems using Amercoat 78HB

System	Immersion	Nonimmersion Splash/Spillage Fumes
Amercoat 78HB	Yes	Yes
Amercoat 370/Amercoat 78HB	Yes	Yes
Dimetcote 9 Series/Amercoat 78HB	No	Yes
Dimetcote 9 Series/Amercoat 370/ Amercoat 78HB	Yes	Yes

Physical Data

Finish	Flat	
Color	Black, red	
Components	2	
Curing mechanism	Solvent release and chemical reaction between components	
Volume solids (ASTM D2697 modified)	78% ± 3%	
Dry film thickness per coat	16 mils (400 microns)	
Coats	1	
Theoretical coverage	ft ² /gal	m ² /L
1 mil (25 microns)	1250	30.0
16 mils (400 microns)	78	1.9
VOC	lb/gal	g/L
mixed	1.9	228
mixed/thinned (1 pt/gal)	2.5	300
Temperature resistance	°F	°C
Dry	300	150
Neutral salt solutions	160	71
Fresh water	140	60
Flash point (SETA)	°F	°C
cure	142	61
resin	127	53
Amercoat 12	2	-17
Amercoat 65	78	25
Amercoat 101	145	63

Application Data

Applied over	Prepared or primed steel or concrete		
Surface preparation	Abrasive blast or acid etch		
Primer	Dimetcote 9 Series, Amercoat 370		
Method	Airless or conventional spray		
Mixing ratio (by volume)	1 part cure to 19 parts resin		
Pot life and drying time dependent on temperature. Environmental conditions are critical for this class of coating. See application instructions.			
Pot life (hours)	°F/°C	90/32	70/21
		2	4
			50/10
			8
Environmental conditions			
Temperature	°F	°C	
air	40 to 122	4 to 50	
surface	40 to 120	4 to 49	
material	50 to 100	10 to 38	

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

Note: For maximum build and ease of application, air surface and material temperature should be 70 to 70°F (21 to 32°C). Higher or lower temperatures may require spray technique modification.

Surface Preparation

Coating performance is proportional to the degree of surface preparation. Prior to coating, all surface must be clean, dry and free of all contaminants, including salt deposits.

Steel – Welds should be continuous with no skip-welds on overlapping steel surfaces.

Nonimmersion – New steel without pits or depression: abrasive blast, SSPC-SP6. Previously painted or pitted steel: abrasive blast, SSPC-SP10.

Immersion – Blast all steel SSPC-SP10, as a minimum. Blast to a 2 - 4 mil (50 - 100 microns) profile as determined with a Keane-Tator Surface Profile Comparator or a similar device. Remove abrasive residue or dust from surface.

Concrete – Light abrasive blast to remove all previous coatings, chalk, and surface glaze or laitance. If blasting is not possible, acid etch uncoated concrete 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.

Dimetcote[®] – Surface must be clean and dry. Remove any contamination or curing residue. If surface is glazed, sweep blast to roughen. Before topcoating refer to the specific Dimetcote application instructions for drying time and other requirements.

Note – For immersion service, Amercoat 370 primer must be used as a tiecoat over Dimetcote before applying Amercoat 78HB.

Amercoat 370 primer – Surfaces must be dry and free of all contamination. Refer to Amercoat 370 application instructions for drying and curing times.

Important – Apply Amercoat 78HB as soon as possible after surface preparation. Do not leave blasted steel uncoated overnight. In case of recontamination, remove contaminants. Spot blast steel if needed.

Application Equipment

The following is a guide. Suitable equipment from other manufacturers may be used. Changes in pressure and tip size may be needed to achieve the proper spray characteristics.

Airless spray – Standard equipment, with 30:1 pump ratio or larger, with a 0.018- to 0.027-inch (0.46 to 0.69 mm) fluid tip.

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

Power mixer – Jiffy Mixer powered by air or explosion-proof electric motor. Propeller-type mixing head is satisfactory.

Application Procedure

Amercoat 78HB is packaged in the proper proportions which must be mixed together before use.

1. Flush equipment with Amercoat 12 cleaner before use.
2. Stir resin (pigmented material) with a power mixer to an even consistency.
3. Add cure (clear solution) to resin and continue stirring for five minutes.

Pot life (hours)		°F/°C	
	90/32	70/21	50/10
	2	4	8

Note – Do not mix more material than will be used within pot life. Higher temperatures shorten pot life.

4. Thinning is normally not required when using airless spray equipment.
5. For conventional spray, thin only as necessary for workability. Use up to one pint Amercoat 65 or 101 thinner per gallon of mixed coating.
6. Apply in even, parallel passes with 50 percent overlap. Immediately follow with cross-spray passes to obtain a continuous film without bare spots, pinholes, or holidays.
7. Double-coat all welds, corners, sharp edges, rivets and bolts, rough spots, etc.
8. A 20.5 mil (520 micron) wet film thickness will normally provide 16 mils (400 microns) of dry film.
9. Check thickness of dry but uncured coating with a nondestructive gauge, such as Mikrotest or Elcometer. If thickness is less than specified, apply additional material as needed. Allowable thickness range is 8 to 20 mils (200 to 500 microns), depending upon service.
10. For a pinhole-free coating, check continuity of dry but uncured coating with a nondestructive holiday detector such as Tinker and Razor Model AP/W at approximately 2300 volts. Repair by brushing Amercoat 78HB over affected areas.
11. Apply additional material to correct film thickness and repair pinholes or damaged areas. See Recoat and Repair Schedule. The surface must be clean and dry when repair coat is applied.
12. Inside tanks, pipes and other confined areas, ventilate during application and curing to remove solvents.
13. Clean all equipment with Amercoat 12 cleaner immediately after completion of work. Gelled Amercoat 78HB will plug spray equipment.

Curing

Can be exposed to most atmospheric conditions as soon as sufficiently hard to withstand the handling required.

Can be immersed in water where abrasion is not critical, such as in ships' ballast tanks or bilges, after 72 hours at 70°F (21°C).

Full cure, where maximum chemical or abrasion resistance is required, takes 10 days at 70°F (21°C).

Note: Drying and curing times are dependent on temperature and thickness of coating.

Recoat and Repair Schedule

When two coats are specified or for repair, apply additional Amercoat 78HB within the specified drying times to ensure proper adhesion. Allow no more than six hours of total sunlight exposure before recoating. Protect against rain, moisture or condensation. Otherwise, intercoat adhesion may be impaired. If the maximum recoat time has been exceeded, roughen surface by brush blasting before coating. Where maximum chemical or abrasion resistance is required, the coating must be fully cured according to the schedule. These times are for a thickness of 16 mils (400 microns). For greater thickness, allow additional time.

	Drying and cure times (ASTM D1640)		
	°F/°C		
	90/32	70/21	50/10
touch (hours)	3½	6½	12½
through (hours)	10	15½	48
recoat (maximum, hours)	12	24	72
cure before service (days)	4	10	28
water immersion (minimum, days)		3	
chemical resistance (minimum, days)		10	

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.

Thinner	Amercoat 65 or 101
Equipment cleaner	Thinner or Amercoat 12

Shipping Data

Packaging units	1 gal	5 gal
cure	½-pt can	1-qt can
resin	1-gal can	5-gal can
Shipping weight (approx)	lb	kg
1-gal unit		
cure	.5	.2
resin	12.6	5.7
5-gal unit		
cure	2.4	1.1
resin	62.5	28.4

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

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 mixing. 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 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 professional use only. Not for residential use.



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