

# Product Information Sheet



**ElectroSpense** silver conductor pastes are rheologically stable, easy-to-process materials, designed for screen printing of electrodes and conductive traces on glass or other high-temperature substrates. **ElectroSpense D-114** is designed for applications where higher conductivity is desired.

## Product Benefits

- Lead-free
- Excellent adhesion to ITO or F-doped Tin Oxide
- Ideal for printing fine features
- High conductivity
- Ease of processing

## Typical Properties

**ElectroSpense** conductor pastes are characterized by exceptional fineness of grind and particle size uniformity. Target resistivities can be realized over a broad range of firing temperatures.

Typical Properties	D-114
Resistivity (mΩ/sq @ 1 mil)	1.2-1.8
Fired Thickness (μm) <sup>1</sup>	6-8
Viscosity (kcps) <sup>2</sup>	80 ± 30
Peak Firing Temp <sup>3</sup> (°C)	500 ± 25
Time at Peak (min)	5-20
Adhesion <sup>4</sup>	Pass

- (1) Wet thickness 22-26 μm.
- (2) Measured with Brookfield R/S Rheometer, 25 mm cone/plate @ 9.6 s<sup>-1</sup>, 25°C.
- (3) Air dried 3-4 minutes and 90 to 110°C for 10-15 minutes before firing.
- (4) Scotch tape adhesion test.

## Processing Recommendations

**Application:** Screen printing

**Screen Type:** 325 mesh stainless steel

**Typical Line Resolution:** 75-125 μm (3-5 mils); no line spreading upon drying. Finer resolution is achieved under select conditions.

**Paste Storage & Shelf Life:** The paste should be stored in tightly capped containers, in a cool, dry place away from direct sunlight. Properly stored material will have a shelf life in excess of 6 months.

**Thinning:** Thinning is not recommended since the paste is supplied at the correct viscosity for application. Thinning may become necessary to replace solvent lost by evaporation. Contact Five Star for appropriate solvent choices. Samples should be thoroughly mixed prior to use.

## Applications

Bus electrodes for displays, heaters, antennae.



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