

LAPOX[®] ARL-143 | AH-319



Technical Data Sheet | Polymers Business

Fire retardant ambient cure epoxy filled system

Lapox ARL-143	100	pbw
Lapox AH-319	15	pbw

Description

Lapox ARL-143 is a moderate viscosity filled epoxy resin system designed for wet lay-up processes. Hardener AH-319 is a modified polyamine hardener with very fast reactivity at room temperature. When cured at ambient temperature, it provides good mechanical, electrical and physical properties. However, optimum properties can be achieved only after post curing at 70°C for 1 hour to 2 hours depending on component design and geometry. This resin mix is highly reactive in nature. Only small amount of mixture should be prepared in more number of containers for preparing big lot.

Applications

FRP structural components for almost all application

Processing

Hand moulding and wet lay-up

Typical specifications

Lapox ARL-143

Properties	Unit	Test method	Values
Appearance	-	Visual	Beige-white liquid
Colour	GS	ASTM D1544	-
Viscosity at 25°C	m Pas	ASTM D2196	6,000 - 10,000
Epoxy content	Eq/kg	ASTM D1652	2.89 - 3.17

Lapox AH-319

Properties	Unit	Test method	Values
Appearance	-	Visual	Yellow to brown liquid
Colour	GS	ASTM D1544	-
Viscosity at 25°C	m Pas	ASTM D2196	10 - 15
Specific gravity at 25°C	-	ASTM D792	0.95 - 1.00

Processing properties

Properties	Unit	Test method	Values
Mixing ratio (by weight)	-	Visual	Resin: 100 Hardener: 15
Initial mix viscosity	m Pas	ASTM D2196	3,500 - 5,000 / 25°C
Pot life at 25°C	Minutes	ASTM D2471	19 - 24
Curing schedule	°C	-	70°C / 20 minutes + 40°C / 24 hours

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Typical properties of neat cured system

Composition:
Curing schedule: 70°C / 20 minutes + 40°C / 24 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	50 - 60
Elongation at break	%	ISO 527	1.0 - 1.5
Elastic modulus in tension	g Pa	ISO 527	5.0 - 5.5
Flexural strength	m Pa	ISO 178	70 - 80
Flexural elongation at break	%	ISO 178	1.4 - 1.9
Elastic modulus in flexural	g Pa	ISO 178	5.2 - 5.7
Glass transition temperature (DSC)	°C	ISO 11357 - 2	95 - 105
Flame retardancy	Class	UL 94	V0

Packaging

Lapox ARL-143 is available in 30 kg, 110 kg and 240 kg carboys. Lapox AH-319 is available in 1 kg HDPE bottles. Other packing may be considered on request.

Storage and handling

Lapox ARL-143 and Lapox AH-319 have a shelf-life of 2 years if stored in its original container away from humidity and excessive heat. Storage temperature should ideally be between 10°C and 30°C. Care must be taken to avoid direct contact with skin as far as possible. If contact does occur, then wash off immediately with soap and warm water. 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.

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