

E-Shield 6533

Silicone Based Electrically Conductive Coating

| Typical Properties | | | |
|---|---------------|----------------------|------------------|
| Property | Unit | Value | Test Method |
| Color / Component | | Silver | Visual |
| Viscosity at 25°C | cP.s | 600 - 800 | ASTM D2196 |
| Density | Gram /cc | 2.7 | ASTM D792 |
| Weight loss in cure | Weight % | < 12% | TGA |
| Property as Cured | | | |
| Color | | Silver-Copper | Visual |
| Hardness | Shore A | 60 | ASTM D2240 |
| Tensile Strength | MPa | 3.5 | ASTM D638 |
| Elongation | % | 160 | ASTM D638 |
| Volume Resistivity | Ohm-cm | $< 1 \times 10^{-3}$ | 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 | > 3.5 | 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 | Hour | 48 | 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 6533 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 6533 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 6533 is a silicone-based, one part, electrically conductive coating with fine particles of silver for electronic thin film coatings. After cure at elevated temperature, it forms a conductive coating with good bonding to various plastics. The cured material has excellent electrical conductivity to provide EMI / RFI shielding, ground conducting. E-Shield 6533 can be coated on various substrates by spraying, spin-coating, dipping, painting, or dispensing.

Special Features and Benefits

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

Typical Applications

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

E-Shield 6533 has a shelf life of at least 3 months when stored at < 4°C in the originally sealed container.

Storage

E-Shield 6533 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.