United Adhesives
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E-Shield 6431

Conductive Coating Compound for EMI Shielding

Typical Properties			
Property	**Unit**	**Value**	**Test Method**
Color / Component A		Silver-Copper	Visual
Color / Component B		Brown	Visual
Mixing Ratio (A / B)	By weight	5 :1	
Density (as mixed)	Gram /cc	1.8	ASTM D792
Viscosity as Mixed at 25°C	cps	800	ASTM D2196
Property as Cured			
Color		Silver	Visual
Volume Resistivity	Ohm-cm	< 0.01	ASTM D257
Thermal Conductivity	W/m-K	>5	ASTM D5470
Hardness	Shore D	90	ASTM D2240
Temperature Usage	Degree ℃	-80 to 200	TGA
Shelf Life (< 30℃)	Month	12	
Cure Profile			
At 25°C (Dry to tack-free)	Hr	2 to 4	After solvent evaporates
Cure at 85°C	Min	60	DSC
Cure at 125°C	Min	20	DSC
Pot Life at 25°C	Min	30	Viscosity double

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

Characteristics

E-Shield 6431 is a electrically conductive surface coating material. It is a two-part, silver-coated-copper filled, epoxy-based fluid. It cures at room temperature or elevated temperature to form a thin solid coating layer on various plastic substrates. The cured material has excellent electrical conductivity to provide EMI shielding. E-Shield 6431 can be painted or sprayed.

Special Features and Benefits

- High electrical conductivity
- Flexible cure profiles
- Room temperature curable
- Strong bonding to various plastics
- High temperature stability
- Strong media and humidity resistance

Typical Applications

- Aerospace
- Automotive electronics
- Semiconductor and Telecommunications
- Coated on backside of plastic housing
- EMI Shielding
- Conductive coating

E-Shield 6431 has a shelf life of at least 12 months when stored between 5℃ and 30℃ in the originally sealed containers.

Processing Instruction

Caution! E-Shield 6431 is a solvent-based system. Please apply the material with sufficient ventilation and air circulation.

At room temperature, E-Shield 6431 can dry to tack-free in ~2 hours and reaches a full cure after 24 hrs. The best properties, however, are typically achieved by curing at elevated temperatures.

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

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

E-Shield 6431 has a shelf life of at least 12 months when stored between 5℃ and 30 ℃ 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

E-Shield 6431 contains flammable substances that might require special handling precautions. General hygiene regulations should be observed. Comprehensive instructions are given in the corresponding Material Safety Data Sheets. They are available on request from United Adhesives Inc.