

Description Lapox ARTF-39 is a modified multifunctional, low viscosity resin. This resin is designed for high temperature performance composites with high glass transition temperatures and excellent retention of mechanical and thermal properties, when cured with 4,4'-DDS and 3,3'-DDS.

Advantages

- Excellent modulus even at high temperature
- High glass transition temperature
- High retention of mechanical strength at elevated temperature
- Low viscosity for better processing
- Outstanding heat and chemical resistance

Applications

- Advanced (carbon and boron fiber) composite structure
- Chemical resistance coatings and linings
- Electrical castings
- Filament windings
- Heat resistance tooling and casting
- High performance structural adhesives
- High radiation resistance components
- Laminates and Composites

Typical specifications

Properties	Unit	Test method	Values
Appearance	-	Visual	Yellowish-brown liquid
Colour	GS	ASTM D1544	Max 10
Epoxy value	Eq/kg	ASTM D1652	7.0 - 8.0
Epoxy equivalent weight (EEW)	g/eq	ASTM D1652	125 - 143
Viscosity at 50°C	m Pas	ASTM D2196	2,500 - 4,000
Hydrolysable chlorine	%	ASTM D1726	Max 0.1

Performance property data

Properties	Unit	Values
Mixing ratio with 4,4'-DDS	phr	100:49
Gel time at 150°C	Minutes	44.5
Tg ¹	°C	> 260
Weight loss by TGA (5%) ¹	°C	348
Weight loss by TGA (10%) ¹	°C	368
Flexural stress at yield ¹	MPA	81.76
Modulus ¹	GPA	3.7

¹Cure schedule with 4,4'-DDS : 90°C (1 hour) + 120°C (1 hour) + 160°C (2 hours) + 210°C (3 hours)

Packaging Lapox ARTF-39 is available in 200 kg MS drums. Other packing may be considered on request.

Storage and handling	Lapox ARTF-39 must be stored between 2°C and 8°C in a sealed container. Storage at higher temperature may adversely impact its properties. This resin is highly reactive and hence has a tendency to increase viscosity if stored for longer time at high temperature than recommended. Never store in direct sunlight, warm areas, particularly near heat sources. Shelf life of this product is 1 year from the date of manufacturing, if it is stored between 2°C and 8°C. The recommended pumping temperature is between 50°C and 60°C. 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.
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Note	Lapox [®] is a registered trademark of Atul Ltd.

Manufacturing site

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