

Amerlock 400AL/AL WN

High Solids Epoxy Coating

Product Data/ Application Instructions

- Amerlock 400AL is a surface tolerant maintenance coating which can be applied to mechanically cleaned surfaces
- Amerlock 400AL WN Wintergrade version can be applied at temperatures down to 0°C
- Gives performance superior to conventional coatings when applied over mechanically cleaned surfaces
- Contains special ingredients which wet the surface and penetrate any traces of existing rust
- Can be applied over most existing coatings and can be topcoated with a wide range of topcoats
- High solids, VOC compliant
- Compatible with prepared damp surfaces

Typical Uses

Amerlock 400AL is most often used in those areas where blasting is impractical or impossible. Uses include steel structures in industrial facilities, bridges, tanks, marine weathering, oil tanks, piping, roofs, water towers and other exposures subject to high humidity and moisture. Amerlock 400AL has good resistance to splash/spillage and fumes of acids, alkalis, solvents and fresh and salt water. Amerlock 400AL can be applied over damp substrates. For immersion in potable and seawater, abrasive blasting to Sa 2½ is required. For cold climates a special wintergrade version, Amerlock 400AL WN is available for use in temperature between 0-20°C (32-68°F)

Outstanding Characteristics

Amerlock 400AL is a high performance coating, which can be applied to mechanically cleaned surfaces. Adhesion is excellent to a wide variety of substrates. Amerlock 400AL has excellent application characteristics. It can be applied by brush, roller, conventional and airless spray equipment.

Approvals and Certificates

Amerlock 400AL may be used for the transport of grain, as certified by the *North of England Industrial Health Service*.
Complies with COT 16.75 and CCOT 17.09 (specifications for epoxy primer and sealer).

Physical Data

Finish.....	semi-gloss
Colour	Aluminum
Components	2
Mixing ratio (by volume)	
resin.....	1 part
cure.....	1 part
Curing mechanism.....	solvent release and chemical reaction between components
Volume solids	
400AL.....	85% (ASTM-D2697 modified) *
400AL WN	79% (ASTM-D2697 modified) *

Temperature resistance	Dry °C	°F	Wet °C	°F
Continuous	93	200	40	104
Short term peak temp. ..	177	350	40	104

VOC**

400 AL	
EC SED 1999/13/EC	157 g/kg (196 g/l)
UK PG6/23(92) Appendix 3 ..	150 g/l (1.3 lbs/gal)

VOC**

400AL WN	
EC SED 1999/13/EC	197 g/kg (240 g/l)
UK PG6/23(92) Appendix 3 ..	145 g/l (1.2 lbs/gal)

Dry film thickness 125 µm per coat

Number of coats 1-2

Calculated coverage

400AL.....	6.8 m²/l at 125 µm
400AL WN	6.3 m²/l at 125 µm

Allow for application losses, surface irregularities, etc.

Specific gravity

400AL.....	1.31 kg/l (mixed product)
400AL WN	1.23 kg/l (mixed product)

Flash points (Closed Cup) 400AL 400AL WN

	°C	°F	°C	°F
resin	51	124	23	73
cure	24	75	43	109
Amercoat 9HF or 65.....	26	79	26	79
Amercoat 12	24	75	24	75

* 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.

Amerlock 400AL/AL WN

Application Data Summary

Amerlock 400AL is a high solids epoxy coating for the protection of steel surfaces. To obtain the maximum performance for which Amerlock 400AL 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 OAL representative.

Surface Preparation

Coatings performance in general, is proportional to the degree of surface preparation. Abrasive blasting is usually the most effective and economical method. For circumstances where this is impossible or impractical, Amerlock 400AL has been developed.

Amerlock 400AL can be applied over mechanically cleaned surfaces. Amerlock 400AL may be used over most types of properly prepared and tightly adhering coatings, however a test batch is recommended for use over existing coatings. Remove all loose rust, dirt, oil and grease or other contaminants from surface. Power tool clean in accordance with St 3 or SSPC-SP3 or hand tool clean in accordance with St 2 or SSPC-SP2 Water blasting is also acceptable. If possible, abrasive blasting is preferred. Amerlock 400AL can be applied over damp substrates.

For immersion in potable and sea water abrasive blasting is required. Blast clean to Sa 2½ or SSPC-SP-10 (ISO 8501-1). Note: Amerlock 400AL WN is not recommended for immersion service.

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, such as Graco, DeVilbiss, Nordson-Bede, Spee-Flo or others having a fluid tip with a 0.48 mm (0.019 inch) orifice or larger.

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 63 PB nozzle setup. Separate air and fluid pressure regulators and a mechanical pot agitator are recommended. A moisture and oil trap in the main air supply line is essential.

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

BRUSH/ROLLER - Use clean, short bristled brush or medium nap roller. Brush or roller application may result in a duller or less uniform aluminium colour. Application by brush or roller will require at least 2 coats to achieve the specified 125 µm dry film thickness.

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..... tightly adhering existing coatings, mechanically cleaned steel

Application methods airless or conventional spray, brush or roller

Environmental Conditions (during application and drying)

Amerlock 400AL

Air temperature: 5 – 50°C 41-122°F

Surface temperature: 5 - 60°C 41-140°F

Amerlock 400AL WN

Air temperature 0 to 20°C 32-68°F

Surface temperature 0 to 40°C 32-104°F

To prevent moisture condensation during application, surface temperature must be at least 3°C/5°F above dew point. Never apply coatings under adverse environmental conditions. Ensure good ventilation when applied in confined areas to assist evaporation and elimination of solvents.

See below for specific potlife, and specific drying times for the different cure versions. Minimum temperature for full cure is 10°C/50°F for Amerlock 400AL.

Induction time (at 20°C)..... not applicable

Potlife (in hours, °C/°F).....	5/41	10/50	20/68	30/86
400AL	8	6	4	2
400AL WN	4	2½	NR	NR

Drying Times

(in hours) °C/°F 5/41 10/50 20/68 30/86

dry to touch

400AL NR 16 6 4

400AL WN 9 7 2 NR

dry through

400AL NR 72 24 10

400AL WN 18 14 4 NR

dry to recoat/topcoat

400AL NR 24 16 8

400AL WN 24 16 8 NR

NR = Not Recommended

Maximum recoat time*..... extended

* Amerlock 400AL/WN has an extended maximum overcoating time. Surfaces to be overcoated must be clean and dry. Any contamination must be identified and adequately removed. Particular attention must be paid to surfaces that have been exposed to heat and/or sunlight and where chalking may be present. A degree of surface cleaning will be required. Your OAL representative can advise on suitable cleaning methods.

NOTE: potlife and 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/topcoating ensure the surface is clean. Maximum recoating/topcoating time intervals are dependent on temperature, degree of weathering, type of topcoat, and service conditions of the complete coating system. Consult your OAL representative for specific recommendations.

Thinner..... Amercoat 9HF or 65

Cleaner..... Amercoat 12

Amerlock 400AL/AL WN

Application Procedure

Amerlock 400AL is packaged in the proper mixing proportions of resin and cure.

Resin 10 l in 20 l can

Cure 10 l in 10 l can

1. Flush equipment with recommended cleaner before use.
2. Stir each of the components prior to mixing to an even consistency with a power mixer.
3. Add cure to resin, and continue stirring for 10 minutes.
NOTE: since the potlife is limited and shortened by high temperatures, do not mix more material than will be used within the potlife period.
4. For conventional spray, thin only as needed for workability with no more than 10% of recommended thinner. Thinning is normally not needed for airless spray.
NOTE: for Amerlock 400AL WN a maximum of 20 % thinning is allowed when necessary for workability.
5. Stir during application to maintain uniformity of material. Apply a wet coat by 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 150 µm of Amerlock 400AL wet film thickness will normally provide 125 µm dry film. With Amerlock 400AL WN a wet film thickness of 160 µm is required to provide a dry film thickness of 125 µm. Maximum dft per coat -when measured- should not exceed 250 µm per coat.
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, Amerlock 400AL will cure and cause clogging.

Shipping Data

Packaging (400AL and 400AL WN) 20 l

resin 10 l in 20 l can

cure 10 l in 10 l can

Shipping weight 400AL 400AL WN

resin ± 13.9 kg 13.3 kg

cure ± 15.7 kg 14.5 kg

Packaging (400AL and 400AL WN) 5 l

resin 2.5 l in 5 l can

cure 2.5 l in 2.5 l can

Shipping weight 400AL 400AL WN

resin ± 3.6 kg 3.4 kg

cure ± 3.5 kg 3.3 kg

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

Amerlock 400AL/AL WN

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

OAL warrants its products to be free from defects in material and workmanship. OAL's sole obligations and Buyer's exclusive remedy in connection with the products shall be limited, at OAL'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 OAL 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 OAL of such non-conformance as required herein shall bar Buyer from recovery under this warranty.

OAL 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 OAL be liable for consequential or incidental damages.

Any recommendations or suggestion relating to the use of the products made by OAL, 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

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

Due to OAL'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 OAL.

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.

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