

Amershield

Aliphatic Polyurethane

Product Data/ Application Instructions

- High solids, high build, multi functional coating
- Low VOC*
- High gloss, self priming
- Excellent gloss retention
- Direct-to-metal or concrete
- Outstanding abrasion, reverse and direct impact resistance
- Good chemical and stain resistance
- Tough and flexible coating

Amershield is a, high solids, high build, multi functional, aliphatic polyurethane coating, used as a one coat system or as high performance topcoat in maintenance coating systems. To obtain the maximum performance for which Amershield is formulated, strict adherence to all application instructions, precautions, conditions and limitations is necessary. If conditions exist that is not within the requirements or limitations described, consult your PPG representative.

Typical Uses

Industrial structural steel, tanks, piping and concrete floors and walls in power, waste treatment, pulp and paper, chemical, petrochemical and food and beverage plants. Railcar exterior and hopper lining. Bridge structural steel. Stadiums, Marine structural steel, decks, boottops, topsides and superstructures on ships, barges and offshore platforms.

Outstanding Characteristics

Amershield displays high gloss; shows excellent colour and gloss retention during extended service periods. The direct-to-metal capabilities of Amershield provide a single coat system at reduced installation cost. Compatible over abrasive blasted hot-rolled steel. It has outstanding abrasion resistance and excellent resistance to direct and reverse impact. Has excellent adhesion to concrete providing a durable, glossy, easy-to-clean system. May be used over Amerlock 400 as a durable, weather resistant topcoat for extra heavy duty service; over selected Dimetcote coatings as a direct topcoat; over intact old paint as a maintenance product. Amershield's drying and curing may be adjusted with Amercoat 865 accelerator for convenient application. Ask your PPG representative for specific information.

Physical Data

Finish	gloss	
Colour	RAL and BS-colours *	
Components	2	
Mixing ratio (by volume)		
resin	4 parts	
cure	1 part	
Curing mechanism	solvent release and chemical reaction	
Volume solids	73 (ISO 3233)**	
VOC***		
EC SED 1999/13/EC	207 g/kg (280 g/l)	
UK PG6/23(92) Appendix 3 .	185 g/l (1.5 lbs/gal)	
Dry film thickness	125 µm per coat	
Number of coats	1 or 2 ****	
Calculated coverage	5.8 m ² /l at 125 µm	
Allow for application losses, surface irregularities, etc.		
Specific gravity	1.2 - 1.4 kg/l (mixed product)	
Flash points (Closed Cup).....	°C	°F
resin	26	79
cure	47	117
Amercoat 920	24	75
Amercoat 12	24	75
Thinner	Amercoat 920	
Cleaner	Amercoat 12	

*Uniform appearance may require two coats when used in a less hiding colour over contrasting primers or intermediate coats. Use only a light coloured primer or intermediate coat when only one finish coat in a less hiding colour is specified.

**Volume solids is measured in accordance with ISO 3233. Slight variations ±3% may occur due to colour and testing variances.

*** VOC figures are quoted according to both the EC directive 1999/13/EC which are theoretically calculated figures and the UK PG6/23(92) Appendix 3 which are practically determined figures.

**** Brush or roller application may require additional coats.

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Approvals and Certificates

Class 1 – flame spread in accordance with BS 476, part 7.
 "0" class fire rating in accordance with UK Building Regulations, based on testing according to BS 476, parts 6 and 7 (fire propagation).
 Approved by the Newcastle Occupational Health Agency for the storage of grain.

Recommended Systems

Substrate Coats of Amershield		Total dft μm
Steel	1-2	125 - 250
Amercoat 68 Series	1	190
Amerlock 400C	1	250**

**Minimum temperature Amerlock 400C during application and drying: 15°C/59°F. Do not use aluminium versions of Amerlock 400

Use a maximum recoating time of 3 days for Amerlock 400C. If exceeded, consult your PPG representative for a recommendation.

Environment	Splash and spillage	Fumes and weather
Acidic	Excellent	Excellent
Alkaline	Excellent	Excellent
Salt solutions		
Acidic	Excellent	Excellent
Neutral	Excellent	Excellent
Alkaline	Excellent	Excellent
Sea water	Excellent	Excellent
Fresh water	Excellent	Excellent
Solvents	Good	Excellent
Petroleum products	Excellent	Excellent

This table is only a guide to show typical resistance of Amershield. Contact your PPG representative for your particular corrosion protection needs. Amershield is not recommended for immersion service.

Application Equipment

MIXER - Power mixer with an explosion proof electric motor.
 AIRLESS SPRAY - Standard airless spray equipment, such as Graco, DeVilbiss, Nordson-Bede, Spee-Flo or others having a 28:1 or higher pump ratio and a fluid tip with a 0.38 to 0.53 mm (0.015 to 0.021 inch) orifice.
 CONVENTIONAL AND AIR-ASSISTED AIRLESS 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 - Level any air bubbles with a bristle brush. When brush or roller applied, multiple coats may be needed to achieve dry film thickness of 125 μm (5 mils).

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.

Application Data

Substrate prepared steel, galvanising, aluminium, concrete, masonry
 Application methods airless or conventional spray, brush or roller***

Environmental Conditions (during application)
 Air temperature: 4 to 50°C 40 - 122°F
 Surface temperature: 4 to 50°C 40 - 122°F

Surface temperature must be at least 3°C/5°F above dew point to prevent moisture condensation on the surface.

Potlife (at 20°C/68°F) 2½ hours

Potlife is dependent on temperature and quantities mixed.

Drying times (at 125 μm dft) °C/°F	10/50	20/68	30/86
dry to touch (hours).....	4	2½	1
dry through (hours).....	72	10	5

Recoat times °C/°F.....	10/50	20/68	30/86
Minimum (hours).....	48	8	4
Maximum (hours).....	168	168	12

NOTE: where accelerated cure is required ask your PPG representative for possible use of Amercoat 865 accelerator. Drying times are dependent on air and steel temperature, applied film thickness, ventilation and other environmental conditions. Times are proportionally shorter at higher temperature and longer at lower temperatures. Prior to recoating ensure the surface is clean. Maximum recoating interval times are dependent on temperature, degree of weathering, type of topcoating and service conditions of the complete coating system. Consult your PPG representative for specific recommendations.

Thinner Amercoat 920

Cleaner Amercoat 12



Amershield

Surface Preparation

STEEL - Mill scale and rust must be removed. Abrasive blast hot-rolled steel to Sa 2* or SSPC SP6** and rusted and pitted steel to Sa 2½* or SSPC SP10** (ISO 8501-1).

ALUMINIUM - Remove oil, grease or soap film with neutral detergent or emulsion cleaner; blast lightly with fine abrasive.

GALVANISING - Remove oil or soap film with neutral detergent or emulsion cleaner; treat with Amercoat 59 or blast lightly with fine abrasive.

DIMETCOTE - 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 D-4259). Fill concrete voids with Nu-Klad 114.

COATED SURFACE - Clean by high pressure (1000 psi = 70 bar or more) water blast, sweep blast (SSPC SP-7**), solvent emulsion cleaning (SSPC SP-1**) or power tool cleaning (SSPC SP-3**). Surface must be clean, dry and free of oil, grease, dirt or other contamination. Apply test patch to confirm compatibility and adhesion.

* Swedish Standard SIS 05-5900-1967

** Steel Structures Painting Council Specification

Application Procedure

Amershield is packaged in the proper mixing proportions of resin and cure.

Resin 3.2 and 16 l in 5 and 20 l can

Cure: 0.8 and 4 l in 1 and 5 l can

1. Flush equipment with recommended cleaner before use.
2. Stir resin thoroughly, add cure and mix until uniform. Do not mix more material than will be used within potlife time. Mixing ratio is 4 parts resin to 1 part cure by volume.
3. If thinning is necessary for workability thin with no more than 15 % vol. of Amercoat 920. For airless spray normally no thinning is required.
4. When applying by spray, adjust pressures for equipment configuration and environmental conditions to ensure proper atomization.
5. Apply a wet coat, making parallel passes and overlapping each pass 50%.

NOTE: When applying directly over inorganic zinc at full thickness, bubbling may occur. Use a mist coat/full coat application procedure.

6. Application at 160 µm wet film thickness (unthinned) will normally provide 125 µm dry film.
7. Moisture sensitive - Keep cure container tightly closed. Repeated moisture exposure will cause gelation and gassing; handle bulged containers with caution, lids may eject forcibly.
8. Check thickness of dry coating with a non-destructive dry film thickness gauge, such as Mikrotest or Elcometer. If less than specified thickness, apply additional material as needed.
9. In confined areas ventilate with clean air during application and drying until all solvents are removed. Temperature and humidity of ventilating air must be such that moisture condensation will not form on surface.
10. Clean all equipment with recommended cleaner immediately after use or at least at the end of each working day or shift. When left in spray equipment, Amershield will cure and cause clogging.



Shipping Data

Packaging

resin	3.2 l (0.85 gal) in 5 l can
.....	16 l - in 20 l can
cure	0.8 l in 1 l can
.....	4 l in 5 l can

Shipping weight

resin	approx. 4.5 kg and 17.5 kg
cure	approx. 1 kg and 3.4 kg

Shelf life 1 year from shipment date when stored indoors in unopened, original containers at 5 to 40°C (41 - 104 °F).

Amersshield

Caution

This product is flammable. Keep away from heat and open flame. Keep container closed. Use with adequate ventilation. Avoid prolonged and repeated contact with skin. If used in confined areas, observe the following precautions to prevent hazards of fire or explosion or damage to health:

1. Circulate adequate fresh air continuously during application and drying;
2. Use fresh air masks and explosion proof equipment;
3. Prohibit all flames, sparks, welding and smoking.

Do not empty into drains. Take precautionary measures against static discharges. For specific information on hazardous ingredients, required ventilation, possible consequences of contact, exposure and safety measures see Safety Data Sheet.

Safety

Since improper use and handling can be hazardous to health and cause of fire or explosion, safety precautions included with Product Data/Application Instruction and Material Safety Data Sheet must be observed during all storage, handling, use and drying periods.

Warranty

PPG warrants its products to be free from defects in material and workmanship. PPG's sole obligations and Buyer's exclusive remedy in connection with the products shall be limited, at PPG's option, to either replacement of products not conforming this warranty or credit to Buyer's account in the invoiced amount of the non-conforming 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 non-conformance 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 particular purpose, shall apply. In no event shall PPG be liable for consequential or incidental damages.

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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

To avoid any confusion that may arise through translation into other languages, the English version of the Product Data/Application Instructions will be the governing literature and must be referred to in case of deviations with product literature in other languages.

Condition of Sale

All our transactions are subject to our Terms and Conditions of Sale.

