

**Ambient cure high viscous adhesive system**

**Description** Lapox A-38 and Lapox K-99 is two component modified 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 similar and dissimilar substrates. Joints made with this adhesive system is able to provide high adhesion strength and are resistant to moisture and mild chemicals. The appropriately prepared joints perform well even at temperature as high as 120°C.

**Applications** Adhesive suitable for similar and dissimilar substrates including metals and FRP

**Advantages**  
 Ambient curing  
 High bond strength  
 High electrical insulation properties  
 Temperature resistant to 120°C  
 Thixotropic  
 Water and chemical resistant

**Typical specifications**

Test	Unit	Reference	Value	
			Resin	Hardener
Description	-	Visual	Beige paste	Off-white paste
Viscosity at 25°C <sup>1</sup>	m Pas	ASTM D2196	50,000 - 90,000	50,000 - 1,00,000
Density	g/cc	ASTM D792	1.65 - 1.75	1.65 - 1.75
Flash Point	°C	-	110	> 104

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

**Mix specifications**

Test	Unit	Reference	Value
Mixing ratio (resin : hardener)	w/w	-	100 : 40
Mix viscosity at 25°C	m Pas	ASTM D2196	60,000 - 90,000
Pot life <sup>1</sup>	Minutes	ASTM D2471	60 - 110
Curing schedule	-	-	24 to 28 hours at RT

<sup>1</sup>Pot 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 <sup>1</sup>	kg/cm <sup>2</sup>	ASTM D1002	Min 120
Hardness <sup>2</sup>	Shore D	ISO/R868	Min 80
Tensile Strength <sup>3</sup>	M Pa	ASTM D638	Min 40
Tensile Modulus <sup>3</sup>	M Pa	ASTM D638	Min 4500
Coefficient of thermal expansion <sup>3</sup> (18°C to 93°C)	in/in/°C	ASTM E831	1.9 x 10 <sup>-6</sup>
Dielectric Strength	KV/mm	IEC 60243	Min 20

<sup>1</sup>Lap shear strength on prepared aluminum strips after 24 hours curing

<sup>2</sup>Hardness checked after 24 hours at 25°C

<sup>3</sup>Checked at 25°C after curing for 16 hours at 40°C

## 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-38 is available in 25 kg and 50 kg HDPE carboys. Lapox K-99 is available in 5 kg, 20 kg and 30 kg HDPE carboys. Other packing may be considered on request.

## Storage and handling

Lapox A-38 and Lapox K-99 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 one year, if stored in its original container between 2°C and 40°C away from humidity and excessive heat. Hardener Lapox K-99 is sensitive to moisture; hence proper care must be taken to avoid its exposure to humidity and moisture. 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.