

**Product
Bulletin**

E10-110

Electrically Conductive, Long Pot-Life, Silver Epoxy

GENERAL DESCRIPTION

E10-110 is solvent-free, silver filled, two-component epoxy made especially for electronic bonding and sealing applications that require select electrical and mechanical properties. It develops strong, durable, electrically and thermally conductive bonds between similar and dissimilar materials such as metals, glass, ceramics, and plastic laminates.

E10-110 can be used as a cold-solder for applications that contain heat sensitive components and in the assembly and repair of printed circuit boards, wave guides, electronic modules, connections, circuitry, high frequency shields, flat cables, etc.

E10-110 is a smooth, very soft, thixotropic paste. The very long pot life and the superb handling characteristics of this unique epoxy are obtained without the use of solvents.

E10-110 has a low hydrolyzable ion content.

E10-110 is recommended for those applications where high temperatures (as in TC bonding) are present. The 175°C T_g reduces the loss of adhesion and eliminates the possibility of die float. Au: Au lap shear @ 25°C is 1,600 psi and at elevated temperatures of 200°C, results are 600 psi.

Since E10-110 is solvent-free, it will not become tacky or dry out during its pot life.

APPLICATION

- 1.) Clean and dry thoroughly all surfaces to be bonded.
- 2.) Follow mixing procedure as shown on supplied package.
- 3.) Apply a thin coat of the mix to the surfaces to be bonded.
- 4.) Press surfaces together gently, but firmly.

SPECIFICATIONS
HANDLING CHARACTERISTICS

Mix Ratio, Catalyst to Resin, by Weight:

7:100

Curing Schedule:

1 hr @ 60°C

24 Hours @RT followed by 10 minutes @60 °C

Pot Life: 4 days@RT

Shelf Life: 1 year @ room temp.

PHYSICAL CHARACTERISTICS

Specific Gravity: 2.85

Color: silver

Consistency: smooth, very soft, thixotropic paste

Die Shear (40 x 40 mil chip):

20°C, > 7,000 psi

200°C, > 3,700 psi

Lap Shear (ASTM-1002):

@ 25°C, 1,500 psi

@ 200°C, 400 psi

Viscosity (@ 25°C): Paste

Weight Loss: 0.5% to 300°C

(Passes proposed JEDEC spec.)

Coefficient of Thermal Expansion, in / in / °C:

Below T_g = 45 x 10⁻⁶

Above T_g = 175 x 10⁻⁶

Maximum Operating Temperature, °C:

Continuous: 178

Intermittent: 300 to 400

Shore D Hardness: 79

Thermal Conductivity: 11.0 btu / hr / ft² / °F / in

Volume resistivity (rigid specification):

0.0001 to 0.0004 ohm-cm

Residual Gas Analysis (RGA), water content:

2,000-3,500 ppm

Saturation Voltage (V_{ce}SAT): -0.51 volts

Cation-Anion Analysis:

Cl⁻ : < 20 ppm

Na⁺ : < 10 ppm

NH₄⁺ : < 20 ppm

K⁺ : < 10 ppm

PACKAGING:

E10-101 is available in:

- 1- Burst Pouches (2.5 grams, 5grams, 10grams)

	<p>Roll pouch to force liquid toward burst seal.</p>
	<p>Squeeze and apply pressure to burst through seal</p>
	<p>Mix thoroughly on edge of desk until well mixed</p>
	<p>Cut corner and dispense.</p>

PACKAGING:

- 3- Two Chamber Pouches Separated by Plastic Clamp (2.5 grams, 5 grams, 10 grams)

	<p>Hold each end of pouch and pull firmly to remove plastic divider</p>
	<p>Mix thoroughly on table top or any 90° surface until well mixed.</p>
	<p>Cut corner and dispense. Plastic divider can also be used as an applicator</p>

- 2- Jars Kits: (0.5Lb, 1.0Lb, 2.0 Lb)

Pre-measured part A and B

