ALFA INTERNATIONAL CORPORATION
32 Mechanic Avenue Unit 99 • Woonsocket RI 02895
Tel. 401-765-0503 • Fax 401-765-0508
www.alfaadhesives.com• E-mail: : info@alfaadhesives.com

Product Bulletin

E10-104

Single Component, High Temperature Resistant, Silver-Filled Epoxy, Electrically Conductive Adhesive

GENERAL DESCRIPTION

E10-104 is a single component, heat curing, conductive epoxy polymer that was designed for ease in handling. This high-performance conductive polymer cures quickly at elevated temperatures making it ideally suited for rapid processing and assembly.

E10-104 passes NASA's outgassing testing (ASTM E-595) and is listed in NASA's Outgassing Data for Selecting Spacecraft Materials list.

E10-104 offers excellent mechanical, electrical, and physical properties at continuous operating temperatures up to 175°C. This versatile silver conductive adhesive can be used for chip bonding in micro and opto-electronic hybrid circuit fabrication. This high-performance conductive polymer also exhibits outstanding adhesion to a wide variety of substrates with good hot strength at intermittent temperatures up to 325°C.

E10-104 has also been used in microwave applications for EMI and FRI shielding, for assembly and repair of circuit boards and electronic component manufacturing.

E10-104 is a smooth, soft paste that can be applied by hand application, automatic dispensers, screen-printing, transfer or stamping techniques. It is available in both a lower and higher viscosity grade for use in a variety of dispensing equipment and application techniques.

SPECIFICATIONS

HANDLING CHARACTERISTICS:

Base:	Epoxy
Silver (Cured):	76%
Solvent:	None
Carbon Additives:	None
Copper Additives:	None
Mixed Viscosity at 25°C, cps:	200,000
Color:	Silver
Cure Schedule:	2 hrs. @ 125°C
	1 hr. @ 150°C
	½ hr. @ 175°C
Shelf Life:	4 months – Room Temp < 25°C
	9 months – Refrigerated

THERMAL CHARACTERISTICS:

Thermal Conductivity, w/m·k:	2.88-3.15
Operating Temp. Range, °C:	-55 to +175
	Intermit. to 325

ELECTRICAL CHARACTERISTICS:

Volume Resistivity, ohm·cm:	0.0005

NASA OUTGASSING RESULTS

TML (Total Mass Loss) %	0.38
CVCM (Collected Volatile Condensable Materials) %	0.01
WVR (Water Vapor Recovery) %	0.07

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.

ALFA INTERNATIONAL CORPORATION
32 Mechanic Avenue Unit 99 • Woonsocket RI 02895
Tel. 401-765-0503 • Fax 401-765-0508
www.alfaadhesives.com• E-mail: : info@alfaadhesives.com

STORAGE AND HANDLING

Since settling may occur in storage, remix each container 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 Material Safety Data Bulletins are available on request.

AVAILABILITY and PACKAGING

ALFA E10-104 is available for immediate delivery from stock in:

Syringes: 2.5, 5, 10 and 20-gram sizes:

Jars Kits: 0.5 Lb., 1.0 Lb., 2.0 Lb.

Custom Sizes available upon request

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.