

Eposolder 6503

Fast Cure Conductive Adhesive

Typical Properties			
Property	Unit	Value	Test Method
Color / Component		Silver	Visual
Viscosity at 25°C	cP.s	65,000	ASTM D2196
Thixotropic Index		2.6	ASTM D2196
Density	Gram /cc	4.0	ASTM D792
Property as Cured			
Color		Silver	Visual
Hardness (25 °C)	Shore D	80	ASTM D2240
Volume Resistivity	Ohm-cm	$< 2 \times 10^{-4}$	ASTM D257
Coefficient of Thermal Expansion	ppm/C	< 180 (above Tg) < 40 (below Tg)	IPC-TM-650
Thermal Conductivity	W/m-K	> 3	ASTM D5470
Adhesion (Al/Al lap shear)	Psi	> 1100	ASTM D1002
Tg	°C	65	DMA
Thermal Stability	°C	- 40 to 180	TGA
Cure Profile			
Cure at 125 °C	Min	12	Hardness
Cure at 155 °C	Min	6	Hardness
Cure at 185 °C	Min	3	Hardness
Pot / Work Life at 25°C	Days	15	Viscosity double
Shelf Life	Month	6 @ < 4°C	ITM

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

Processing Instruction

Eposolder 6503 is required to store in cold (< 4 °C). Before apply it, please let it warm up 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 6503 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 6503 has a shelf life of at least 6 months when stored below 4 °C 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 6503 is a one component, silver-filled, fast cure electrically conductive epoxy adhesive designed for electronic applications. After being cured at elevated temperatures in minutes, it forms a structural bonding adhesive with superior electrical and thermal conductivity. Eposolder 6503 is a replacement of regular solder for Pb-free solutions. While forming bonds at temperatures lower than regular soldering, it can provide finer pitches for electronic assembly. When applied as a thin coating, Eposolder 6503 provides effective EMI / RFI shielding. Eposolder 6503 is dispensable and printable.

Special Features and Benefits

- Fast cure / Snap-cure capability
- High electrical conductivity
- Strong bonding strength
- High thermal conductivity
- 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.