

8600 Series Polymer Resistor Compositions

Description

LORD 8600 series polymer resistor compositions are designed for screen print application onto a wide range of substrates.

Features and Benefits

Blendable System – each end member in the 8600 series is blendable with the adjacent members to obtain intermediate resistance values.

Application Diversity – can be screen printed onto a wide range of substrates including printed circuit boards, ceramics, glass, phenolic, and flexible substrates that are capable of withstanding the thermal processing requirements of the paste.

Solvent Resistant – cured film is resistant to many commonly used solvents.

Convenient – easy to use with good rheological properties.

Application/Processing

Mixing – Thoroughly stir material before using.

Applying – Apply material by screen printing using a 120-250 mesh steel screen with 0.5-1.0 mil organic emulsion backing. A sharp polyurethane squeegee of 70-90 durometer with a 45° angle of attack is recommended. Material may be screen printed at squeegee velocities of up to 15 cm/sec.

Typical Properties*

	8601	8611	8621	8631	8641	8651	8661
Appearance	Black Paste	Black Paste	Black Paste	Black Paste	Black Paste	Black Paste	Black Paste
Viscosity, Kcps @ 25°C Brookfield HBT Spindle CP-51, 1 rpm	20-40	20-40	20-40	20-40	20-40	20-40	20-40
Cured							
Resistivity, ohms/square Cured on alumina substrate @ 210°C for 30 min Termination: LORD 3504 Palladium Silver Conductor Resistor Geometry: 1 mm x 1 mm	0.9-1.1	9-11	90-110	900-1100	9K-11K	90K-110K	900K-1.1M
Film Thickness, microns	14-18	14-18	14-18	14-18	14-18	14-18	14-18
Thermal Coefficient of Resistance, ppm/°C Cold TCR measured @ -55 to +25°C Hot TCR measured @ +25 to +125°C	<1500	<650	<700	<800	<800	<1100	<1300
Moisture Resistance, % Resistance change on 1 mm x 1 mm resistor after 1 hour in a pressure cooker	<10	<10	<2	<2	<3	<10	<15
Electrostatic Discharge (ESD), % Resistance change after two 2000 volt pulses on 1 mm x 1 mm resistor	<3	<2	<1	<3	<10	<10	<20

*Data is typical and not to be used for specification purposes.

LORD TECHNICAL DATA

Drying/Curing – Allow material to self level for 5-10 minutes at room temperature, followed by oven drying at 120-150°C for 5-10 minutes to remove solvent. Cure parts at 210°C for 30 minutes in a well-ventilated box oven. Optimum cure schedule will vary depending on application and will need to be determined empirically.

Cleanup – Clean screens with LORD 3996 thinner. Rinse screens with a solvent such as acetone to dry screens.

Shelf Life/Storage

Shelf life is six months from date of shipment when stored at 25°C in original, unopened container. Do not store near heat, sparks or open flame.

Cautionary Information

Before using this or any LORD product, refer to the Material Safety Data Sheet (MSDS) and label for safe use and handling instructions.

For industrial/commercial use only. Must be applied by trained personnel only. Not to be used in household applications. Not for consumer use.

Values stated in this technical data sheet represent typical values as not all tests are run on each lot of material produced. For formalized product specifications for specific product end uses, contact the Customer Support Center.

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