



Amerlock 400GFA

High Solids Glassflake Epoxy Coating

Product Data/ Application Instructions

- Glass-flake reinforced for improved impact and abrasion resistance
- High performance coating for new or old steel
- Can be overcoated with wide range of topcoats
- Compatible with prepared damp surfaces
- Cures through wide temperature range
- Compatible with cathodic protection systems
- Pass cryogenic cyclic test from -196°C to 200°C
- Up to 750 µm in a single coat
- Resists high humidity and moisture
- Suitable for sea water immersion
- Suitable for buried steel & concrete
- Low VOC, high solids

Typical Uses

Amerlock 400GFA is high solids glass flake reinforced polyamine cured epoxy coating. a maintenance or new construction coating Amerlock 400GFA protects both steel and concrete structures in severe environments, including marine structures, petroleum processing and storage facilities and other heavy industrial facilities. On offshore platforms, Amerlock 400GFA is suitable for use in splash and tidal zones, under- deck areas and helidecks as well as sub-sea facilities. It is suitable for steel and concrete substrate for buried condition.

Outstanding Characteristics

Amerlock 400GFA has good resistance to chemical splash/spillage and fumes. The glassflake reinforcing provides a high degree of moisture impermeability, along with good abrasion and impact resistance. Amerlock 400GFA meets impressed current testing (ASTM G42). Amerlock's low solvent level reduces the chances for film pinholing and solvent entrapment at the substrate-coating interface, often a major cause of coating failure with conventional epoxies and lower solids systems. Amerlock 400GFA does not normally require a topcoat, but for appearance, extended weatherability or special use, a topcoat may be desired. Adhere to all application instructions, precautions, conditions and limitations to obtain maximum performance. For conditions outside the requirements or limitations described, contact your OAL representative.

Physical Data

Finish	flat
Colour.....	Black, White, RAL 7035, RAL 1013 *
Components	2
Mixing ratio (by volume)	
Amerlock 400GFA resin.....	1 part
Amerlock 400C/400GFA cure...	1 part
Curing mechanism	solvent release and chemical reaction between components
Volume solids	91% (ISO 3233) **
VOC**	
EC SED 1999/13/EC.....	103 g/kg (154 g/l)
UK PG6/23(92) Appendix 3.	68 g/l (0.6 lbs/gal)
Dry film thickness	200 - 750 µm per coat
Number of coats	1
Calculated coverage	4.6 m ² /l at 200 µm 1.2 m ² /l at 750 µm
Allow for application losses, surface irregularities, etc.	
Specific gravity	1.5 kg/l (mixed product)
Temperature resistance.....	Dry °C °F Wet °C °F
Continuous.....	218 425 60 140
Short term peak temp	232 450 60 140

Some discoloration and darkening will occur at temperatures greater than 93°C; this will not affect film integrity or coating performance.

Flash points (Closed Cup)	°C	°F
Amerlock 400GFA resin	43	109
Amerlock 400C/400GFA cure 36	97	
Thinner 21-06 (AM 65)	24	75
Thinner 90-58 (AM 12)	24	75

* The glassflake in Amerlock 400GFA imparts shade differences from the standard colours.

** 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

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Surface Preparation

Coatings performance is proportional to the degree of surface preparation. Abrasive blasting is usually the most effective and economical method. Amerlock 400GFA can be applied over power tool cleaned surfaces, when abrasive blasting is impractical. It may also be used over properly prepared and tightly adhering coatings.

STEEL - Remove all loose rust, dirt, oil and grease or other contaminants from surface. Blast to Sa 2½ ISO 8501-1 or SSPC-SP-10. Blast to achieve a 50 to 75 µm (2-3 mils) profile as determined with Testex Press-O-Film tape or similar instrument. Water blasting is also acceptable. Where possible, abrasive blasting is preferred. For immersion in fresh and sea water abrasive blasting to Sa 2½ is required.

CONCRETE – Surfaces must be cured, clean, dry and free of non-adherent coatings and disintegrated or chalky materials.

EXISTING COATINGS - Depending on service conditions, Amerlock 400GFA may be used over most types of properly cleaned, tightly adhering coatings. In case existing coating system is unknown or based on conventional binders a test patch is recommended.

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 Bulldog 30:1 (when temperature above 30°C/86°F) or Graco 45:1, with surge tank filters removed. Graco Hydra-Mastic gun 207 - 300 and tip 0.035 inch or larger, with a 3/8- to 1/2 inch spray hose.

CONVENTIONAL SPRAY - Industrial equipment such as Binks 18 spray gun with a 69 SS x 69 PB nozzle and 54-1209 needle. Pump 4:1 or 6:1 ratio with clearance chamber and a Fluidall hose 1/2 inch ID up to 50 feet.

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

Application Data

Substratesteel or concrete

Application methods.....airless or conventional spray

Environmental Conditions

(during application)

Air temperature: 5 - 40°C 41-104°F

Surface temperature: 5 - 50°C 41-122°F

Material: min.10°C min. 50°F

Minimum temperature for satisfactory cure is 10°C/50°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 eliminations of solvents.

Potlife (in hours, °C/°F)	10/50	20/68
	3½	2

Drying Times (in hours, °C/°F)	30/86	20/68	15/59	10/50
dry to touch	4	6	9	24
dry through	6	24	32	48

If a second coat of Amerlock 400GFA is required, observe the following time limits between coats at 750 µm dry film thickness.

Recoating times (°C/°F)	30/86	20/68	15/59	10/50
Minimum (hours).....	12	24	32	48
Maximum (months).....	2	3	3	3

Maximum topcoating interval times 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.

Drying times are dependent on air and steel temperatures, applied film thickness, ventilation and other environmental conditions. Times are proportionally shorter at higher temperatures and longer at lower temperatures and higher thicknesses.

Thinner Thinner 21-06 (AM 65)

Cleaner Thinner 90-58

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Application Procedure

Amerlock 400GFA is packaged in two components in the proper mixing proportions which must be mixed together before use.

Amerlock 400GFA Resin 10 l in 20 l can

Amerlock 400C/400GFA Cure 10 l in 10 l can

1. Flush equipment with recommended cleaner before use.
2. Mix resin and cure thoroughly.
3. Add cure to resin, and mix thoroughly until uniformly blended to a workable consistency.
4. Potlife is limited and shortened by high temperatures; do not mix more material than will be used within the potlife at the specified temperature.
5. For optimum application, material should have a temperature from 10 - 30°C (50 – 86°F). Above 45°C/113°F sagging may occur.
6. Use only OAL recommended thinners. NOTE: A small amount of thinner greatly reduces viscosity. Excessive thinning will cause running or sagging. Thin cautiously as follows:
For conventional spray, thin only as needed for workability with no more than 10 vol. % thinner. Thinning is normally not needed for airless spray.
7. Apply in even, parallel passes; overlap 50% to avoid holidays, bare areas, and pinholes. If required, cross spray at right angles.
8. Ventilate confined spaces with clean air between coats and while curing the final coat. The steel temperature must be at least 3°C/5°F above the dew point to prevent condensation on the surface between coats.
9. Repair any damage by brush or spray.
10. Clean all equipment with recommended cleaner immediately after use. When left in spray equipment, Amerlock 400GFA will cure and cause clogging.

Shipping Data

Packaging

Amerlock 400GFA resin . 10 l in 20 l can

Amerlock 400C/400GFA cure 10 l in 10 l can

Shipping weight

Amerlock 400GFA resin . approx. 18 kg

Amerlock 400C/400GFA cure approx. 15 kg

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

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.

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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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