

EI-904/EI-909

Product Highlights

- Silver metal complex paste
- Lead-free and halogen-free
- High electrical and thermal conductivity
- Low temperature curing
- Fine line printing for mass production
- Adhesion to PET, ITO, glass, PVDF, SNW and textiles

Examples of Ink Processing

Storage and Ink Handling

- Store refrigerated at 4°C for periods > 8 hours. Ink can be left at room temperature for up to 24 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 solvent: Isopropyl Alcohol

Typical Ink Physical Properties

| Properties | EI 904 | EI 909 |
|---------------------------|--------------------|--------------------|
| Color | Dark gray | Dark gray |
| Viscosity* | Approx. 32,000 cPs | Approx. 33,000 cPs |
| Thixotropic Index | Approx. 1.7 | Approx. 1.8 |
| Solid Content | Approx. 30% wt. | Approx. 33% wt. |
| Shelf Life (refrigerated) | > 2 months | > 2 months |

*Brookfield CPA-52Z, @2 s⁻¹

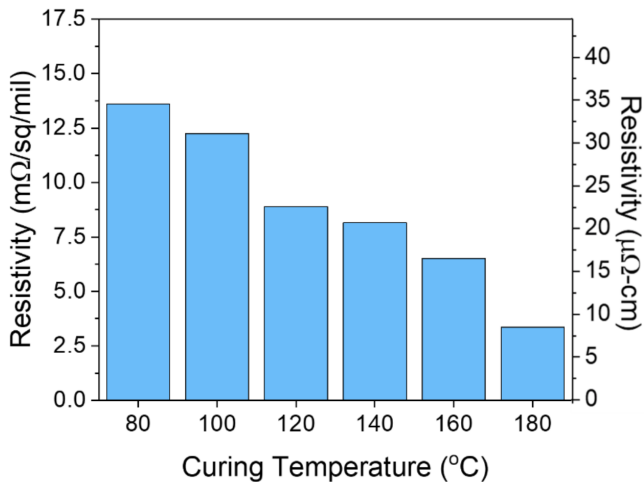
These properties have been measured during controlled experiments at our Electroninks laboratories. Details of these experiments are available upon request.

Typical Electrical Properties

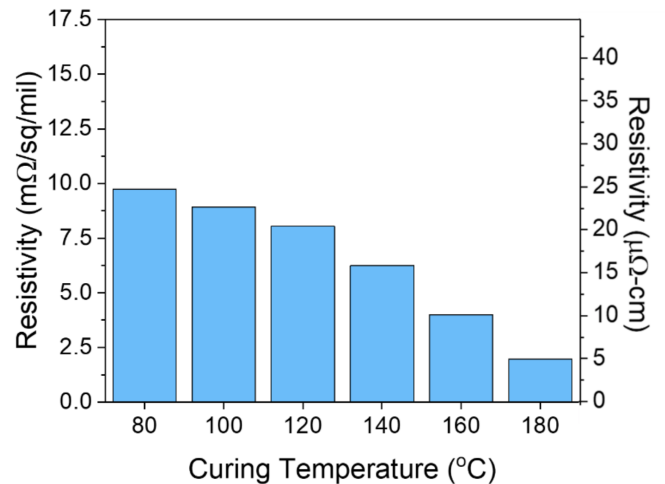
| Properties | Values | |
|-------------------------------------------|---------------------------------------------------------|-------------|
| Resistivity on PET | < 8.5 mΩ/sq/mil @ 140°C | |
| Resistivity on Glass | < 2.9 mΩ/sq/mil @ 180°C | |
| Achievable feature size | 55 μm patterning | |
| Adhesion | 904/909 | 904b/909b |
| (ASTM D3359) | 5B on glass | 5B on ST505 |
| Environmental Reliability (85°C/85%RH) | Passed 100hrs testing with <5% change in resistivity | |

Based on the customer substrate, we can recommend the appropriate ink grade of 900 series.

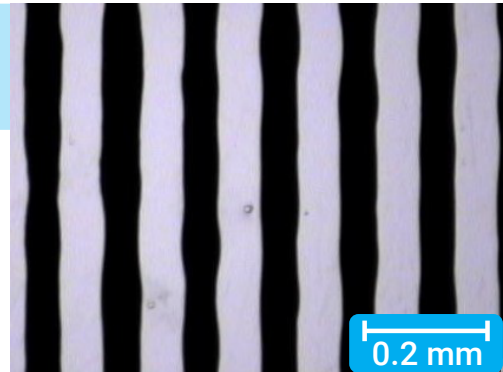
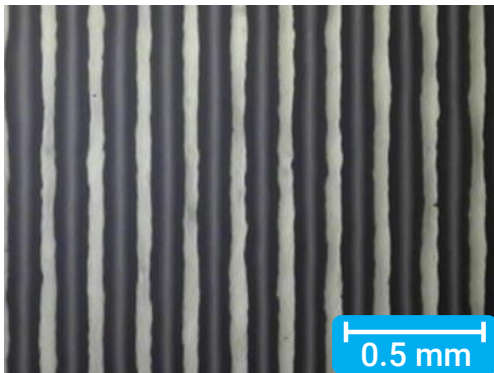
Typical Electrical Properties of 904



Typical Electrical Properties of 909



Examples of fine feature screen printing using EI-904. These lines have a width of 58 μm.



This image shows screen printed lines with a width of 125 μm using EI-904.

Typical Screen Print Parameters

- Screen: 360 mesh, EOM 14-16 μm
- Printing parameters: 40-60N, 20mm/sec
squeegee speed, 1.5 mm snap off
- Approximate width: 300 μm
- Approximate thickness: 1 μm
- Cured for 20 minutes in a box oven.

Disclaimer: The information provided in this Technical Data Sheet (TDS) is compiled in good faith and obtained using procedures performed at Electroninks and to the best of Electroninks' knowledge. The information on this TDS has been updated on the date printed, and latest versions can be obtained upon request. The customer is responsible for conducting tests to determine whether Electronink's products are compatible with the customer's substrates and specific applications. .