United Adhesives

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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	℃	–120	DMA
Temperature Usage	℃	– 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.

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℃ in the originally sealed container.

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.

Storage

E-Shield 6533 has a shelf life of at least 3 months when stored below < 4℃ 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.