



AMERCOAT 450HD

NOVEMBER 1999

Aliphatic Polyurethane

Product Data

- 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.
- Easily recoated with itself.

Typical Uses

As a finish coat where an attractive appearance and a wide range of corrosion resistance is required for chemical plants, pulp and paper mills, petroleum refineries, offshore platforms, marine equipment, ship topsides and other equipment.

Amercoat 450HD is an aliphatic polyurethane coating which has excellent resistance to ultra violet exposure as well as chemical, industrial and marine environments. Amercoat 450HD forms an impact and abrasion resistant coating with excellent colour and gloss retention.

Amercoat 450HD is normally applied over Amercoat 385 or Amerlock 400. Consult your PPG Industries representative for specific overcoating intervals.

Physical Data

Finish	F/G, G50, G30
Colour	See Ameron Standard Colour List *.
Substrate	Suitably primed steel and primed concrete
Components	2
Curing mechanism	Solvent evaporation and reaction between components
Dry film thickness	50-80µm per coat
Number of coats	1 *
Volume solids	60% ± 3%
VOC	28% by weight / 386 g/L
Calculated coverage	7.5m ² at 80µm 12m ² at 50µm
Allow for application losses, surface irregularities etc.	
Application methods	Airless or conventional spray, brush or roller
Pot life (at 20°C)	6 hours
Drying times at 20°C and 50µm DFT	
Dry to touch	1 hour
Dry through	4 hours
Pot life and drying times are dependent on temperature and quantities mixed.	
Mixing ratio (by volume)	
Resin	4 parts
Cure	1 part
Thinner	475 or 254 Reducer
Cleaner	475 or 254 Reducer
Packaging	
Resin	4L
Cure	1L
Shelf Life	
Resin / Cure	1 year from shipment date when stored indoors in unopened, original containers at 5 to 40°C.

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

Amercoat 450HD Chemical Resistance Guide

(When applied over suitable primer or intermediate coat)

	Splash	Fumes &
Environment	Spillage	Weathering
Acidic	Yes	Yes
Alkaline	Yes	Yes
Solvents	Yes	Yes
Salt Solutions		
Acidic	Yes	Yes
Neutral	Yes	Yes
Alkaline	Yes	Yes
Water	Yes	Yes

This chart is only a guide to show typical resistances of Amercoat 450HD. Your Ameron representative will help you evaluate your particular corrosion protection needs and make the correct recommendation for your specific requirements. Amercoat 450HD is not recommended for immersion service.



AMERCOAT 450HD

Application Instructions

Amercoat 450HD is an aliphatic polyurethane high-gloss finish coat used with a range of primers and intermediate coats. Refer to Amercoat 450HD product data sheet for properties and use. To obtain the maximum performance for which Amercoat 450HD is formulated, strict adherence to all application instructions, precautions, conditions and limitations is necessary. If conditions exist that are not within the requirements or limitations described, consult your PPG Industries representative.

Surface Preparation

STEEL – Prepare surface in accordance with application instructions for the specific primer being used. Be sure primer is clean and dry when Amercoat 450HD is applied.

Application Equipment

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

AIRLESS SPRAY – Standard airless spray equipment, such as Graco, DeVilbiss, Nordson-Bede, Spee-Flo or others having a fluid tip with a 0.28 to 0.43 mm (0.011 to 0.017 inch) orifice.

CONVENTIONAL SPRAY – Industrial equipment such as DeVilbiss MBC or JGA gun with 78 or 765 air cap and “E” fluid tip and heavy mastic spring or Binks No. 18 or 62 with a 66 x 63PB nozzle set-up.

Separate air and fluid pressure regulators, mechanical pot agitator and a moisture and oil trap in the main air supply line are recommended.

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

Drying Times

(at 20°C and 50µm DFT)

Dry to touch 1 hour

Dry through 4 hours

Fully cured 7 days

For mild atmospheric exposure, coating may be placed in service before it is fully cured.

Repair

For repair or application of additional thickness, Amercoat 450HD may be overcoated with itself unlimited. Ensure surface is clean prior to application

Application Procedure

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

Resin 4L

Cure 1L

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 for 5 minutes. NOTE: Since the pot life is limited and shortened by high temperatures, do not mix more material than will be used within the pot life at the specified temperature.
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, 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 86µm wet film thickness will normally provide 50µm 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 450HD will cure and cause clogging.

Environmental Conditions

(during application)

Air temperature 0 to 50°C

Surface temperature 0 to 60°C

Surface must be dry. To prevent moisture condensation during application, surface temperature must be at least 3°C above dew point. Note – at application temperatures below 10°C, additional thinner may be required to obtain uniform appearance and multiple coats may be required to obtain recommended dry film thickness.

Safety Precautions

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.

Since improper use and handling can be hazardous to health and cause fire or explosion, safety precautions included with application instructions must be observed during all storage, handling, use and drying periods.

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.

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 vapour 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 Industries makes no recommendation about the types of safety measure that may need to be adopted because these depend on application environment and space, of which PPG Industries 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.

Technical information given verbally or in writing is based on knowledge and research, given in good faith and believed to be reliable, but no guarantee of accuracy is made or implied. Since methods and conditions of use are beyond our control, all merchandise is sold and received subject to the condition that our liability whether express or implied for any defect in quality, or for any lack of fitness for the specified use thereof, is limited to the return of the purchase price if written claim is made within 14 days from date of delivery. It is recommended that the user makes his or her own tests to determine the suitability of the product for his own requirements. Freedom from patent restrictions is not implied.