

## Ambient cure high viscous adhesive system

### Description

Lapox Gem 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 glass, metals, reactive plastics, wood, textile, and natural stones. Faster productivity can be achieved if curing is performed at higher temperature between 40°C and 60°C. Curing at higher temperature is recommended to achieve optimum bond strength.

### Applications

Artificial jewellery and jewel stone fixing  
Ceramic works  
Construction  
General engineering components  
Souvenirs and handicrafts

### Advantages

Faster reactivity  
High bond strength  
Water and chemical resistant  
High mechanical strength even in dynamic conditions  
Thermally stable and suitable to perform in extreme conditions

### 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	50,000 - 65,000	28,000 - 40,000
Colour	GS	ASTM D1544	-	Max 8
Density	g/cc	ASTM D792	1.10 - 1.20	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	45,000 - 55,000
Pot life <sup>1</sup>	Minutes	ASTM D2471	40 - 55
Peak exotherm temperature <sup>2</sup>	°C	ASTM D2471	Max 80
Surface dry*	Minutes	ASTM D5895	120 - 140
Touch dry*	Minutes	ASTM D5895	270 - 300
Hard dry*	Minutes	ASTM D5895	400 - 450

<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

\*Drying time of 200 micron film on glass plate at 25°C

### After cure specifications

Test	Unit	Reference	Value
Lap shear strength at 25°C	kg/cm <sup>2</sup>	ASTM D1002	Min 130

<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.

**Application:** The mixed mass is applied by brush or spatula on the surface to be adhered. 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.

<b>Packaging</b>	Lapox Gem is available in 1.8 kg bottles and 9 kg, 45 kg and 90 kg HDPE carboys.
<b>Storage and handling</b>	Lapox Gem 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.
<b>Safety</b>	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 Safety Data Sheet (SDS) of Lapox Gem for detailed safety instructions.
<b>Spills and disposal</b>	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.
<b>Contact</b>	E-mail: <a href="mailto:support_polymers@atul.co.in">support_polymers@atul.co.in</a> Website: <a href="http://www.atul.co.in">www.atul.co.in</a>
<b>Note</b>	Lapox <sup>®</sup> is a registered trademark of Atul Ltd.