

# LAPOX<sup>®</sup> ARC-30 | AH-714



Technical Data Sheet | Polymers Business

## Ambient cure prefilled epoxy casting system

Lapox ARC-30	100	pbw
Lapox AH-714	25	pbw

## Description

Lapox ARC-30 is a medium viscosity prefilled epoxy resin. Lapox AH-714 is a low viscosity, room temperature (RT) cured, low viscosity polyaminoamide hardener.

## Advantages

The electrical circuits covered and encapsulated by this system are able to provide leak-proof barrier to humidity, water, and chemicals and offers excellent electrical properties.

## Applications

Casting and potting of small | medium voltage electrical and electronic components such as instrument transformer, capacitors, flashers, filters and PCB assemblies.

## Processing

Convention gravity casting (CGC)  
Potting

## Typical specifications

### Lapox ARC-30

Properties	Unit	Test method	Values
Appearance	-	Visual	Prefilled liquid
Colour	GS	ASTM D1544	White or black
Viscosity at 25°C	m Pas	ASTM D2196	8,000 - 14,000
Specific gravity at 25°C	-	ASTM D792	1.42 - 1.62
Flash point	°C	ASTM D93	> 100
Shelf-life	Months	-	6

### Lapox AH-714

Properties	Unit	Test method	Values
Appearance	-	Visual	Yellow-brown liquid
Colour	GS	ASTM D1544	Max 8
Viscosity at 25°C	m Pas	ASTM D2196	500 - 1,000
Amine value	mg KOH/g	ASTM D2073	425 - 450
Specific gravity at 25°C	-	ASTM D792	0.95 - 0.97
Flash point	°C	ASTM D93	> 100
Shelf-life	Year	-	1

## Processing properties

Properties	Unit	Test method	Values
Mixing ratio (by weight)	-	Visual	Resin: 100 Hardener: 25
Initial mix viscosity	m Pas	ASTM D2196	2,000 - 3,000 / 25°C
Pot life at 25°C (100 g)	Minutes	-	160 - 200
Gel time at 25°C	Minutes	-	190 - 230
Curing schedule	°C / hours	-	RT / 12 hours -16 hours + 80°C - 100°C / 4 hours - 6 hours or 7 days / RT

## Processing recommendations

Since Lapox ARC-30 contains inorganic fillers of higher density, there are possibility of filler to settle down upon storage. It is always recommended to stir the product thoroughly before use by mild heating before blending with hardener. After ensuring homogeneity of resin, add recommended amount of hardener Lapox AH-714 directly into it. Mixing should be done slowly to avoid entrapping air. Usually resin and hardener are mixed in small lots to avoid thickening which may interfere with penetration into intricate parts. The process of mixing and pouring into the mould must be completed rapidly to avoid thickening or pre-gelling of the resin mix. Pour air free mix into mildly preheated mould. It is a good practice to apply vacuum before castings and allow them to gel at room temperature before curing at elevated temperatures. A good release agent must be applied thinly on the surface of the mould to ensure smooth surface finish and effortless de-moulding. Lapox K-28 is recommended as a good resale agent from Lapox range of product.

## Typical properties of filled cured system

Composition: Lapox ARC-30 (100) + Lapox AH-714 (25)  
Curing schedule: 16 hours / RT + 4 hours / 80°C  
Determined on standard test specimen at 25°C

Properties	Unit	Test method	Values
Cured density	g/cm <sup>3</sup>	DIN 55990	1.55 ± 0.1
Hardness	Shore D	-	85 ± 10
Tensile strength	m Pa	ISO 527	20 - 30
Flexural strength	m Pa	ISO 178	40 - 50
Compressive strength	m Pa	ISO 604	80 - 95
Impact strength	kJ/m <sup>2</sup>	ISO 179	8 - 12
HDT	°C	ISO 75 - 2	45 - 55
Glass transition temperature (DSC)	°C	ISO 11357 - 2	55 - 65
Thermal conductivity	W/mk	ISO 8894 - 1	0.45 - 0.55
Water absorption 25°C / 10 days	% w/w	IEC 60062	Max 0.5

## Typical electrical properties of filled cured system

Cured at 16 hours / RT + 4 hours / 80°C

Properties	Unit	Test method	Values
Breakdown strength (50 Hz, 25°C)	kV/mm	IEC 60243	17 - 19
Loss factor (50 Hz, 25°C)	%	IEC 60250	2 - 3
Volume resistivity at 1,000 V, 25°C	ohm.cm	IEC 60093 / DIN 53482	10 <sup>15</sup>
Arc resistance	Seconds	IEC 61621 / ASTM D495	> 180
Tracking resistance	V	IEC 60112	> 600

## Packaging

Lapox ARC-30 is available in 25 kg MS drums. Lapox AH-714 is available in 30 kg carboys and 200 kg MS drums. Other packing may be considered on request.

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## Storage and handling

Lapox ARC-30 and Lapox AH-714 should be stored in a cool and dry place, preferably in an original sealed container and should not be exposed to direct sunlight. Resin Lapox ARC-30 should be stored between 15°C to 25°C and hardener can be stored at room temperature, away from humidity and excessive heat. Under these conditions, the shelf-life will correspond to the time stated in respective table in current TDS. Partly used containers should be closed immediately after use.

In resin, there are possibilities of filler to settle down upon storage. It is always recommended to stir the product thoroughly before use. Slightly raising the resin temperature to 60°C will help in easy mixing. 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<sup>®</sup> is a registered trademark of Atul Ltd.

## Manufacturing site

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