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Eposolder 6510

Epoxy Silver Electrically Conductive Adhesive

Typical Properties			
Property	**Unit**	**Value**	**Test Method**
Color / Component		Silver	Visual
Viscosity at 25°C	cP.s	35,000	ASTM D2196
Thixtropic Index		3.2	ASTM D2196
Density	Gram /cc	4.6	ASTM D792
Weight loss in cure	Weight %	< 0.8 %	TGA
Property as Cured			
Color		Silver	Visual
Hardness (25 °C)	Shore D	78	ASTM D2240
Volume Resistivity	Ohm-cm	$< 2 \times 10^{-4}$	ASTM D257
Coefficient of Thermal Expansion	ppm/C	< 110 (above Tg) < 40 (below Tg)	IPC-TM-650
Thermal Conductivity	W/m-K	> 5	ASTM D5470
Adhesion (Al/Al lap shear)	Psi	> 1200	ASTM D1002
Tg	℃	150	DMA
Thermal Stability	℃	– 40 to 180	TGA
Cure Profile			
Cure at 85 °C	Min	120	DSC
Cure at 125 °C	Min	60	DSC
Pot / Work Life at 25°C	Hour	24	Viscosity double
Shelf Life	Month	6 @ –40°C	ITM

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

Characteristics

Eposolder 6510 is a one component, silver-filled, electrically conductive epoxy adhesive designed for electronic applications. After being cured at elevated temperatures, it forms a structural bonding adhesive with superior electrical and thermal conductivity. Eposolder 6510 is 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. When applied as a thin coating, Eposolder 6510 provides effective EMI / RFI shielding. Eposolder 6510 is dispensable and printable.

Special Features and Benefits

- High electrical conductivity
- Strong bonding strength
- High thermal conductivity
- 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

Processing Instruction

Eposolder 6510 is required to store in freezer (– 40 ℃). 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 6510 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 6510 has a shelf life of at least 6 months when stored below – 40 ℃ 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.