

LAPOX[®] L-552 | K-552

Technical Data Sheet | Polymers Business



Ambient cure high Tg epoxy system

Lapox L-552	100	pbw
Lapox K-552	34	pbw

Description

Lapox L-552 is a low viscosity, solvent-free epoxy laminating resin system which is recommended for processing with glass, aramid and carbon fiber. Lapox K-552 is a low viscosity, ambient temperature curable amine hardener. Glass fiber reinforced composites based on this matrix resin system possess excellent static and dynamic mechanical strength.

Applications

FRP components for dynamic conditions
High performance composites at elevated temperature: air crafts, vehicles, Boats, etc.
Sports equipment
Tools

Processing

Filament Winding
Press moulding
Pultrusion
Resin Infusion (RI)
Resin transfer moulding (RTM)
Wet lay-up

Typical specifications

Lapox L-552

Properties	Unit	Test method	Values
Appearance	-	Visual	Clear, yellowish liquid
Colour	GS	ASTM D1544	Max 4
Viscosity at 25°C	m Pas	ASTM D2196	1,000 - 1,500
Epoxy content	Eq/kg	ASTM D1652	6.65 - 6.85
Specific gravity at 25°C	-	ASTM D792	1.15 - 1.2

Lapox K-552

Properties	Unit	Test method	Values
Appearance	-	Visual	Clear, yellowish liquid
Colour	GS	ASTM D1544	Max 4
Viscosity at 25°C	m Pas	ASTM D2196	50 - 100
Amine value	-	ASTM D2073	9.6 - 9.8
Specific gravity at 25°C	-	ASTM D792	0.9 - 1.0
Shelf-life	Years	-	2

Processing properties

Properties	Unit	Test method	Values
Mixing ratio (by weight)	-	Visual	Resin: 100 Hardener: 38
Initial mix viscosity	m Pas	ASTM D2196	600 - 700 / 25°C
Pot life at 25°C	Minutes	ASTM D2471	110 - 160
Curing schedule	°C / hours	-	RT / 16 hours + 80°C / 8 hours

Typical properties of neat cured system

Composition:
Curing schedule: RT / 16 hours + 80°C / 8 hours
Determined on standard test specimen at 25°C

Properties	Unit	Test method	Values
Tensile strength	m Pa	ISO 527	75 - 85
Elongation at break	%	ISO 527	3 - 6
Elastic modulus in tension	g Pa	ISO 527	3.0 - 3.2
Flexural strength	m Pa	ISO 178	115 - 130
Flexural elongation at break	%	ISO 178	6 - 10
Elastic modulus in flexural	g Pa	ISO 178	2.7 - 3.2
Glass transition temperature (DSC)	°C	ISO 11357 - 2	115 - 130
Co-efficient of linear thermal expansion (Mean value for temperature range 20°C - 60°C)	K ⁻¹	DIN 53752	71 X 10 ⁻⁶
Water absorption 25°C / 24 hours	% w/w	ISO 62	Max 0.5

Typical properties of cured, reinforced system

Cured at:

Properties	Unit	Test method	Values
Tensile strength	m Pa	ISO 527 - 2	360 - 390
Tensile elongation at break	%	ISO 527 - 2	1.5 - 2.0
Tensile modulus	g Pa	ISO 527 - 2	33 - 39
Flexural strength	m Pa	ISO 14125	400 - 490
Flexural elongation at break	%	ISO 14125	2.7 - 3.2
Flexural modulus	g Pa	ISO 14125	20 - 21

Packaging

Lapox L-552 is available in 30 kg, 110 kg and 240 kg carboys. Lapox K-552 is available in 1 kg HDPE bottles. Other packing may be considered on request.

Storage and handling

Lapox L-552 and hardener Lapox K-552 has a shelf-life of at least 2 years if stored in its original container away from humidity and excessive heat. 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.

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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	E-mail: polymers@atul.co.in Website: www.atul.co.in
Note	Lapox [®] is a registered trademark of Atul Ltd.

Manufacturing site

Atul 396 020, Gujarat, India

Telephone: (+91 2632) 230000 | 233261

E-mail: contact@atul.co.in

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