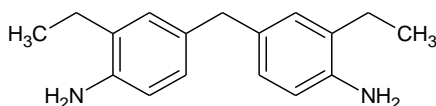


Description

Lapox K-450 is a chemically 3,3'-diethyl; 4,4'-diamino diphenyl methane and it is available in form of viscous liquid. It has tendency to crystallise upon storage which can be melted by heating at 70°C to 80°C. When it is used with basic liquid resin (EEW: 190), it provides excellent combination of mechanical, electrical and thermal properties. Appropriately cured mass of epoxy resin is able to provide glass transition temperature 140°C.

Chemical structure



Advantages

Excellent electrical insulation and chemical resistance
High glass transition temperature
Long pot life and extended working time

Applications

Components for high chemical resistance
Electrical components
General engineering components
Structural composites components

Processing

Castings, potting and encapsulation
Filament winding and pultrusion
Wet layup and lamination

Typical specifications

Properties	Unit	Test method	Values
Appearance	-	Visual	Dark-brown liquid
Amine value	mg KOH/g	ASTM D2073	430 - 450
Viscosity at 40°C	m Pas	ASTM D2196	250 - 400
Water content	%	ASTM D1364	Max 0.2
Assay	%	GC	Min 97
Marten's value (in air) ¹	°C	ISO R 75	Min 120
O-ethyl aniline content	%	GC	Max 0.5
AHEW	g/eq	-	65
Recommended ratio	w/w	-	34

¹Mixing ratio with Lapox L-12 (EEW 190): Lapox K-450 is 100:34 w/w. Post cure 80°C/3 hours and 150°C/4 hours

Process properties

Properties ²	Unit	Test method	Values
Gel time at 80°C	Minutes	DIN 16945	170 - 190
Gel time at 100°C	Minutes	DIN 16945	50 - 70
Gel time at 120°C	Minutes	DIN 16945	25 - 35

²Gel time of 12 g mix in thermostatically controlled gel timer. Mixing ratio of Lapox L-12: Lapox K-450 is 100:34 w/w

Mechanical properties of cured specimen

Properties ³	Unit	Test method	Values
Tensile strength	MPa	ISO 527-2	70
Tensile modulus	MPa	ISO 527-2	3,000
Flexural strength	MPa	ISO 178	140
Flexural modulus	MPa	ISO 178	1,300
Impact strength (Charpy)	KJ/m ²	ISO 179	35

³Post cure schedule: 80°C/3 hours and 150°C/4 hours

Thermal properties of cured specimen

Properties ³	Unit	Test method	Values
Glass transition temperature	°C	DSC	Min 140
Heat deflection temperature	°C	ISO 75 - 2	Min 125

³Post cure schedule: 80°C/3 hours and 150°C/4 hours

Electrical properties of cured specimen

³ Frequency	Test method	Values
50 Hz	3.7	2.07
500 Hz	3.7	2.2
100 kHz	3.7	2.4
500 kHz	3.4	3.0
1 MHz	3.4	3.2

³Post cure schedule: 80°C/3 hours and 150°C/4 hours

Packaging

Lapox K-450 is available in 200 kg MS | HDPE drums and 1,000 kg IBC. Other packing may be considered on request.

Storage and handling

Lapox K-450 should be stored in a cool and dry place, preferably in a sealed container and should not be exposed to direct sunlight. This product has a shelf-life of 2 years, if stored in its original container between 18°C and 25°C away from humidity and excessive heat. 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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LAPOX[®] K-450

Technical Data Sheet | Polymers Business



Note

Lapox[®] is a registered trademark of Atul Ltd.

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