LAPOX® ARPN-54 | AH-351

Technical Data Sheet | Polymers Business

Chemical resistance epoxy system

Description

Lapox ARPN-54 is a modified epoxy phenol novolac resin with high viscosity. Lapox AH-351 is a modified aliphatic amine hardener. When resin and hardeners are used in appropriate ratio, provides excellent chemical resistance and good mechanical properties. This system can be used for ambient as well as elevated temperature cure. The perfectly cured system will provide resistance to strong acids, alkali, alcohols and hydrocarbon solvents.

Advantages

Excellent chemical and thermal resistance
Fast setting properties
High mechanical strength
Solvent free

Applications

Chemical resistance and tank linings

Typical specifications

Test	Unit	Reference	Value	
			Lapox ARPN-54	Lapox AH-351
Description	-	Visual	Clear, viscous liquid	Clear-yellow liquid
Colour	GS	ASTM D1544	Max 3	Max 4
Viscosity at 25°C[1]	m Pas	ASTM D2196	25,000 - 35,000	500 - 1,000
Epoxy value	Eq/kg	ASTM D 1652	5.5 - 6.0	-
Amine value	mg KOH/g	ASTM D 2073	-	650 - 750

[1]Viscosity by Brookfield viscometer

Mix specifications

Test	Unit	Reference	System-1
Resin	By weight	-	100
Curing agent	By weight	-	30
Mixing ratio	By weight	-	100:30
Mix viscosity[1]	m Pas	ASTM D2196	10,000 - 15,000
Pot life[2]	Minutes	ASTM D2471	30 - 35

[1]Viscosity by Brookfield viscometer at 30 ± 1°C
[2]Pot life of 100 g mix mass at 25 ± 1°C in plastic disposable cup by 'Gardco' gel timer

Chemical resistance of coated specimen[1]

Reagents	Conclusion	Remark
Sulfuric acid, 98%	Resistant	Discolouration may occur
Sulfuric acid, 50%	Resistant	Discolouration may occur
Sulfuric acid, 25%	Resistant	
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	

[1]Chemical 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 maximize 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 ARPN-54 and Lapox AH-351 are available in 200 kg carboy. Other packing may be considered on request.

Storage and handling

Lapox ARPN-54 and Lapox AH-351 should be stored in a cool and dry place, preferably in a sealed container and should not be exposed to direct sunlight. Lapox ARPN-54 has shelf-life of at least two years while Lapox AH-351 has shelf-life of one 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.

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Note

Lapox® is a registered trademark of Atul Ltd.

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