



Amercoat 450S

Gloss aliphatic polyurethane topcoat

(450 Series)

Product Data/ Application Instructions

- High gloss topcoat
- Outstanding weather resistance with excellent colour and gloss retention
- Resistant to a broad range of corrosive and marine atmospheres
- Resists soil pick up - easily cleanable
- Hard, tough, flexible, and abrasion resistant
- Cures through a wide temperature range
- Recoatable with itself

Typical Uses

- Amercoat 450 S is used as a finish coat in protective coating systems, providing durability in a wide range of corrosive environments such as (but not limited to)
- Chemical and petrochemical facilities
 - Pulp and paper mills
 - Off shore structures
 - Bridges and general structural steelwork.

Typical systems using Amercoat 450S

| First coat | Intermediate | Finish coat |
|----------------------------------|--------------|---------------|
| Dimetcote | Amercoat 385 | Amercoat 450S |
| Amercoat 68 Series | Amercoat 385 | Amercoat 450S |
| Amercoat 71 or Amercoat 182ZP HB | | Amercoat 450S |
| Amercoat 385 | | Amercoat 450S |
| Amerlock Series | | Amercoat 450S |
| Amercoat 240 | | Amercoat 450S |

Physical Data

| | | |
|---------------------------------|---|----------------------|
| Finish | High gloss | |
| Colour | RAL and BS colours* | |
| Components | 2 | |
| Mixing ratio (volume) | 4 part resin to 1 part cure | |
| Curing mechanism | solvent evaporation and reaction between components | |
| Volume solids | 58% (ISO 3233)** | |
| VOC*** | | |
| EC SED 1999/13/EC | 307 g/kg (424 g/l) | |
| UK PG6/23 Appendix | 386 g/l (3.2 lb/gal) | |
| Dry film thickness | 35-50 microns 1.5-2 mils | |
| Number of coats | 1**** | |
| Theoretical coverage | m ² /L | ft ² /gal |
| at 50 microns /2.0 mil dft..... | 11.6 | 464 |
| Temperature resistance | °C | °F |
| Continuous | 120 | 250 |
| Intermittent | 150 | 320 |
| Flashpoints | °C | °F |
| Cure | 24 | 73 |
| Resin | 40 | 104 |
| Mixed | 24 | 73 |
| Amercoat 920 | 43 | 108 |
| Amercoat 12 | 24 | 73 |
| Thinners | AOC 1:1 & AOC | |
| Cleaner | AOC 1:1 & AOC | |

* On tanks and other large structures previously coated with contrasting primer or intermediate coats, uniform appearance may require two coats of Amercoat 450S. Use only a light colour primer or intermediate coat when only one finish coat of Amercoat 450S in a light colour is specified.

An aluminium finish is only supplied in a non-staining semi-gloss tint.

** Volume solids is measured in accordance with ASTM D2697 modified. 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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Chemical Resistance Guide

When applied over suitable primer or intermediate coat:

| Environment | Splash and Spillage | Fumes and Weather |
|----------------|---------------------|-------------------|
| Acidic | Very good | Excellent |
| Alkaline | Very good | Excellent |
| Solvents | Good | Excellent |
| Salt solutions | | |
| Acidic | Excellent | Excellent |
| Neutral | Excellent | Excellent |
| Alkaline | Excellent | Excellent |
| Water | Excellent | Excellent |

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

Surface Preparation

Prepare substrates in accordance with application instructions for the specific primer being used. Ensure surfaces of primer and intermediate coatings are clean, dry and free from contamination immediately prior to application of Amercoat 450S.

Application Equipment

The following equipment is listed as a guide and suitable equipment from other manufacturers may be used. Adjustments of pressure and change of tip size may be needed to obtain the proper spray characteristics.

AIRLESS SPRAY

Standard airless spray equipment, having a fluid tip with a 0.28 to 0.43 mm (0.011 to 0.017 inch) orifice.

CONVENTIONAL SPRAY

Industrial equipment having separate air and fluid pressure regulators, mechanical pot agitator and a moisture and oil trap in the main air supply line is recommended.

BRUSH/ROLLER

Apply evenly, using a clean well-loaded brush or roller. Ensure the coating is not brushed or rolled-out too far. Typically 35-50 microns dft. can be achieved in a single application.

MIXER

Use power mixer powered by an air motor or an explosion proof electric motor.

Application Data

| | | | | | |
|---|--|--------|-----------|---------|---------|
| Substrates | Prepared and primed surfaces. | | | | |
| Surface preparation | Refer to the Product Data Sheet of specific primer or intermediate coatings recommended. | | | | |
| Application method | Airless or conventional spray, brush or roller. | | | | |
| Environmental conditions | | | | | |
| Air temperature | 0-50 °C | | 32-122 °F | | |
| Surface temperature | 0-60 °C | | 32-140 °F | | |
| Surface temperature must be at least 3°C / 5°F above the dew point to prevent moisture condensation on the surface. | | | | | |
| Potlife (°C/°F) | 40/104 | 32/90 | 21/70 | 10/50 | 5/41 |
| | 1 hr | 3 hrs | 6 hrs | 12 hrs | 18 hrs |
| Drying times (°C/°F) | 40/104 | 32/90 | 21/70 | 10/50 | 5/41 |
| Dry to touch | 30 min | 45 min | 1 hr | 2 hrs | 4 hrs |
| Dry through | 2 hrs | 3 hrs | 4 hrs | 8 hrs | 16 hrs |
| Fully cured | 3 days | 5 days | 7 days | 14 days | 28 days |
| Recoat times (°C/°F) | 40/104 | 32/90 | 21/70 | 10/50 | 5/41 |
| Minimum | 1 hr | 2 hrs | 4 hrs | 8 hrs | 16 hrs |
| Maximum* | not limited | | | | |
| Thinner | Amercoat 920 | | | | |
| Equipment cleaner | Amercoat 12 | | | | |

* Amercoat 450S has long-term recoatability with itself. However, surfaces must be clean, dry and free of contamination immediately prior to recoating. Refer to PPG Explanatory Notes. PPG Technical Service can advise on suitable cleaning methods.

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Application Procedure

Amercoat 450S is packaged in the proper mixing proportions of resin and cure which must be mixed together before use.

1. Flush equipment with recommended cleaner before use.
2. Stir both resin and cure to a uniform consistency with a power mixer.
3. Add cure to resin, and continue stirring until homogeneous.
4. For spray application, thin only as needed for workability with no more than 10 vol % of recommended thinner. For application at temperatures below 10°C/50°F, more thinner may be required to ensure proper atomising. NOTE: For brushing and rolling, normally no thinning is required.
5. Apply a wet coat in even, parallel passes. Overlap each pass 50% to avoid bare areas, pinholes or holidays.
6. Double coat all welds, rough spots, sharp edges and corners, rivets, bolts, etc.
7. Application at 90 µm (3.5 mil) wet film thickness will normally provide 50 µm (2 mil) dry film.
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. Small damaged or bare areas and random pinholes or holidays can be touched up by brush. Repair larger areas by spray.
10. 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.
11. 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, Amercoat 450S will cure and cause clogging.

Repair

For repair, or application of additional thickness, Amercoat 450S has a long-term overcoating period with itself. Ensure surface is clean, dry and free from contamination immediately prior to application.

Shipping Data

Packaging

| | |
|-------------|------------------|
| Resin | 16 L in 20 L can |
| | 4 L in 5 L can |
| Cure | 4 L in 5 L can |
| | 1 L in 1 L can |

Shipping weight

| | kg | lb |
|-------------|-------------|------|
| Resin | approx. 25 | 55 |
| | approx. 6.5 | 14.3 |
| Cure | approx. 5 | 11 |
| | approx. 1.1 | 2.4 |

Minimum shelf life

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

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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 the 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 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.

Any recommendations or suggestion relating to the use of the products made by PPG, whether in its technical literature, or response to specific enquiry, or otherwise, is based on data believed to be reliable; however, the products and information are intended for use by Buyer's having requisite skill and know-how in the industry, and therefore it is 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, as its sole discretion and risk. Variation in environment, changes in procedures of use, or extrapolation of data may cause unsatisfactory results.

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

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.

PPG Coatings Europe BV

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