



ALFA INTERNATIONAL CORPORATION

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E10-101LP

Pure Silver Filled Electrically Conductive Epoxy

TECHNICAL PRODUCT BULLETIN



GENERAL DESCRIPTION

E10-101LP is an epoxy adhesive and coating formulation based on pure silver. This versatile silver formulation offers the maximum continuity of conductivity with an electrical resistivity value of less than 1×10^{-4} ohm-cm. E10-101LP is also characterized by a wide operating temperature range from -50 to $+170^{\circ}\text{C}$.

E10-101LP is recommended for electronic bonding and sealing applications that require both fine electrical and mechanical properties.

E10-101LP cures at room temperature or can be accelerated with mild heat to form a tenacious bond between similar and dissimilar substrates including: aluminum, copper, magnesium, steel, bronze, nickel, Kovar, ceramic, glass, phenolic and G-10 epoxy glass boards.

E10-101LP has been used extensively in such diversified applications as microwave EMI & RFI shielding, in the assembly or repair of printed circuit boards, wave guides, electronic modules, flat cable, high frequency shields, connections, circuitry and as a cold solder for high-sensitive components where hot-soldering is impractical.

This unique formulation offers ease in handling due to its creamy consistency.

- Long Open Time
- Maximum continuity of conductivity
- High adhesion
- Can be thinned as a coating for FRI and EMI shielding.

SPECIFICATIONS

HANDLING CHARACTERISTICS	
Catalyst Number:	Catalyst E10-101LP
Mix Ratio- Catalyst to Resin, by Weight:	6:100
Workable Pot Life:	More than 3 Hours at 25°C
Mixed Viscosity @ 25°C cps:	Paste
Cure Schedule:	24 hrs. @ Room Temp. 60 minutes @ 60°C 15 minutes @ 100°C
Color:	Silver

PHYSICAL CHARACTERISTICS	
Shrinkage Linear, in/in:	0.003
Hardness, Shore D:	85
Specific Gravity, $25^{\circ}\text{C} / 25^{\circ}\text{C}$:	2.80
Tensile Strength, psi:	9,500
Compressive Strength, psi:	14,000

THERMAL CHARACTERISTICS	
Thermal Conductivity, btu/hr./ ft ² / °F / in:	100
Thermal Expansion Coefficient, (cm / cm / °C · 10 ⁻⁵):	1.5
Heat Distortion, °C:	95
Operating Temperature Range, °C:	-50 to +170

ELECTRICAL CHARACTERISTICS	
Volume Resistivity, ohm · cm:	< 0.0001

The information given and the recommendations made herein are based on our research and are believed to be accurate but no guarantee of their accuracy is made. In every case we urge and recommend that purchasers before using any product in full scale production make their own tests to determine to their own satisfaction whether the product is of acceptable quality and is suitable for their particular purposes under their own operation conditions. No representative of ours has any authority to waive or change the foregoing provisions but, subject to such provisions, our engineers are available to assist purchasers in adapting our products to their needs and to the circumstances prevailing in their business. Nothing contained herein shall be construed to imply the nonexistence of any relevant patents or to constitute a permission, inducement or recommendation to practice any invention governed by any patent, without the authority from the owner of this patent. We also expect purchasers to use our products in accordance with the guiding principles of the Chemical Manufacturers Association's Responsible Care® program.



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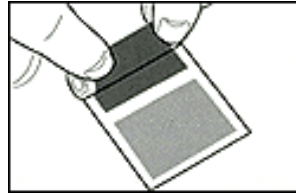
APPLICATION

1. Clean and remove any dirt and grease from surfaces to be bonded.
2. Mix thoroughly, by weight, 6 parts E10-101LP catalyst to 100 parts E10-101LP silver resin.
3. Apply and cure according to cure schedule, as follows:

Cure Schedule: 24 hrs. @ Room Temp.
 60 minutes @ 60°C
 15 minutes @ 100°C

PACKAGING

Available in 2.5 grams, 5 grams, and 10 grams *Burst Pouches* and in 0.5 lb., 1.0 lb., 2.0 lb. *Premeasured Jar Kits*.



**Custom packaging available upon request*

STORAGE AND HANDLING

Since settling may occur in storage, remix Part A Resin prior to use. Refrigeration storage is recommended to minimize filler settling and to maintain viscosity and electrical conductivity. If refrigeration storage is used, to avoid condensation, allow to stabilize to room temperature before opening and removing material. OSHA Form 20 Safety Data Sheet (SDS) are available on request.