

**PRODUCT  
BULLETIN**

# E10-110

## ELECTRICALLY CONDUCTIVE, LONG POT LIFE, LOW ION 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 low hydrolysable ion content.

E10-110 is recommended for those applications where high temperatures (as in TC bonding) are present. The 175°C T<sub>g</sub> 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 mi, but firmly to the surfaces to be bonded.
- 4.) Press surfaces together gently

**AVAILABILITY and PACKAGING**

ALFA E10-110 is available for immediate delivery From stock in:

\*Highly flexible transparent two compartment plastic pouch, each section is filled with premeasured component. Pouches are supplied in 2,5,10 & 20 gram sizes.

\*Premeasured, pint, Quart, gallon Kits

**PRICE ON REQUEST**
**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  
 Weight Loss: 0.5% to 300°C  
 (Passes proposed JEDEC spec.)  
 Coefficient of Thermal Expansion, in / in / °C:  
 Below T<sub>g</sub> = 45 x 10<sup>-6</sup>  
 Above T<sub>g</sub> = 175 x 10<sup>-6</sup>  
 Maximum Operating Temperature, °C:  
 Continuous: 178  
 Intermittent: 300 to 400  
 Shore D Hardness: 79  
 Thermal Conductivity: 11.0 btu / hr / ft<sup>2</sup> / °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<sub>cc</sub>SAT): -0.51 volts  
**Cation/Anion Analysis:**  
 Cl<sup>-</sup> : < 20 ppm  
 Na<sup>+</sup> : < 10 ppm  
 NH<sub>4</sub><sup>+</sup> : < 20 ppm  
 K<sup>+</sup> : < 10 ppm

**E10-110 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>

**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**

