

Ambient cure low viscous epoxy flooring system for glossy finish

Description Lapox B-47 is reactive diluent modified epoxy resin based on bisphenol-A. Lapox AH-416 is clear transparent, low viscosity modified cycloaliphatic amine curing agent. When both components are mixed in recommended ratio, provides high gloss films that are resistant to various chemicals. Low mix viscosity of system permits high filler loading and exhibit outstanding mechanical and chemical resistance properties.

Advantages

- Excellent glossy finish
- Good chemical resistance
- Good resistance to amine blush
- Light colour
- Low mix viscosity

Applications

- Clear coatings
- Decorative floor coatings
- Laminations
- Maintenance coatings

Typical specifications

Test	Unit	Reference	Value	
			Resin	Hardener
Description	-	Visual	Clear liquid	Clear liquid
Colour	GS	ASTM D1544	Max 1	Max 1
Viscosity at 25°C ¹	m Pas	ASTM D2196	450 - 650	400 - 800
Epoxy value	Eq/kg	ASTM D1652	5.2 - 5.50	-
Amine value	Eq/kg	ASTM D2073	-	250 - 300
Density	g/cc	ASTM D792	1.15 - 1.17	0.97 - 0.99

¹Viscosity by Brookfield viscometer

Mix specifications

Test	Unit	Reference	Value
Mixing ratio (resin : hardener)	By weight	-	100 : 60
Mix viscosity at 25°C	m Pas	ASTM D2196	400 - 600
Specific gravity (mix mass)	-	ISO 1183	1.08 - 1.10
Pot life at 25°C ¹	Minutes	ASTM D2471	50 - 60
Peak exotherm temperature ²	°C	ASTM D2471	Max 140
Surface dry ³	Minutes	ASTM D5895	100 - 120
Touch dry ³	Minutes	ASTM D5895	300 - 320

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

²Total 100 g mix mass at 25± 1°C in plastic disposable cup by Temperature data logger

³Drying time of 200 micron film on glass plate at 25± 1°C

After cure specifications

Test	Unit	Reference	Value
Hardness ¹	Shore D	ISO 868	Min 60
Water absorption (24 hours immersion)	%	ISO 62	Max 0.5
Optical clarity	-	Visual	Excellent

¹Hardness checked for 20 mm casting, after 24 hours curing

Recommended formulation for self-leveling floor

Component	Unit	Self-leveling
Resin Lapox B-47	Parts by weight	100
Hardener Lapox AH-416	Parts by weight	60
Defoamer K - 210	Parts by weight	0.5 - 1.0
Quartz sand 300 μ	Parts by weight	200 - 250
Silica floor, 300 mesh	Parts by weight	140 - 160
Specific gravity	-	1.7
Filler : binder ratio	-	2.7 : 1
Consistency of mix mass	-	Flowable
Compressive strength, after 7 days	kg/cm ²	Min 500
Area coverage	kg/m ² per mm	2.0 - 2.3

Application procedure for self-leveling floor

Ensure concrete surface is dry, clean and free from oil, grease and other contaminants. Freshly laid concrete must be cured for at least 28 days.

Remove loose particles and dust by wire brush or any suitable mechanical tools.

Prior to the application of self-levelling epoxy flooring, it is advisable to seal the concrete pores by epoxy primer system Lapox B-47 and Lapox AH-713.

Prepare mixer as per above guideline formulation. Mixing is critical and must be accurate

Mix all ingredients thoroughly with mechanical agitator for 3 to 4 minutes to achieve homogeneous consistency. Scrap the sides and base of the mixing pot before transferring.

Immediately, pour the mixer on primed concrete surface.

It is important to mix small quantity at a time as epoxy systems tend to give exotherm when kept as large mix mass. Application should be done by notched trowel followed by spike roller to remove entrapped air.

Excessive humidity (above ~80%), low daylight and low temperature (less than 20°C) may retard the curing and slight amine blush (white patches) may appear. The system may not work efficiently during monsoon season. Ensure ambient temperature is between 20°C and 35°C and humidity level below 80%.

Due to the flowable nature and self-levelling characteristic, it provide glossy finish with good mechanical and chemical resistance properties.

Self-levelling flooring can be applied in storage areas, garages, warehouses, office buildings, and more.

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

Packaging	Lapox B-47 and Lapox AH-416 is available in 200 kg carboy. Other packing may be considered on request.
Storage and handling	Lapox B-47 and Lapox AH-416 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 two years while Lapox AH-416 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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