

APPLICATION PROCEDURE

1. Flush equipment with thinner or Amercoat 12.
2. Stir resin thoroughly, add cure and mix until uniform. Do not mix more material than will be used within pot life time. Mixing ratio is 4 parts resin to 1 part cure by volume.

Pot life (hours)*	°F/°C			
	90/32	70/21	50/10	32/0
Amershield	1.5	2.5	5	-
Amershield with 866M	.5	1	2	4

3. If thinning is necessary, add up to 1 pint Amercoat 65 per gallon of Amershield.
4. When applying by spray, adjust pressures for equipment configuration and environmental conditions to ensure proper atomization.
5. Apply a wet coat in even, parallel passes; overlap each pass 50 percent.

Drying time (ASTM D1640) (hours)	°F/°C			
	90/32	70/21	50/10	32/0
touch	1	2.5	4	-
with 866M	.5	.75	1	2.5
through	5	10	72	-
with 866M	2	3	6	10

Recoat time (hours)	°F/°C				
	90/32	80/26	70/21	50/10	32/0
minimum	4	5.5	8	48	-
with 866M	1.5	1.75	2	4	8
maximum	12	24	168	168	-
with 866M	6	8	12	24	48

Roughen surface or use Amerase™ if maximum recoat time is exceeded.

Note: When applying directly over organic zinc at full thickness, bubbling may occur. A mist coat/full coat technique may be required to prevent application bubbling.

6. For colors, application of 8-mil wet film thickness (thinned) will normally provide 5-mil dry film thickness. Clear coat at 5-mils WFT will normally provide 3-mil DFT.

7. Clean all equipment with thinner or Amercoat 12 immediately after use.

Note: Moisture sensitive – Keep cure container tightly closed. Repeated moisture exposure will cause gelation and gassing; handle bulged containers with caution, lids may eject forcibly.

REPAIR

Spot blast or power tool clean bare substrate to the requirements shown under surface preparation. Feather edges of intact coating. Remove dust, dirt and contamination before recoating.

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	2.2	1.0
resin	11.0	5.0
5 gal unit		
cure	10.4	4.7
resin	55.0	25.0
Shelf life when stored indoors at 40 to 100°F (4 to 38°C)		
resin	1 year from shipment date	
cure	1 year from manufacture date	

Numerical values are subject to normal manufacturing tolerances, colors and testing variances. Appearance will vary depending on substrate and application method. Allow for application losses and surface irregularities. See application instructions for complete information and safety precautions.

This mixed product is nonphotochemically 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.

LIMITATION OF LIABILITY

PPG's liability on any claim of any kind, including claims based upon PPG'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 PPG be liable for consequential or incidental damages.**

Due to PPG's policy of continuous product improvement, the information contained in this Product Data/Application Instructions sheet is subject to change without notice. It is the Buyer's responsibility to check that this issue is current prior to using the product. For the most up-to-date Product Data/Application Instructions always refer to the PPG Protective & Marine Coatings website at www.ppgpmc.com.

WARRANTY

PPG warrants its products to be free from defects in material and workmanship. PPG's sole obligation and Buyer's exclusive remedy in connection with the products shall be limited, at PPG'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 PPG 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 PPG of such nonconformance as required herein shall bar Buyer from recovery under this Warranty.

PPG 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 PPG be liable for consequential or incidental damages.

Any recommendation or suggestion relating to the use of products made by PPG, 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.

 **PPG Protective & Marine Coatings**

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Amershield™

Aliphatic Polyurethane Coating



PRODUCT DATA/APPLICATION INSTRUCTIONS

- Unique, high-solids, high-build, multifunctional coating
- Low VOC
- High-gloss, self-priming coating
- Excellent gloss retention
- Direct to metal and concrete in selected environments
- Outstanding abrasion, reverse and direct impact resistance
- Good chemical and stain resistance
- Tough and flexible coating

Amershield displays high gloss and excellent color and gloss retention during extended service periods. The direct-to-metal capabilities of Amershield provide a single-coat system at reduced installation cost for use in protected environments. Compatible over prepared, smooth cold-rolled steel and abrasive blasted hot-rolled steel.

Amershield has excellent adhesion to concrete providing a durable, glossy, easy-to-clean flooring system. May be used over Amerlock® as a durable, weather-resistant topcoat for extra heavy duty service; over zinc-rich epoxy coatings as a direct topcoat; over intact, old paint as a maintenance product.

Amershield's curing time may be adjusted with Amercoat 866M Accelerator for convenient application at low temperatures or when faster cure is required. A full color range is available in the Ameron Rapid Response color system to provide timely delivery.

TYPICAL USES

- Structural steel
 - Bridges
 - Stadiums
- Tanks
- Piping
- Industrial plants
 - Power
 - Wastewater treatment
 - Pulp and paper
 - Chemical and petrochemical
 - Food and beverage
- Concrete walls and floors
- Transportation
 - Rail car exterior and hopper lining
 - Vehicle equipment – buses, trucks, lifts
- Marine
 - Decks
 - Topside and superstructures on ships
 - Boottops
 - Barges and offshore platforms



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PHYSICAL DATA

Finish	Gloss	
Color	See Amercoat color chart	
<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	
Volume solids (ASTM D2697 modified)	73% ± 3%	
Dry film thickness per coat	5 mils (125 microns)	
Coats	1 or 2	
Theoretical coverage	ft ² /ga	m ² /L
1 mil (25 microns)	1171	29
5 mils (125 microns)	234	5.7
VOC	lb/gal	g/L
mixed	2.2	264
mixed/thinned (1pt/gal)	2.7	323
mixed/thinned/accelerated	3.01	360
mixed/accelerated	2.5	304
Temperature resistance (dry)	°F	°C
continuous	200	93
intermittent	250	121
Flash Point (SETA)	°F	°C
resin	122	50
cure	110	43
mixed	115	46
Amercoat 65	78	25
Amercoat 12	2	-17
Amercoat 866M	94	34

QUALIFICATIONS

NFPA – Class A
 USDA – Incidental food contact, Tint and custom colors

TYPICAL SYSTEMS

Substrate	Primer	Finish Coat
Steel	none, 400*, 68HS	Amershield
Galvanizing	none, 400*, 68HS	Amershield
Aluminum	none, 400*	Amershield
Concrete	400*	Amershield
Masonry	none, 400*	Amershield

*Other Amercoat epoxy primers are also acceptable.
 Refer to specific primer's product data sheets and application instructions for detailed application and surface preparation information.
 Apply test patch to intact coating to confirm compatibility and adhesion.
 When Amerlock 400 is used as a primer for Amershield the maximum topcoat time is one month; Amerlock 2 – 7 days, 400 with 861 Accelerator – 14 days. Clean and roughen surface if topcoat time is exceeded.
 On Amercoat 68HS use a mist coat/full coat application procedure to prevent application bubbling.

TYPICAL PROPERTIES

PHYSICAL		
Impact resistance (ASTM D2794) @ 5 mils		
direct reverse	140in-lbs 50in-lbs	15.8N·m 5.6N·m
Taber abrasion 1kg load/1000 cycles CS-17 wheel	weight loss 60.2 mg	
Elongation (ASTM D522)	>32%	
Graffiti cleaning with Amerase with gloss retention	100 cycles	
CHEMICAL RESISTANCE GUIDE		
Environment	Splash and Spillage	Fumes and Weather
Acidic	E	E
Alkaline	E	E
Salt solutions		
acidic	E	E
neutral	E	E
alkaline	E	E
Seawater	E	E
Fresh water	E	E
Solvents	G	E
Petroleum products	E	E
<i>F-Fair G-Good E-Excellent NR-not Recommended</i>		
<i>This table is only a guide to show typical resistance of Amershield. For specific recommendations, contact your PPG representative for your particular corrosion protection needs.</i>		

ENVIRONMENTAL CONDITIONS

Temperature air or surface	°F	°C
Amershield	40 to 120	4 to 49
Amershield with 866M	32 to 120	0 to 49

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

LOW TEMPERATURE APPLICATION

At low temperatures or when a fast cure is required Amercoat 866M accelerator can be added to mixed Amershield resin and cure (see Amercoat 866M literature). DO NOT apply Amershield with 866M when surface temperature is over 120°F.

APPLICATION DATA

Applied over	Prepared or primed steel, aluminum, galvanizing, masonry and primed concrete			
Surface preparation	SSPC-SP 6 or 10 Alodine®, Alumiprep® or light abrasive blast			
steel	Galvaprep® or light abrasive blast			
aluminum	See specific primer			
galvanizing	ASTM D4261			
concrete	SSPC-SP1, 3 or 7			
masonry				
previously coated surfaces				
<i>Appearance will vary depending on substrate and application method.</i>				
Mixing ratio (by volume)	4 parts resin to 1 part cure			
Pot life (hours)	°F/°C			
	90/32	70/21	50/10	32/0
Amershield	1.5	2.5	5	-
Amershield with 866M	.5	1	2	4
<i>Using 1/2 pt Amercoat 866M per mixed 5 gallon Amershield</i>				

Environmental Conditions

Temperature-Air or surface	°F	°C
Amershield	40 to 120	4 to 49
Amershield with 866M	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) (hours)

	°F/°C			
	90/32	70/21	50/10	32/0
touch	1	2.5	4	-
with 866M	.5	.75	1	2.5
through	5	10	72	-
with 866M	2	3	6	10

Recoat time (hours)

	°F/°C				
	90/32	80/26	70/21	50/10	32/0
minimum	4	5.5	8	48	-
with 866M	1.5	1.75	2	4	8
maximum	12	24	168	168	-
with 866M	6	8	12	24	48

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.

Roughen surface or use Amerase™ if maximum recoat time is exceeded.

Thinner	Amercoat 65
Equipment cleaner	Thinner or Amercoat 12

Adhere to all application instructions, precautions, conditions and limitations to obtain the maximum performance. For conditions outside the requirements or limitations described, contact your PPG Protective & Marine Coatings representative.

SURFACE PREPARATION

Coating performance is, in general, proportional to the degree of surface preparation. All surfaces must be clean, dry and free of oil, grease, dirt, salt deposits or other contamination.

- To provide a smooth appearance to the Amershield coating Amercoat® 851, flow control additive may be used. See Amercoat 851 Product Data Sheet for more information.
- For faster drying at low temperatures, Amercoat 866M can be used with all Amershield products.

Steel – Mill scale and rust must be removed. Abrasive blast hot-rolled steel to SSPC-SP6 and rusted and pitted steel to SSPC-SP10. Clean cold-rolled steel to SSPC-SP1 using vapor degreasing or solvent emulsion to remove all oil, grease and contamination. Solvent wipe is not satisfactory. Contact PPG for compatible phosphate surface treatments.

Aluminum – Remove oil, grease or soap film with neutral detergent or emulsion cleaner; treat with Alodine® 1200 or Alumiprep® or blast lightly with fine abrasive.

Galvanizing – Remove oil or soap film with neutral detergent or emulsion cleaner; treat with Galvaprep® Amchem Products or blast lightly with fine abrasive.

Amercoat 68HS – Wash off water soluble contaminants; remove oil, grease, etc., with a neutral detergent or emulsion cleaner. Solvent wipe is not satisfactory.

Concrete – Clean concrete and masonry surfaces, abrasive blast (ASTM D4259) or acid etch (ASTM D4260). Fill concrete voids with Nu-Klad® 114A or 965. Fill masonry block with Amerlock® 400BF block filler.

Coated surface – Clean by low pressure water cleaning (1000 psi or greater) water blast, abrasive blast (SSPC-SP7), solvent emulsion cleaning (SSPC-SP1) or power tool cleaning (SSPC-SP3). Surface must be clean, dry and free of oil, grease, dirt or other contamination. Apply test patch to confirm compatibility and adhesion.

APPLICATION EQUIPMENT

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

Airless and electrostatic spray – Standard equipment Graco, DeVilbiss, Nordson-Bede, Speeflo or others having a 28:1 or higher pump ratio and a fluid tip with a 0.015- to 0.021-inch (0.38- to 0.53-mm) orifice.

Conventional, air-assisted airless and electrostatic spray – DeVilbiss, Binks or Graco production spray equipment with moisture and oil trap in the main air supply line.

Brush – Natural bristle. Maintain a wet edge.

Roller – Solvent resistant. Level any air bubbles with a bristle brush.

When brush or roller applied, multiple coats may be needed to achieve dry film thickness.