

LINQBOND™ ED-645CM



Two-component epoxy-based adhesive

- Strong adhesion on different substrates
- High viscosity and thixotropic properties
- Complies with RoHS 2011/65/EU regulations

LINQBOND™ ED-645CM is a two-component epoxy adhesive with high viscosity and thixotropic properties. These features allow it to control flow and provide sag resistance during both the working and curing processes. The cured product exhibits high toughness and excellent adhesion to different substrates such as glass, ceramics, plastics, and metals. Furthermore, **LINQBOND™ ED-645CM** offers high electrical insulation even under high humidity, grease resistance, and chemical resistance. Its hardener does not form an insoluble, whitish solid upon air exposure, and the cured surface remains free from oiliness and maintains a smooth, glossy finish.

Overall, **LINQBOND™ ED-645CM** is an ideal solution for bonding materials in different applications. Additionally, it is RoHS 2011/65/EU compliant and meets various environmental testing requirements.

Uncured Properties

Property	Part A	Part B	Unit
Appearance	Liquid, Gray	Liquid, Black	–
Viscosity (25 °C) Spindle 14, 10 rpm	130,000–190,000	35,000–65,000	cps
Thixotropic Index	5–6	3–4	–
Specific Gravity	1.35	1.31	–

Recommended Curing Conditions

Property	Value	Unit
Mixing Ratio (A:B)	1:1	by weight
Pot Life (25 °C)	20	min
Gel Time (1 g, 25 °C)	1	h
Through Cure Time at 25 °C	3	day
at 80 °C	60	min
at 100 °C	20	min

Instructions for Use

1. Weigh the correct proportions and mix thoroughly, scraping both the bottom and the sides of the mixing container until a homogeneous mixture is obtained.
2. Ensure that the bonding surfaces are clean, dry, and properly prepared.
3. Use mixed product before pot life for optimum properties. Avoid large quantity mixing. Apply adhesive evenly to both surfaces for maximum bond strength.

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4. Cure time depends on part geometry, materials, bond line thickness, and oven efficiency. Confirm cure schedule with production parts and equipment.

Cured Properties

Property	Value	Unit
Glass Transition Temperature (DSC)	40	°C
Coefficient of Thermal Expansion (CTE), CTE α_1 CTE α_2	80 168	ppm/°C
Hardness	76	Shore D
Shear Strength (Al vs Al)	187	kgf·cm ²
Degradation Temperature (TGA)	240	°C
Surface Resistivity	4.5×10^{14}	Ω
Volume Resistivity	4.5×10^{15}	$\Omega \cdot \text{cm}$
Dielectric Constant (100 Hz)	3.2	–
Water Absorption at 25 °C, 24 h at 80 °C, 24 h	0.26 2.13	%
Weight Loss at 100 °C at 200 °C	0.11 2.22	%

Note: Sample was cured at 25 °C for 3 days.

Caution for Use

While the risk of carcinogenicity from skin contact is considered low, mild skin redness may occur. In the event of skin contact, immediately wash thoroughly with soap and water, avoid the use of solvents. Ingestion of this product is moderately toxic, if the product is accidentally swallowed, do not induce vomiting unless directed by medical personnel. In case of eye contact, immediately flush the affected eye(s) thoroughly with clean water for a minimum of 15 minutes and seek medical attention promptly. For comprehensive safety information, please consult the Material Safety Data Sheet (MSDS).

Storage and Handling

Store the container in a cool, dark place, away from direct sunlight. Exposure to sunlight may cause the resin and hardener to yellow. Shelf life when stored at room temperature between 14 and 34 °C is 365 days (12 months). Keep the container sealed and prevent moisture contamination when not in use. This product contains amine, ensure to replace the lid immediately after each use.

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