

GL approved ambient cure epoxy infusion system for WTB

Lapox ARL-125	100	pbw
Lapox AH-365	32	pbw
Lapox AH-367	32	pbw

Description

Lapox ARL-125 is a modified epoxy laminating resin designed for high performance applications. Lapox AH-365 and Lapox AH-367 are modified polyamine based hardeners suitable for high mechanical performance applications in static and dynamic load conditions.

This system consist one resin and a choice of two hardeners to provide wide range of processing properties to suit most of the composite fabrication techniques with varying environmental conditions. The slow hardener, Lapox AH-367, of this system can provide pot life of >5 hours at 25°C with low exothermic reactions even when it is used for higher thickness components of large size. Lapox AH-365 hardener has rapid curing character compare to Lapox AH-367.

The low initial viscosity of this system ensures fast and complete impregnation of reinforcing fibers such as glass, carbon and polyamide. It allows components to be produced by various process techniques with high consistency in performance properties. The components cured at room temperature provides an excellent handling strength. The optimum properties however, will only be obtained after post curing at temperature of more than 50°C. Fully cured components prepared by this system are recommended to operate between 60°C to 80°C temperature.

Applications

Automotive
Electrical
Gliders
Motor gliders and planes
Moulds and tools
Other industrial and house hold components
Recreational and sporting goods
Ships and boats
Wind turbine blades

Processing

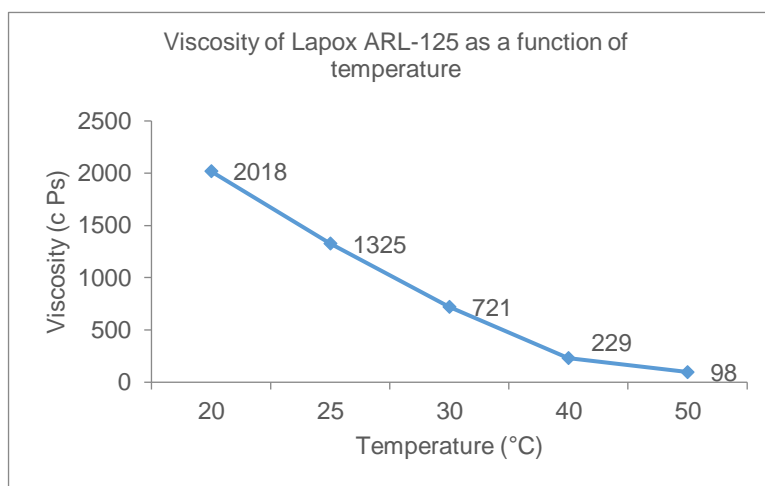
This system can be processed between 15°C to 50°C depending upon the choice of hardener. The suitable processing techniques are:

Contact pressure mouldings
Filament winding
Pultrusion
Resin infusion (RI)
Resin transfer moulding (RTM)
Vacuum and pressure bag techniques
Wet lay-up lamination

Typical specifications

Lapox ARL-125

Properties	Unit	Test method	Values
Appearance	-	Visual	Clear liquid
Colour	GS	ASTM D1544	Max 2
Viscosity at 25°C	m Pas	ASTM D2196	1,000 - 1,500
Epoxy content	Eq/kg	ASTM D1652	5.40 - 6.02
Specific gravity at 25°C	-	ASTM D792	1.1 - 1.2



Lapox AH-365 | Lapox AH-367

Properties	Unit	Test method	Lapox AH-365 Values	Lapox AH-367 Values
Appearance	-	Visual	Clear liquid	Clear liquid
Colour	GS	ASTM D1544	Max 4	Max 4
Viscosity at 25°C	m Pas	ASTM D2196	20 - 100	10 - 50
Epoxy content	Eq/kg	ASTM D1652	-	-
Specific gravity at 25°C	-	ASTM D792	0.90 - 0.95	0.93 - 0.99

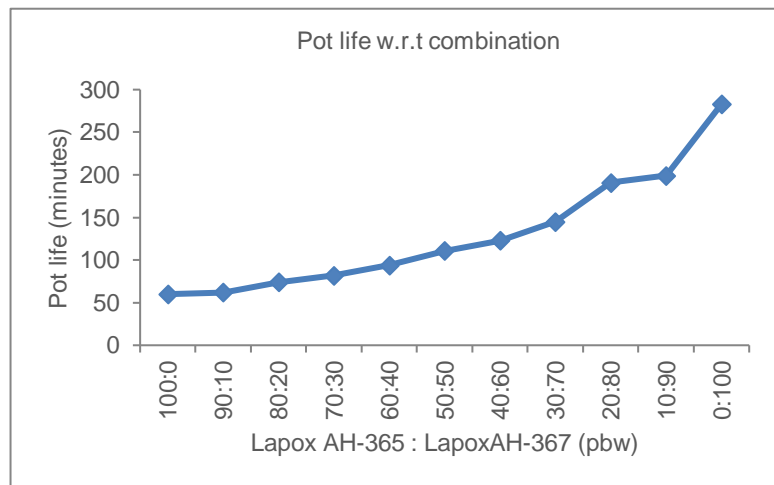
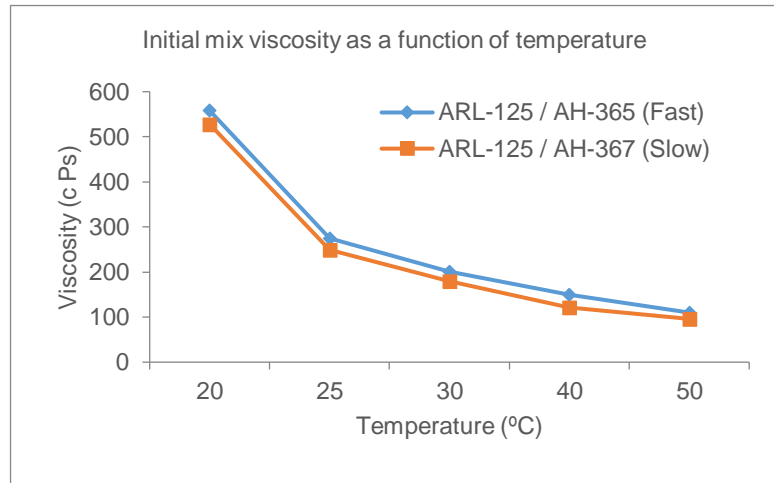
LAPOX® ARL-125 | AH-365 | AH-367



Technical Data Sheet | Polymers Business

Processing properties

Properties	Unit	Test method	Lapox AH-365 Values	Lapox AH-367 Values
Mixing ratio (by weight)	-	Visual	Resin: 100 Hardener: 32	Resin: 100 Hardener: 32
Initial mix viscosity	m Pas	ASTM D2196	300 - 700 / 25°C	200 - 300 / 25°C
Pot life at 25°C	Minutes	ASTM D2471	90 - 130 at 20°C 50 - 60 at 25°C	400 - 500 at 20°C 300 - 380 at 25°C
Curing shrinkage	%	-	1.6	1.5
Curing schedule	°C / hours	-	25°C / 24 hours + 80°C / 4 hours	25°C / 24 hours + 80°C / 4 hours



Typical properties of neat cured system

Curing schedule: 25°C / 24 hours + 70°C / 8 hours
Determined on standard test specimen at 25°C

Properties	Unit	Test method	Values
Cured density	g/cm ³	DIN 55990	-
Tensile strength	m Pa	ISO 527	60 - 70
Elongation at break	%	ISO 527	4 - 7
Elastic modulus in tension	g Pa	ISO 527	2.8 - 3.4
Flexural strength	m Pa	ISO 178	110 - 130
Elastic modulus in flexural	g Pa	ISO 178	3.0 - 3.6
Compressive strength	m Pa	ISO 604	120 - 140
Hardness	Shore D	ISO 868	80 - 90
Glass transition temperature (DSC)	°C	ISO 11357 - 2	70 - 80
Water absorption 25°C / 24 hours	% w/w	ISO 62	Max 0.5

Packaging

Lapox ARL-125 is available in 30 kg, 110 kg and 240 kg carboys. Lapox AH-365 and Lapox AH-367 are available in 1 kg HDPE bottles. Other packing may be considered on request.

Storage and handling

Lapox ARL-125 and hardener Lapox AH-365 and Lapox AH-367 have a shelf-life of at least 2 years if stored in its original container away from humidity and excessive heat. Resin and hardener may crystallise if stored below 15°C. Crystallisation may be reversed completely by heating the material between 60°C and 70°C. It is recommended to use resin and hardener only when they are clear and free from cloudiness. Hardener is sensitive to moisture. Container must be closed properly immediately after use. Both resin and hardener may cause irritation to sensitive skins. If contact does occur then it should be washed off immediately with soap and warm water, consult doctor immediately. Please refer to the Safety Data Sheet (SDS) for detailed instructions on storage and handling.

Safety

Wear personal protective equipment (PPE). Avoid contact with the eyes and skin. In case of direct contact and irritation, the resin should be washed off immediately with soap and warm water. Avoid breathing vapours, mist or gas. Please refer to the SDS for detailed safety instructions.

Spills and disposal

In case of spills, sweep up and shovel the spilled material. Keep spilled material in suitable, closed containers for disposal. Soak up with an absorbent such as clay, sand or other suitable material. Flush area with water to remove trace residue. Do not allow the product to reach the sewage system. Waste must be disposed of in accordance with federal, state or local regulations, as applicable.

Contact

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Note

Lapox® is a registered trademark of Atul Ltd.

LAPOX[®] ARL-125 | AH-365 | AH-367

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