

# EI-930 Ink

## SILVER METAL COMPLEX CONDUCTIVE PASTE

### Product Highlights

- Silver metal complex paste designed for adhesion on hydrophobic surfaces
- Lead-free and halogen-free
- High electrical conductivity and thermal conductivity
- Low temperature curing
- Strong adhesion to PET, ITO, glass, PVDF, SNW and textiles

### Examples of Ink Processing

#### Storage and Handling

- Store refrigerated at <-18 °C for periods > 8 hours. Ink can be left at room temperature for up to 8 hours.
- Prior to use, allow ink to come to room temperature and mix well using a spatula.
- Print and cure in a well-ventilated area.
- Clean up solvents: hydrogen peroxide, water.

**Table 1-Typical Physical Properties**

Properties	Values
Viscosity	11,000 – 33,000 cP @ 2/s
Solid Content	29 wt%
Shelf life	6 months (at <-18°C storage)

**Table 2-Typical Electrical Properties**

Curing Temp (°C)	Thickness (μm)	Resistivity (μΩ-cm)	Resistivity (mΩPS/mil)	% Bulk Silver (+ 5%)
60	1.2	134	52.8	1.2
80	1.3	119	47.0	1.4
100	1.3	104	41.1	1.5
110	1.3	93	36.6	1.7
140	1.3	49	19.4	3.3
160	1.3	46	17.9	3.5
200	1.3	31	12.0	5.3
300	1.0	12	4.6	14.0

#### Typical Process Parameters

- Screen: 325 mesh, EOM
- Pressure Parameters: 57 - 65N
- Squeegee Speed: 25 mm/sec
- Snap off: 1.8 - 2.0 mm
- Curing conditions: ramp from less than 60 °C → final curing temperature at 10 °C/min, hold at final curing temperature for 20 minutes
- Rinse of Screen:  
DI water followed by Ethanol or IPA

**Table 3-Typical Properties (cont.)**

Properties	Values
Adhesion (ASTM D3359)	5B on PET, ITO, glass, PVDF, SNW
Environmental Reliability Testing (85 °C/85%RH)	Passed 1000 hrs of testing

*These properties have been measured during controlled experiments at our Electroninks laboratories. Details of these experiments are available upon request.*

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