



ISO-9001-2015 Certified

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## TECHNICAL BULLETIN

### EPOXIBOND™ EB-107LP-1

#### HIGH IMPACT, LOW VISCOSITY EPOXY ADHESIVE

**EB-107LP-1** is a two component, room temperature curing epoxy featuring very low viscosity, and excellent optical-mechanical properties.

#### Features & Suggested Application:

- **Medical:** USP Class VI Certified for Biocompatibility - Suggested for medical devices such as catheters, endoscopic products; adhesion to most metals and some plastics; resisting to ETO, gamma, and autoclave; resisting X-ray radiation; potting and protection of scintillator crystals; CT Detector packaging; adhesive for the optical beam pathway in photo-diode arrays.
- **Fiber Optic:** adhesive for glass and plastic fibers; wicking into fiber bundles used in patch cords, endoscopes or sensor devices; adhesive/seal/encapsulant used for fiber packaging and components.
- **Opto-electronic:** LCD/LED adhesive for laminating glass layers; adhesion to PET plastic; general potting, encapsulation, and protection; spectral transmission in VIS and IR light; adhesive for precision optics including lens, prism, beam splitter cubes, mirrors, and diodes.

#### TYPICAL HANDLING PROPERTIES:

Adhesive	PART-A
Hardener	PART-B
Mix ratio by weight, (Adhesive/Hardener)	100/25
Mixed Viscosity at 25°C, cp	100-200
Pot Life at 25°C (100 grams), hrs	2

Recommended Cure	3 hr. at 65°C
Alternate Cure Schedule	24-48 hr. at 25°C

#### TYPICAL CURED PROPERTIES:

Color	Clear
Specific Gravity	1.1
Hardness, Shore D	85
Lap Shear Strength to Aluminum, psi	2400
Service Temperature range, °C	-55 to 150
Weight Loss @ 200°C	0.11%
@ 250°C	0.13%
@ 300°C	0.38%
Glass Transition Temperature, °C	65
Coefficient of Linear Thermal Expansion, 10 <sup>-6</sup> /°C	
Below Tg	42
Above Tg	>100
Dielectric Constant at 1 kHz	4.14
Dissipation Factor at 1 kHz	0.012
Volume Resistivity (ohm-cm)	1x10 <sup>13</sup>

#### OPTICAL PROPERTIES:

Refractive Index @ 25°C	1.52@ 589nm
Spectral Transmission,	
380-980 nm	>99%
980-1640 nm	>97%
1640-2040 nm	>95%

#### INSTRUCTIONS FOR USE:

1. Mix 100 grams of Resin, PART-A with 25 grams of Hardener, PART-B and vacuum degas.
2. Apply to a clean bonding surface and cure as recommended to achieve the desired properties.
3. Typical cured properties were determined using the recommended cure schedule.
4. Some difference in properties may occur with the alternate or other cure schedules.

#### WARNING!

Although the system contains low volatility materials, care should be taken in handling. Adequate ventilation of the workplace and ovens is essential.

These materials may cause injury to the skin following prolonged or repeated contact and dermatitis in susceptible individuals.

In case of skin contact, wash thoroughly with soap and water. For eyes, flush immediately with plenty of water for at least 10 minutes and seek medical attention.

Refer to Safety Data Sheet (SDS) for additional health and safety information.

#### SHELF LIFE:

The shelf life of these materials is one year when stored in unopened containers at an average temperature of 25°C.

**DISCLAIMER:** All data given here is offered as a guide to the use of these materials and not as a guarantee of their performance. The user should evaluate their suitability for own purposes. Properties are typical and should not be used in preparing specifications. Statements are not to be construed as recommendations to infringe any patent.

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