

# Amercoat® 90HS

*Epoxy-phenolic tank lining*

## Product Data/ Application Instructions

- Low VOC
- Economical tank lining; requires only 2 coats
- Withstands continuous immersion in water up to 140°F (60°C)
- Recommended for use under insulation up to 400°F (204°C)

### Typical Uses

Amercoat 90HS provides excellent protection to prepared steel and concrete exposed to splash, spillage and fumes of corrosive chemical and weather environments. Amercoat 90HS is used as a tank lining for ship tanks, roadtankers, barges, railroad cars and storage tanks in the chemical and petrochemical industries.

Amercoat 90HS has excellent resistance to continuous and alternating service for a wide range of chemicals, solvents, caustic, crude and fuel oils, as well as, neutral, alkaline and nonoxidizing salt solutions in water. It may be cleaned between cargoes with hot cleaning, up to a butterworth temperature of 176°F (80°C).

### Chemical Resistance

For a comprehensive listing of chemical resistance see the latest Amercoat 90HS Chemical Resistance List.

### Physical Data

Finish	Flat	
Color**	White, Ivory, Pearl Gray	
Components	2	
Curing mechanism	Solvent release and chemical reaction between components	
Volume solids (calculated)	64% ± 3%	
Dry film thickness per coat	4-6 mils (100-150 microns)	
Coats	2 or 3	
Total minimum DFT		
water tanks	8-10 mils (250 microns)	
chemical tanks	8-12 mils (300 microns)	
refined petroleum	8-10 mils (200 microns)	
ships tanks	12 mils (300 microns)	
under insulation	12 mils (300 microns)	
suppression chambers	10 mils (250 microns)	
factory-applied		
and baked lining	8 mils (200 microns)	
Theoretical coverage	ft <sup>2</sup> /gal	m <sup>2</sup> /L
1 mil (25 microns)	1027	25.2
4 mils (100 microns)	257	6.3
VOC	lb/gal	g/L
mixed	2.7	323
mixed/thinned (1pt/gal)	3.3	395
Temperature resistance	°F	°C
Immersion	140	60
Non-immersion	250	121
Under insulation	400	204
Flash point (SETA)	°F	°C
cure	83	28
resin	96	39
Amercoat 65	78	25
Amercoat 101	145	63
Amercoat 12	2	-17

### Application Data

Applied over	Prepared steel, concrete, aluminum, galvanizing or Dimetcote®		
Surface preparation			
steel	SSPC-SP5(Sa 3) or 10(Sa 2½)		
concrete	ASTM D4259 or 4260		
aluminum	Alodine® or light abrasive blast		
galvanizing	Galvaprep® or light abrasive blast		
Dimetcote	See specific Dimetcote		
Method	Airless or conventional spray		
Mixing ratio (by volume)	4 parts resin to 1 part cure		
Pot life (hours)	°F/°C		
	90/30	70/21	50/10
	2	4	6
Environmental conditions			
Temperature	°F °C		
air	50 to 100	10 to 38	
surface	50 to 120	10 to 49	

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

\*\* Use pearl gray, white or ivory for chemical tank lining.

## Surface Preparation

Coating performance is, in general, proportional to the degree of surface preparation. All surfaces must be clean, dry and free of all contamination, including salt deposits before applying coating.

**Steel – New without pits or depressions** – blast SSPC-SP10(Sa 2½).

**Rusted or pitted** – blast SSPC-SP5(Sa 3).

Blast to achieve a 1.5-mil (37.6-micron) minimum profile as determined with a Keane-Tator Surface Profile Comparator, Testex Tape or similar device. Remove abrasive residue or dust from surface.

Apply Amercoat 90HS as soon as possible to prevent rusting. Keep moisture, oil, grease or other organic matter off surface before coating. Spot blast to remove any contamination, solvent wiping is not adequate.

Fill small holes or pits with Amercoat 114A after applying the first coat of Amercoat 90HS.

**Concrete** – Clean concrete and masonry surfaces; abrasive blast (ASTM D4259) or acid etch (ASTM D4260).

Fill small holes or voids with Amercoat 114A or 965 before applying Amercoat 90HS.

**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, grease or soap film with neutral detergent or emulsion cleaner; then use zinc treatment such as, Galvaprep® or equivalent or blast lightly with fine abrasive.

## 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 Hydra-Spray, or larger, with a 0.017- to 0.023-inch orifice.

**Conventional spray** - Industrial equipment, such as DeVilbiss MBC or JGA spray gun, and a pressure material pot with mechanical agitator. A moisture and oil trap in the main air supply and separate regulators for air and fluid pressure are required.

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

## Application Procedure

1. Flush all equipment with thinner or Amercoat 12 cleaner before use.
2. Stir resin component thoroughly, then add cure to resin and mix until uniform. Amercoat 90HS is packaged in the proper mixing proportions of resin and cure. Do not mix more material than will be used within pot life time.

Pot life (hours)	°F/°C		
	90/30	70/21	50/10
	2	4	6

3. If necessary for workability, use no more than 1 pint of thinner per gallon of Amercoat 90HS for airless or conventional equipment.

Thinner Amercoat 65 or 101

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 and to achieve a dry film thickness of 4 - 6 mils (100 - 150 microns).

Drying time (ASTM D1640) (hours)	°F/°C			
	100/38	90/32	70/21	50/10
touch	1	1½	3	6
through	6	8	12	24
recoat				
minimum	3	4	8	12
maximum (days)	3½	5	7	12

*Drying times are dependent on air and surface temperatures as well as film thickness, ventilation and relative humidity. Maximum recoat 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.*

*Roughen surface if maximum recoat time is exceeded.*

## Curing time for immersion service\*

Steel substrate		Ambient cure		
Temperature		Heat cure <sup>†</sup>	12 mils/300µ	18 mils/450µ
°F	°C	hours	days	days
212	100	1.5	NA	NA
180	82	2.5	NA	NA
160	71	5	NA	NA
140	60	12	NA	NA
122	50	24	NA	NA
104	40	60	NA	NA
86	30	NA	4	6
70	21	NA	7	9.5
59	15	NA	10	13
50	10	NA	14	19

\* After application and during the above curing schedule tanks must be ventilated to prevent solvent entrapment.

<sup>†</sup> For maximum chemical resistance, minimum cure temperature is 104°F (40°C).

6. Check dry film thickness using nondestructive dry film thickness gauge such as Mikrotest or Elcometer. If less than the specified thickness, apply additional material. Total dry film thickness must not exceed 14 mils (350 microns) in 2 coats, and must not be less than 8 mils (200 microns).
7. When a pinhole-free coating is required, check continuity of dry but uncured coating with a nondestructive holiday detector such as Tinker-Razor Model M-1. Apply additional coats to areas requiring touch-up.
8. After use, clean equipment immediately with thinner or Amercoat 12.

Thinner Amercoat 65 or 101  
Equipment cleaner Thinner or Amercoat 12

## 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 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 in California.***

## Shipping Data

Packaging units	1 gal	5 gal
cure	0.20 gal in 1-qt can	1 gal in 1-gal can
resin	0.80 gal in 1-gal can	4 gal in 5-gal can
Shipping weight (approx)	lb	kg
1-gal unit		
cure	2.0	0.9
resin	11.3	5.1
5-gal unit		
cure	8.7	3.9
resin	55.0	25.0

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.

The mixed product is photochemically reactive as defined by South Coast Air Quality Management District's Rule 102 or equivalent regulations.



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