Technical Data Sheet

Polymer Silver Conductor
1901-SD

Application
1901-SD is a silver-filled, flexible resin material designed for use as a conductor low-temperature substrates and may be used as an antenna in RFID applications. A slow-drying material to give excellent screen-life, the cured silver film remains reasonably flexible and the resistance of the antenna track remains constant over time. After fitting an appropriate chip, the RFID device can store information. The 1901-SD can also be used as an antenna in contactless smart cards. The paper, foil or plastic sheet bearing the printed antenna is laminated within a number of plastic layers and the individual cards are punched out. Many antenna patterns can be printed in a single operation.

This versatile polymer has also been successfully used on other substrates such as cloth.

Conductor 1901-SD is formulated and processed to be RoHS compliant.

Typical Formulation Properties

Rheology: Thixotropic, screen printable paste

Viscosity: 60 ± 10 Pa.s at 25.5 ± 0.5 °C when measured using a Brookfield RVT, 10 rpm, No.7 spindle.

Storage and Shelf Life: This product should be stored in tightly sealed containers at 5 °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 659 may be used to replace solvent loss.

Printing: A 200 or 325 mesh stainless steel screen with ~25 µm thick emulsion is recommended.

Curing Schedule: 125 °C/30 min

Substrate for Calibration: PVC plastic card

Typical Properties:

Cured Thickness: 25 – 35 µm (measured on a 100 mm x 0.25 mm conductor track)

Approximate Coverage: 100 cm²/g

Resistivity: < 20 mΩ/sq. (measured on a 100 mm x 0.25 m conductor track)

Printing Resolution: (line/space) 0.25 mm/0.25 mm

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