

Eposolder 6549

Snap Cure and Reflow Curable Electrically Conductive Adhesive

Typical Properties			
Property	Unit	Value	Test Method
Color / Component		Silver-Copper	Visual
Viscosity at 25°C	cP.s	49,000	ASTM D2196
Thixotropic Index		3	ASTM D2196
Density	Gram /cc	3.8	ASTM D792
Weight Loss in Cure	Weight %	< 0.5 %	TGA
Property as Cured			
Color		Brown	Visual
Hardness (25 °C)	Shore D	90	ASTM D2240
Volume Resistivity	Ohm-cm	$< 5 \times 10^{-3}$	ASTM D257
Coefficient of Thermal Expansion	ppm/C	< 130 (above Tg) < 45 (below Tg)	IPC-TM-650
Thermal Conductivity	W/m-K	1.5	ASTM D5470
Adhesion (Al/Al lap shear)	Psi	> 1700	ASTM D1002
Tg	°C	140	DMA
Thermal Stability	°C	- 80 to 230	TGA
Cure Profile			
Cure at 125 °C	Minute	5	DSC
Cure at 150 °C	Minute	1 ~ 2	DSC
Cure at 180 °C	Second	15	Durometer
Pot / Work Life at 25°C	Month	6	Viscosity double
Shelf Life at 4°C	Month	12	ITM

These figures are only intended as a guide and should not be used in preparing specifications.

Processing Instruction

Eposolder 6549 is recommended to store in refrigerator (e.g. < 4 °C). Before apply it, please let it thaw completely at room temperature. This typically takes about 10 min for syringes and 30 min for jars.

For thin coating application, in order to get best result, Eposolder 6549 may be diluted using a solvent, e.g. isopropyl alcohol.

We recommend running preliminary tests to optimize conditions for the particular application. Comprehensive processing instructions can be obtained by contacting directly to United Adhesives Inc.

Storage

Eposolder 6549 has a shelf life of at least 6 months when stored at room temperature, or 12 months at 4°C refrigerator in the originally sealed container. The 'Best use before end' date of each batch appears on the product label. Storage beyond the date specified on the label does not necessarily mean that the product is no longer usable. In this case however, the properties required for the intended use must be checked for quality assurance reasons.

Safety information

Comprehensive instructions are given in the corresponding Material Safety Data Sheets. They are available on request from United Adhesives, Inc.

Characteristics

Eposolder 6549 is a snap cure, electrically conductive adhesive with an exceptionally fast cure speed at elevated temperature (e.g. 15 seconds at 180°C) while keeping a long work life at room temperature. It can be cured in standard soldering reflow process. It is filled with silver coated copper to provide cost advantage. After being cured it forms a structural bonding adhesive providing electrical and thermal conducting. Eposolder 6549 can be a replacement of regular solder for Pb-free solutions. While it forms bonds at temperatures lower than regular soldering, it can also provide finer pitches for electronic assembly. Eposolder 6549 is dispensable and printable.

Special Features and Benefits

- Exceptionally fast cure speed
- Good electrical conductivity
- Strong bonding strength
- High temperature stability
- Effective EMI / RFI shielding
- Low bleeding, low volatile

Typical Applications

- Die attach / chip bonding.
- Lead terminations and printed circuit
- Solder replacement as Pb-free solutions
- Conductive coating
- EMI / RFI shielding
- Shielding for aerospace electronics
- Medical Equipment
- Semiconductor and Telecommunications

The data presented in this leaflet are in accordance with the present state of our knowledge, but do not absolve the user from carefully checking all supplies immediately on receipt. We reserve the right to alter product constants within the scope of technical progress or new developments. The recommendations made in this leaflet should be checked by preliminary trials because of conditions during processing over which we have no control, especially where other companies' raw materials are also being used. The recommendations do not absolve the user from the obligation of investigating the possibility of infringement of third parties' rights and, if necessary, clarifying the position. Recommendations for use do not constitute a warranty, either express or implied, of the fitness or suitability of the products for a particular purpose. For technical, quality, or product safety questions, please contact directly to United Adhesives Inc.