LAPOX® B-47 | K-48

Technical Data Sheet | Polymers Business

Ambient cure, crack filling system for concrete repair

Description

Lapox B-47 is a reactive diluent modified liquid epoxy resin based on bisphenol A. Lapox K-48 is modified aliphatic amine curing agent. When resin and hardeners are used in appropriate ratio, it provides excellent adhesion, low shrinkage, high mechanical properties and quick setting time. This system commonly employed for civil engineering applications where low viscosity and fast setting at ambient temperature is desired.

Advantages

Faster setting time
Low mix viscosity
Solvent free

Applications

Adhesive
Gel coats
Mortar and mastics
Stone processing (crack filling and repair)

Typical specifications

Test	Unit	Reference	Value	
			Resin	Hardener
Description	-	Visual	Clear liquid	Clear yellow liquid
Colour	GS	ASTM D1544	Max 1	Max 4
Viscosity at 25°C[1]	m Pas	ASTM D2196	450 - 650	200 - 300
Epoxy value	Eq/kg	ASTM D1652	5.20 - 5.50	-
Amine value	Eq/kg	ASTM D2073	-	17.0 - 17.8
Density	g/cc	ASTM D792	1.15 - 1.17	1.08 - 1.12

[1]Viscosity by Brookfield viscometer

Mix specifications

Test	Unit	Reference	Value
Mixing ratio (resin : hardener)	By weight	-	100:18
Mix viscosity[1]	m Pas	ASTM D2196	300 - 500
Pot life[2]	Minutes	ASTM D2471	25 - 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

Processing

Mixing: Mixing is critical and must be accurate. Take resin and hardener in desired ratio. The combined liquids must be thoroughly mixed, manually or mechanically to homogeneous consistency. Scrap the sides and base of the mixing pot before transferring the mix. It is important to mix small quantity at a time as epoxy systems tend to give exotherm and faster reactivity.

Applications: After through mixing of resin and hardener, the mix mass applied by brush on the substrate. Appropriately bonded joints need to cure for 24 hours at room temperature. Excessive humidity (above ~65%), low daylight and low temperature (less than 20°C) may retard the curing

Troubleshooting

Problem	Cause
Uncured after 24 hours to 48 hours	Wrong mix ratio and	or low ambient temperature
Sticky	greasy	hazy surface	High humidity
Air bubbles are entrapped	Mixing was too fast and did not have time to release air

Application procedure for Crack filling and Repairs

Ensure concrete surface is dry, clean and free from oil, grease and other contaminants
Remove loose particles and dust by Wire Brush or any suitable mechanical tools
Prepare mixer as per below:
Lapox B-17 : 50
Lapox K-48 : 09
Silica floor : 100

Mix all ingredients thoroughly with trowel to achieve homogeneous consistency. Pour the mixer into crack/pot hole
If cracks are minor (< 2 mm) and concrete has not lost its integrity, then sealing of cracks can be done by means of gravity method
If cracks are in the magnitude of >2mm width, then crack must be open by making 'V' grove and through cleaning by compressed air to remove dirt. Mix Resin and Hardener thoroughly followed by addition of quartz sand to achieve homogeneous consistency. Pour the mixer into cracks
Allow to cure for minimum 24 hrs. for optimum results

Packaging

Lapox B-47 and Lapox K-48 are available in 200 kg carboy. Other packing may be considered on request.

Storage and handling

Lapox B-47 and Lapox K-48 should be stored in a cool and dry place, preferably in a sealed container and should not be exposed to direct sunlight. Lapox B-47 has shelf-life of at least two years while Lapox K-48 has shelf-life of one year, if stored in its original container between 2°C and 30°C away from humidity and excessive heat.

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 Safety Data Sheet (SDS) of Lapox B-47 and K-48 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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Note

Lapox® is a registered trademark of Atul Ltd.

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