

Heat cure adhesive system

Description

Lapox A-35 and Lapox K-35 is two component modified, low viscosity heat cure epoxy adhesive system. When both components are mixed in recommended ratio and cured appropriately, excellent bond strength can be achieved with most of the substrates including outstanding mechanical strength even at temperature up to 120°C.

Applications

Impregnation of paper, glass or textile cloth for gap filling application
Metal stamping for transformer, rotor or stator stacks

Advantages

Heat Resistance
High bond strength
High mechanical strength even in dynamic conditions
Long working Time
Water and chemical resistant

Typical specifications

Test	Unit	Reference	Value	
			Resin	Hardener
Description	-	Visual	Pale-yellow, clear liquid	Clear, colourless liquid
Viscosity at 25°C ¹	m Pas	ASTM D2196	2,400 - 3,600	Very low
Colour	GS	ASTM D1544	Max 3	Max 1
Solid Content	%	ASTM D1489	75 - 79	12 - 13

¹Viscosity by Brookfield viscometer

Mix specifications

Test	Unit	Reference	Value
Mixing ratio (resin : hardener)	w/w	-	100 : 30
Mix viscosity at 25°C	m Pas	ASTM D2196	400 - 600
Pot life ¹	Minutes	ASTM D2471	> 1 month
Curing Schedule	-	-	120°C / 24 hours 140°C / 5 hours 160°C / 2 hours 180°C / 1 hours

¹Pot life of 100 g mix mass at 25 ± 1°C in plastic disposable cup by 'Gardco' gel timer

After cure specifications

Test	Unit	Reference	Value
Lap shear strength at 25°C ¹	kg/mm ²	ASTM D1002	2.8 - 3.3
Lap shear strength at 100°C ¹	kg/mm ²	ASTM D1002	2.0 - 2.5
Lap shear strength at 120°C ¹	kg/mm ²	ASTM D1002	0.7 - 0.95
Liner coefficient of expansion	K ⁻¹	DIN 53752	60 x 10 ⁻⁶ /°C
Max operating temperature of cured adhesive	°C	-	120
Water and chemical resistance	-	-	Very good

¹Lap shear strength on prepared aluminum strips after 24 hours curing

Processing

Surface preparation: The adherents must be thoroughly degreased with a good degreasing solvent (e.g. toluene, acetone trichloroethylene) and abraded with coarse emery paper or chemically etched. Inadequately pre-treated substrates may not bond satisfactorily. For special treatments, please refer to the specific Instruction sheet on this subject or to IS13199:191 "Adhesives-Guidelines for surface preparation for adhesive bonding"

Application: The mixed mass can be applied by brush, roller, spray gun or dipping. Metal stamping for transformer, rotor or stator stacks can be dipped and pre-dried in air before assembly. Likewise, paper, glass or textile cloth can be impregnated with the adhesive, pre-dried and subsequently used to bond various substrates, thus providing gap filling properties.

The pre-drying conditions are as follows:

25°C : At least 3 hours

50°C : 1 hour

Curing: The assembled joints must be cured in a thermostatically controlled oven, using one of the following cure schedules:

Temperature	Curing Time
120°C	24 hours
140°C	5 hours
160°C	2 hours
180°C	1 hour

Packaging

Lapox A-35 is available in 1 kg bottles, 25 kg and 50 kg carboys. Lapox K-35 is available in 0.3 kg bottles, 15 kg and 25 kg carboys. Other packing may be considered on request.

Storage and handling

Lapox A-35 and Lapox K-35 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 two years, if stored in its original container between 2°C and 40°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, it 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.

LAPOX[®] A-35 | K-35

(New Code ARA-16 | AH-322)

Technical Data Sheet | Polymers Business



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