

Chemical resistance epoxy system

Description

Lapox ARP-N-54 is a modified epoxy phenol novolac resin with moderate viscosity. Lapox K-42 is an accelerated version of Lapox K-41. This can be used with Lapox K-41 or alone depending upon pot life requirements. When resin and hardeners are used in appropriate ratio, it provides excellent chemical resistance and mechanical strength. Reactivity or pot life of the mix can be adjusted by mixing proportions of Lapox K-41 and Lapox K-42. Appropriately cured mass of this system is able to provide glass transition temperature up to 100°C.

Applications

Chemical resistance coatings and floorings
Chemical resistance tank linings

Advantages

Adjustable pot life
Excellent chemical and thermal resistance
High mechanical strength
Solvent free

Typical specifications

Test	Unit	Reference	Values		
			Lapox ARP-N-54	Lapox K-41	Lapox K-42
Description	-	Visual	Clear, viscous liquid	Brown-yellow liquid	Dark-brown liquid
Colour	GS	ASTM D1544	Max 3	Max 13	Max 16
Viscosity at 25°C ¹	m Pas	ASTM D2196	25,000 - 35,000	3,800 - 5,800	15,000 - 21,000
Epoxy value	Eq/kg	ASTM D1652	5.5 - 6.0	-	-
Amine value	Eq/kg	ASTM D2073	-	4.7 - 5.1	4.4 - 4.8

¹ Viscosity by Brookfield viscometer

Mix specifications

Test	Unit	Reference	System-1	System-2	System-3
Lapox ARP-N-54	pbw	-	100	100	100
Lapox K-41	pbw	-	50	45	33
Lapox K-42	pbw	-	15	20	32
Mixing ratio	w/w	-	100:65	100:65	100:65
Mix viscosity ¹	m Pas	ASTM D2196	8,000 -10,000	15,000 -18,000	20,000 - 25,000
Pot life ²	Minutes	ASTM D2471	60 - 75	40 - 45	25 - 30

¹Viscosity by Brookfield viscometer at 30 ± 1°C

²Pot life of 100 g mix mass at 25 ± 1°C in plastic disposable cup by 'Gardco' gel timer

Chemical resistance of coated specimen¹

Reagents	Conclusion	Remark
Sulfuric acid, 98%	Failure	
Sulfuric acid, 50%	Resistant	Discolouration may occur
Sulfuric acid, 25%	Resistant	Discolouration may occur
Phosphoric acid, 80%	Resistant	Discolouration may occur
Phosphoric acid, 50%	Resistant	Discolouration may occur
Hydrochloric acid, 35%	Resistant	
Hydrochloric acid, 25%	Resistant	
Acetic acid, 25%	Resistant	
Acetic acid, 10%	Resistant	
Toluene	Resistant	
Mix xylene	Resistant	
Methyl ethyl ketone	Resistant up to 7 days	
Methanol	Resistant up to 7 days	

¹Chemical resistance as per ASTM D 543 of specimen cured at 25°C for 7 days. Chemical resistant data with 60 days immersion in selected reagents were presented in above table.

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 coat by brush, roller or spray. The mix must be used within its pot life. Mix mass should be poured into flat or open trays to maximise working time.

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 ARPAN-54, Lapox K-41 and Lapox K-42 are available in 200 kg carboys. Other packing may be considered on request.

Storage and handling

Lapox ARPAN-54, Lapox K-41 and Lapox K-42 should be stored in a cool and dry place, preferably in a sealed container and should not be exposed to direct sunlight. Lapox ARPAN-54 has a shelf-life of 2 years while Lapox K-41 and Lapox K-42 has a shelf-life of 1 year, 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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LAPOX[®] ARPN-54 | K-41 | K-42

Technical Data Sheet | Polymers Business



Note

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

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