

E-Shield 6421

Electrically Conductive Coating

Typical Properties			
Property	Unit	Value	Test Method
Color / Component		Black	Visual
Viscosity at 25°C	cP.s	8,000	ASTM D2196
Density	Gram /cc	1.3	ASTM D792
Solid Content	Weight %	> 99 %	TGA
Property as Cured			
Color		Black	Visual
Hardness	Shore D	30	ASTM D2240
Sheet Resistance (1 mil thick film)	Ohm / in ²	< 2000	ASTM D257
Volume Resistivity	Ohm-cm	< 2	ASTM D257
Shielding Capacity (2 to 3 mil thick coating)	dB @ < 500 MHz	10 to 40	IEEE Standard
Coefficient of Thermal Expansion	ppm/C	< 120	IPC-TM-650
Thermal Conductivity	W/m-K	> 1.5	ASTM D5470
Temperature Stability	°C	- 55 to 180	TGA
Cure Profile (As 1 mil thick film)			
Fully Cure at 85°C	Min	60	DSC
Fully Cure at 125°C	Min	30	DSC
Shelf Life at -40°C (In originally sealed container)	Month	12	UA-ITM

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

Characteristics

E-Shield 6421 is carbon-filled, ready-to-use one part epoxy coating compound. After cure elevated temperatures, it forms conductive coating film with superior bonding to various glasses, ceramics, metals, and plastics. It is ideal for EMI / RFI shielding, conductive grounding, controlling electrostatic discharge, and surface protection. The cured material has extremely high temperature stability and strong mechanical resistance. E-Shield 6421 can be applied by painting, brushing, dipping, spin-coating, or spraying.

Special Features and Benefits

- Practical conductivity
- Strong mechanical resistance
- Effective electrostatic discharge controlling
- High temperature stability

Typical Applications

- Conductive coating
- Controlling electrostatic discharge
- EMI / RFI shielding
- Shielding for aerospace electronics
- Grounding connection
- Protective coating

E-Shield 6421 has a shelf life of at least 12 months when stored at -40°C condition in the originally sealed container.

Processing Instruction

E-Shield 6421 is pre-mixed as one part for easier applying. In order to keep longer usage life, please always store the original or left material in freezer (e.g. < - 30°C). For some applications, it is recommended to warm the applied surface to about 60°C, and/or the coating to about 40°C, to promote faster capillary flow.

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.

Storage

E-Shield 6421 has a shelf life of at least 12 months when stored at ambient condition 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.

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.