

Ambient cure crack filling system to repair concrete structure

Description

Lapox B-11 is unmodified epoxy resin based on bisphenol-A. Lapox K-48 is modified aliphatic curing agent. When resin and hardeners are used in appropriate ratio, this provides excellent chemical resistance and mechanical strength. This system commonly employed for crack filling to concrete structure. Various mineral fillers like chalk powder or silica floor can be added to get non-flowable consistency for crack filling on vertical surfaces.

Advantages

Faster setting time
 Good adhesion to concrete
 Solvent free
 Very low shrinkage

Applications

Adhesive
 Crack filling and repair

Typical specifications

Test	Unit	Reference	Value	
			Resin	Hardener
Description	-	Visual	Clear viscous liquid	Clear yellow liquid
Colour	GS	ASTM D1544	Max 1	Max 4
Viscosity at 25°C ¹	m Pas	ASTM D2196	11,000 - 15,000	200 - 300
Epoxy value	Eq/kg	ASTM D1652	5.25 - 5.45	-
Amine value	Eq/kg	ASTM D2073	-	17.0 - 17.8
Density	g/cc	ASTM D792	1.15 - 1.17	1.08 - 1.12

¹Viscosity by Brookfield viscometer

Mix specifications

Test	Unit	Reference	Value
Mixing ratio (resin : hardener)	By weight	-	100 : 18
Mix viscosity at 25°C	m Pas	ASTM D2196	5,000 - 7,000
Specific gravity (mix mass)	-	ISO 1138	1.13 - 1.15
Pot life at 25°C ¹	Minutes	ASTM D2471	20 - 30

¹Pot 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
Hardness ¹	Shore D	ISO 868	Min 75
Water absorption (24 hours immersion)	%	ISO 62	Max 0.5

¹Hardness checked for 20 mm casting, after 24 hours curing at 25°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.

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.

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-11 : 50

Lapox K-48 : 09

Silica floor : 150

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' groove 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 hours for optimum results

Packaging

Lapox B-11 and Lapox K-48 is available in 200 kg carboy. Other packing may be considered on request.

Storage and handling

Lapox B-11 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-11 has shelf-life of at least two years and Lapox K-48 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.

Contact

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Note

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

LAPOX[®] B-11 | K-48

Technical Data Sheet | Polymers Business



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