

## Ambient cure high viscous adhesive system

### Description

Lapox A-31 and Lapox K-31 is two component modified, viscous epoxy adhesive system. When both components are mixed in recommended ratio and cured appropriately at room temperature, excellent bond strength can be achieved with most of the substrates including metals, ceramic, leather, vulcanized rubber, gem stone, plastics, wood, concrete and thermoset plastics. Faster productivity can be achieved if curing is performed at higher temperature, i.e. 40°C to 60°C. Curing at higher temperature is recommended to achieve optimum bond strength.

### Applications

Artificial jewellery and jewel stone fixing  
Automobile components  
Ceramic works  
Construction  
General engineering components  
Sports goods

### Advantages

Adequate working time  
Good electrical insulation properties  
High bond strength  
High mechanical strength even in dynamic conditions  
Water and chemical resistant

### Typical specifications

Test	Unit	Reference	Value	
			Resin	Hardener
Description	-	Visual	Off-white, opaque, viscous liquid	Clear, yellowish to brownish, viscous liquid
Viscosity at 25°C <sup>1</sup>	m Pas	ASTM D2196	25,000 - 45,000	25,000 - 40,000
Colour	GS	ASTM D1544	-	Max 8
Density	g/cc	ASTM D792	1.06 - 1.18	0.92 - 0.98

<sup>1</sup>Viscosity by Brookfield viscometer

### Mix specifications

Test	Unit	Reference	Value
Mixing ratio (resin : hardener)	w/w	-	100 : 80
Mix viscosity at 25°C	m Pas	ASTM D2196	30,000 - 35,000
Pot life <sup>1</sup>	Minutes	ASTM D2471	75 - 90
Peak exotherm temperature <sup>2</sup>	°C	ASTM D2471	Max 60
Surface dry <sup>3</sup>	Minutes	ASTM D5895	120 - 140
Touch dry <sup>3</sup>	Minutes	ASTM D5895	300 - 320
Hard dry <sup>3</sup>	Minutes	ASTM D5895	520 - 540
Curing Schedule	-	-	40°C / 4 to 6 hours 65°C / 45 to 60 minutes 100°C / 15 minutes

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

<sup>2</sup>Total 100 g mix mass in plastic disposable cup at 25°C

<sup>3</sup>Drying time of 200 micron film on glass plate at 25°C

# LAPOX<sup>®</sup> A-31 | K-31

(New Code ARA-13 | AH-717)

Technical Data Sheet | Polymers Business



After cure specifications	Test	Unit	Reference	Value
	Lap shear strength at 25°C <sup>1</sup>	kg/cm <sup>2</sup>	ASTM D1002	Min 120
	Coefficient of linear expansion	°C	DIN-53752	(50 - 60) 10 <sup>-6</sup>
	Modulus of elasticity E	kg/cm <sup>2</sup>	ISO / R 527	7 x 10 <sup>6</sup>
	Temperature withstand ability of joint	°C	-	-60°C to 60°C

<sup>1</sup>Lap 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 is applied by brush or spatula on the surface to be adhered. The two components are then assembled in a suitable jig or fixture to have contact pressure till the adhesive sets. The mix must be used within its pot-life.

**Curing:** Curing normally takes place at room temperature within about 24 hours depending on the ambient temperature but may be accelerated by the application of heat.

## Packaging

Lapox A-31 and Lapox K-31 are available in 1.8 kg bottles, 9 kg, 45 kg and 90 kg HDPE carboys.

## Storage and handling

Lapox A-31 and K-31 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

E-mail: [polymers@atul.co.in](mailto:polymers@atul.co.in)  
Website: [www.atul.co.in](http://www.atul.co.in)

## Note

Lapox<sup>®</sup> 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](mailto:contact@atul.co.in)

Disclaimer: The information contained herein is for information purposes only. While enough care is taken in disclosing the information, users of this information are advised to cross-check the same depending upon use | application. Atul Ltd does not give any assurance or warranty or guarantee in regard to the accuracy or completeness of the information and no claim or liability will be accepted or entertained in regard thereto. Atul Ltd makes no warranty of any kind, expressed or implied, including, but not limited to, any implied warranty of merchantability or fitness for a particular purpose or performance or usage of trade.