

OPTOLINQ OLS-1000HF



Two part optically clear epoxy resin

- Low viscosity
- Rapid cure
- Excellent mechanical properties

OPTOLINQ-1000HF is an advanced epoxy resin specifically designed for LED lamp packaging applications. This low halogen resin offers exceptional performance, combining low viscosity and extended service life at room temperature with rapid curing at high temperatures.

OPTOLINQ-1000HF produces cured products with outstanding mechanical strength, excellent electrical performance, superior moisture resistance, and minimal shrinkage. It is a reliable choice for high-quality LED packaging.

Premixed properties

Property	Part A	Part B
Appearance	Light Blue	Clear
Viscosity	10,000 cP	150 cP
Density	1.14 ±0.05	1.15 ±0.05
Shelf life	183 days	93 days

Mixed properties

Property	Value	Unit
Mixing ratio	100:100	-
Viscosity	1000 ±200	cP
Gel Time @150°C	120 - 220	sec
Pot Life	4 hours	-

Cured properties

Property	Value	Unit
Volume resistivity	6.5 x 10 ¹⁵	Ω*cm
Surface resistivity	2.7 x 10 ¹⁵	Ω
Breakdown Voltage	20	kV/mm
Hardness	85 ±5	Shore D
Water absorption	0.3	%
Tensile strength	59.2	MPa
Flexural strength	146	MPa
Flexural modulus	3.4	GPa

Europe

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Property	Value	Unit
Glass Transition Temperature (TMA)	159	°C
Glass Transition Temperature (DSC)	140	°C
Coefficient of Thermal Expansion, α_1	65	ppm/°C
Coefficient of Thermal Expansion, α_2	179	ppm/°C
Refractive Index	1.51±0.05	-
Transmittance at 550 nm	98	%

Processing Instructions:

- Pre-heat Part A at 45~60°C for a maximum of 4 hours, depending on temperature and season.
- Mix component A and B and stir uniformly.
- Defoam the mixture.
- Curing conditions:
 - Size $\Phi 3$: First cure at 130 - 135°C/1hr, followed by post cure at 130 - 135°C/ 6~8hrs.
 - Size $\Phi 5$: First cure at 125 - 130°C/1hr, followed by post cure at 130 - 135°C/ 6~8hrs.
 - Sizes $\Phi 8, \Phi 10$: First cure at 105 - 120°C/1hr, followed by post cure at 130 - 135°C/6~8hrs.

Precautions:

1. Utilize the mixture promptly after mixing components A and B to avoid excessive viscosity.
2. Heat the mixture as soon as possible to prevent degradation by moisture, keeping manufacturing conditions below 70% relative humidity.
3. Pre-heating component A at 45~60°C can reduce viscosity, but excessively high temperatures will shorten the service time.
4. Store the curing agent (component B) in sealed jars to prevent moisture absorption and sedimentation.
5. When adding light diffusers, adjust the curing agent accordingly (e.g., A:B:Diffuser = 100:105:10).
6. Preheat color additive agents at 60-90°C, ensuring complete dissolution.
7. For bubble reduction, add an antifoaming agent in an amount not exceeding 0.3% of the mixture.
8. Avoid skin and eye contact. In case of contact, rinse thoroughly with soap (for skin) or clean water (for eyes), and seek medical attention if needed.
9. Maintain a clean and ventilated workplace, using extraction trunks when necessary.
10. Wear appropriate protective equipment and minimize direct contact with the human body. Refer to the Material Safety Data Sheet (SDS) before use.

Please note that the provided information is based on available data and typical conditions. For specific applications and detailed test results, refer to the actual test data and conduct appropriate certifications.

Storage and Handling

Store in a ventilated, dry, and clean environment below 25°C. Keep away from fire and heat sources. It is strictly forbidden to store in outdoor environments. At proper storage conditions, Part A has a shelf life of 6 months and Part B a shelf life of 3 months. Shelf life can be extended by using cold storage.

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