

# E-Shield 6531

## Silicone Electrically Conductive Coating

Typical Properties			
Property	Unit	Value	Test Method
Color / Component		Silver-Copper	Visual
Viscosity at 25°C	cP.s	5,000	ASTM D2196
Thixotropic Index		3.2	ASTM D2196
Density	Gram /cc	2.8	ASTM D792
Weight loss in cure	Weight %	< 15%	TGA
Property as Cured			
Color		Silver-Copper	Visual
Hardness	Shore A	52	ASTM D2240
Tensile Strength	MPa	1.5	ASTM D638
Elongation	%	180	ASTM D638
Volume Resistivity	Ohm-cm	< 6 × 10 <sup>-3</sup>	ASTM D257
Shielding Capacity (1 to 2 mil thick coating)	dB @ < 10 GHz	40 to 100	IEEE Std.
Coefficient of Thermal Expansion	ppm/C	< 110	IPC-TM-650
Thermal Conductivity	W/m-K	> 4	ASTM D5470
Tg	°C	-120	DMA
Temperature Usage	°C	- 50 to 230	TGA
Cure Profile			
Cure at 125 °C	Min	30	DSC
Cure at 150 °C	Min	15	DSC
Pot / Work Life at 25°C	Days	> 5	Viscosity double
Shelf Life	Month	6 @ -15°C 3 @ 4°C	ITM

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

### Processing Instruction

E-Shield 6531 is platinum cure system. Please keep applied surface clean and avoid using this material on any surface that contains sulfur, amine, phosphorous, organo-metals, acid, etc., because these contaminants could inhibit the cure of the material.

For the package in a container, to ensure homogeneity of the material, the components must be stirred thoroughly before they are processed in order to uniformly disperse the filler that might have settled during storage.

**Important!** E-Shield 6531 contains solvent. Use under adequate ventilation or air circulation.

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.

### Characteristics

E-Shield 6531 is a one part, silver-plated-copper filled silicone electrically conductive adhesive or coating designed for electronic applications. After cure at elevated temperature, it forms a conductive adhesive or coating having superior electrical and thermal conductivity. The cured material has excellent electrical conductivity to provide EMI / RFI shielding. E-Shield 6531 can be painted, dispensed, or printed with screen / stencil.

### Special Features and Benefits

- High electrical conductivity
- Flexible for low stress bonding
- High thermal conductivity
- High temperature stability
- Effective EMI / RFI Shielding
- Low bleeding, low volatile
- Reworkable

### Typical Applications

- EMI / RFI Shielding
- Shielding for aerospace electronics
- Medical Equipment
- Semiconductor and Telecommunications
- Coated on backside of plastic housing
- Conductive coating

E-Shield 6531 has a shelf life of at least 3 months when stored at < 4 °C in the originally sealed container.

### Storage

E-Shield 6531 has a shelf life of at least 3 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.