



Performance Coatings & Finishes

Amercoat® 450HS

Gloss aliphatic polyurethane topcoat

Product Data/ Application Instructions

- Gloss topcoat
- Outstanding weather resistance with excellent color and gloss retention
- VOC compliant
- Resistant to broad range of corrosive atmospheres
- Resists soil pickup – cleans easily
- Cures through wide temperature range
- Hard, flexible and abrasion resistant

Typical Uses

Amercoat 450HS can be used as a finish coat where attractive appearance and a wide range of corrosive resistance is required.

- Chemical plants
- Pulp and paper mills
- Off shore platforms
- Petroleum refineries and containers.

Systems Using 450HS

First* Coat	Intermediate Coat	Finish Coat
Dimetacote®	385	450HS
Amercoat 370, 185HS, 385 or Amerlock 400, 2		450HS

*Maximum curing time at 70°F (21°C) for epoxy coatings varies when overcoating with Amercoat 450HS: 400, 385, 370, – 4 weeks; 2, 400 plus 861 – 1 week.

Topcoat Recommendations

Topcoat Color	Substrate Color		
	White	Light	Dark Contrast
Typical Number Coats of 450HS over substrate color			
450HS white	1	2	2
450HS pastels*	1	1	2
450HS yellow, red, orange*	1	2	2

* Certain colors (especially yellow, red, and orange) may require additional coats to achieve adequate hiding, particularly when applied over dark or contrasting primer color. Color variance with rapid response tinted colors may be greater than with standard production batches. If color is critical, change batches at natural breaks in structure or intermix batches for consistency.

Chemical Resistance Guide

When applied over suitable primer or intermediate coat:

Environment	Splash and Spillage	Fumes and Weather
Acidic	VG	E
Alkaline	VG	E
Solvents	G	E
Salt solutions		
Acidic	E	E
Neutral	E	E
Alkaline	E	E
Water	E	E
G-Good	VG-Very Good	E-Excellent

This table is only a guide. For specific recommendations, contact your Ameron representative for your particular corrosion protection needs. Amercoat 450HS is not recommended for immersion service.

Physical Data

Finish	Gloss
Color	See color card
<i>Yellow, red and orange colors will fade faster than other colors due to the replacement of lead-based pigments with lead-free pigments in these colors.</i>	
Components	2
Curing mechanism	Solvent release and chemical reaction between components
Volume solids (ASTM D2697 modified) 450HS	66% ± 3%

Dry film thickness per coat	2-3 mils (50-75 microns)	
Coats	1-2	
Theoretical coverage	ft ² /gal	m ² /L
450HS		
1 mil (25 microns)	1059	26
2 mils (50 microns)	530	13

Measured VOC (EPA Method 24)		
Amercoat 450HS	2.4 lb/gal	287.5 g/L

Maximum thinning for VOC at 340 g/L:		
<u>Thinner</u>		<u>Volume %</u>
923		10.9
101		9.5

Maximum thinning for VOC at 340 g/L with 866M accelerator:		
<u>Thinner</u>		<u>Volume %</u>
923		9
101		8

Note: 1 pint per gallon is equivalent to 12.5 volume %.

Temperature resistance (Dry)	°F	°C
continuous	200	93
intermittent	250	121
Flash point (SETA)	°F	°C
cure	92	33
resin	97	36
mixed	98	37
Amercoat 923	102	39
Amercoat 101	140	60
Amercoat 12	2	-17
Amercoat 866M	94	34

Application Data

Applied over	Primed concrete or steel	
Surface preparation	See specific primer or intermediate	
Method	Airless or conventional spray	
Environmental conditions		
Temperature	°F	°C
air and surface	20 to 120	-7 to 49
Surface temperature must be at least 5°F (3°C) above dew point to prevent condensation.		

Adhere to all instructions, precautions, conditions and limitations during storage, handling, application and drying periods to obtain maximum performance. For conditions outside the requirements or limitations described, contact your Ameron representative.

Surface Preparation

Coating performance, in general, is proportional to the degree of surface preparation. Refer to application instructions for specific primers and intermediate coats being used for application and curing procedures. All previous coats must be clean and dry. Aged epoxy coatings must be roughened before applying 450HS.

Application Equipment

The following is a guide; suitable equipment from other manufacturers may be used. Changes in pressure and tip size may be needed for proper spray characteristics.

Airless spray—Standard equipment such as Graco, DeVilbiss, Binks, Speedflo, or others having a 28:1 or higher pump ratio and a fluid tip with 0.013- to 0.015-inch (0.33- to 0.38-mm) orifice.

Conventional spray—Industrial equipment such as DeVilbiss MBC or Binks BBR spray gun. Separate air and fluid pressure regulators, mechanical pot agitator and a moisture and oil trap in main air supply line are recommended.

Application Procedure

Amercoat 450HS is packaged in two components in the proper proportions which must be mixed together before use:

1. Flush equipment with thinner or Amercoat 12 before use.
2. Stir each component thoroughly, then add cure to resin and mix until uniformly blended to a workable consistency. Do not mix more material than will be used within 4 hours at 65-80°F (18-27°C). Pot life is shortened by higher temperatures and use of Amercoat 866M. See pot life data. Use up to ½ pint of Amercoat 866M Accelerator per 5 gallons mixed.
3. Thin only if necessary for workability.
4. When applying by conventional spray, use adequate air pressure and volume to ensure proper atomization.
5. Apply a wet coat in even parallel passes, overlap 50 percent to avoid holidays, bare areas and pinholes. If required, cross spray at right angles.
6. Application of 3 mils (75 microns) wet film thickness will normally provide 2 mils (50 microns) dry film.
7. Clean all equipment with thinner or Amercoat 12 immediately after use.
8. Keep containers tightly closed since repeated exposure to moisture will cause gelation. Moisture contaminated material is also subject to gassing on storage. Handle bulged containers with caution; lids may eject forcibly.

Mixing ratio (by volume) 4 parts resin to 1 part cure

		°F/°C		
		90/32	70/21	50/10
Pot life (hrs)	2	4	6	
with 866M*	³ / ₄	1-1/2	3	
Drying time (ASTM D1640) (hours)		°F/°C		
	120/49	90/32	70/21	50/10
touch (minutes)	NA	10	30	90
with 866M*	1 ¹ / ₂	7	25	72
through (hours)	1 ¹ / ₂	4	8	24
with 866M*	³ / ₄	1 ³ / ₄	2 ¹ / ₂	8
Recoat Time				
minimum (hours)	1 ¹ / ₂	2	4	12
with 866M*	¹ / ₄	1	1 ¹ / ₂	4
maximum (days)	8 (hrs)	7	30	60
with 866M*	4 (hrs)	2	7	15

NA = *not applicable*

* Accelerated at ¹/₂ pint per 5 gallons mixed.

Thinner	Amercoat 923, 924
Equipment cleaner	Thinner or Amercoat 12

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 nonphotochemically reactive as defined by the South Coast Air Quality Management District's Rule 102 or equivalent regulations.

Shipping Data

Packaging units	1 gal	5-gal
cure	0.2 gal in 1-qt can	1 gal in 1-gal can
resin	0.8 gal in 1-gal can	4 gal in 5-gal can
Shipping weight (approx)	lb	kg
1-gal unit		
cure	2	0.9
resin	10.2	4.6
5-gal unit		
cure	9	4.1
resin	49	22

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

Safety Precautions

Read each component's material safety data sheet before use. Mixed material has hazards of both components; gives off harmful vapor of solvents and isocyanates. Use only with adequate ventilation. A positive pressure air-supplied respirator (TC19C NIOSH/MSHA) is recommended. Follow directions for respirator use. Wear respirator for the entire time of mixing, spraying and until all vapors and mists are gone. 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. Ameron 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 Ameron 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.

Warranty

Ameron warrants its products to be free from defects in material and workmanship. Ameron's sole obligation and Buyer's exclusive remedy in connection with the products shall be limited, at Ameron's option, to either replacement of products not conforming to this Warranty or credit to Buyer's account in the invoiced amount of the nonconforming products. Any claim under this Warranty must be made by Buyer to Ameron in writing within five (5) days of Buyer's discovery of the claimed defect, but in no event later than the expiration of the applicable shelf life, or one year from the delivery date, whichever is earlier. Buyer's failure to notify Ameron of such nonconformance as required herein shall bar Buyer from recovery under this Warranty.

Ameron makes no other warranties concerning the product. No other warranties, whether express, implied, or statutory, such as warranties of merchantability or fitness for a particular purpose, shall apply. In no event shall Ameron be liable for consequential or incidental damages.

Any recommendation or suggestion relating to the use of the ducts made by Ameron, whether in its technical literature, or in response to specific inquiry, or otherwise, is based on data believed to be reliable; however, the products and information are intended for use by Buyers having requisite skill and know-how in the industry, and therefore it is for Buyer to satisfy itself of the suitability of the products for its own particular use and it shall be deemed that Buyer has done so, at its sole discretion and risk. Variation in environment, changes in procedures of use, or extrapolation of data may cause unsatisfactory results.

Limitation of Liability

Ameron's liability on any claim of any kind, including claims based upon Ameron's negligence or strict liability, for any loss or damage arising out of, connected with, or resulting from the use of the products, shall in no case exceed the purchase price allocable to the products or part thereof which give rise to the claim. **In no event shall Ameron be liable for consequential or incidental damages.**



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