Technical Data Sheet

Protective Polymer Coating
240-SB BLACK

Application

240-SB BLACK is a mineral-filled, thermosetting modified silicone coating. It has been specifically formulated as a screen-printable protective coating for thick film conductors, resistors and capacitors on ceramic, porcelain enameled steel and printed circuit boards. Only one layer (~25 µm) is required when used as a protective coating.

Infrared curing can be used provided that there is adequate ventilation in the oven. However this is not recommended for thick coatings. The best results, easily tested by a solvent resistance check, are obtained by using a box oven and ensuring that the printed substrates are maintained at 200 °C for one hour.

Typical Formulation Properties

Rheology: Thixotropic, screen printable paste

Viscosity: 140 ± 10 Pa.s at 25.5 ± 0.5 °C when measured using a Brookfield RVT, 10 rpm, ABZ spindle.

Storage and Shelf Life: This product should be stored in tightly sealed containers at 20 – 25 °C, in a dry place away from direct sunlight. The shelf life of a factory sealed container is a minimum 6 months from date of shipment when properly stored.

Typical Process Parameters

Thinning: This paste is formulated at the appropriate viscosity for the intended application. Thinner 402 may be used to replace solvent loss.

Printing: A 200 mesh stainless steel screen with ~25 µm thick emulsion is recommended

Levelling Time (20 °C):	5 - 10 min
Drying Time (at 125 °C):	10 - 15 min
Curing Schedule:	150 °C/2 h
Substrate for Calibration:	96% alumina

Typical Properties:

Cured Thickness: (measured on 96% alumina)	20 - 40 µm
Approximate Coverage:	120 cm^2/g
Volume Resistivity:	> 10^{10} Ω.cm
Service Temperature:	-100 to +150 °C
Dielectric Constant (K) at 1 kHz: (at 25 °C)	6 - 8
Dissipation Factor at 1 kHz: (at 25 °C, depending upon conductor)	< 0.1%
Insulation Resistance: (at 100V DC)	> 10^{10}Ω
Breakdown Voltage: (at 25 °C in air)	> 500 V/ 50 µm

Solvent Resistance: Good resistance to Acetone when fully cured.

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