

ElectroSpense™ P-Series Screen Printing Guidelines

The following guidelines should be used for screen printing of ElectroSpense P-series polymer thick film conductor pastes.

- Stainless steel screens are recommended for screen printing all ElectroSpense P-series products, as they are cost effective and present fewer quality issues.
- Screen sizes should be chosen depending on the desired line widths:
 - For lines greater than 125 microns (5 mils) wide:
 - Use 280 mesh screens with 30 micron (1.2 mils) wire diameter
 - Emulsion thickness – 17.5 to 22.5 micron (0.7-0.9 mils)
 - For lines less than or equal to 125 microns (5 mils) wide:
 - Use 325 mesh screens with 28 micron (1.1 mils) or 23 micron (0.9 mils) wire diameter
 - Emulsion thickness – 7.6 micron (0.3 mils)

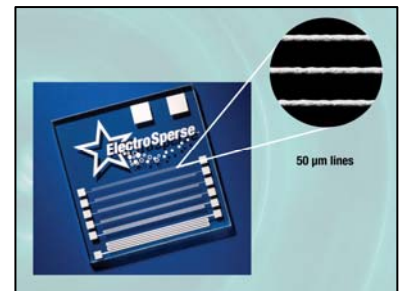
Other screen printing factors, such as print speed, squeegee pressure, durometer and angle of contact, are specific to customer operating conditions and must be adjusted accordingly. Five Star can provide direct technical support as needed to assist customers in optimization.

Thinner: ElectroSpense P-series pastes have excellent screen life and should not require thinning under normal use conditions. Should thinning be required, Butyl Carbitol Acetate (preferred solvent) and Butyl Celosolve Acetate (alternative) are recommended as thinners for ElectroSpense P-194 and P-205.

Screen Cleaning: Butyl Carbitol Acetate should be used for screen cleaning, followed by acetone, or acetone alone if Butyl Carbitol Acetate is unavailable. Strictly avoid the use of alcohols when working with ElectroSpense P-194 or P-205.

Special Handling Considerations: ElectroSpense P-205 is a thixotropic paste, specially designed for use in fine line printing. As such, the material is not free-flowing as received and should be dispensed onto the screen with a spatula. Thinning is not recommended since the paste is supplied at the correct viscosity for application. The paste should be thoroughly mixed prior to use. Mixing can be achieved through light stirring with a spatula. Optimal mixing is achieved by stirring for 30 minutes at 35°C.

P-205 can be refrigerated to extend shelf life. After refrigeration, allow the product to equilibrate to room temperature for at least 4 hours and mix the container(s) prior to use. If the product remains too viscous to dispense after refrigeration, or if the product has been exposed to prolonged cold during transit, crystallization may occur, requiring the product to be stirred at 35°C for 30 minutes.



Features as small as 50 µm can be screen printed with ElectroSpense inks

