

Product Information Sheet



ElectroSpense™ P-205 is a silver-based polymer thick film paste, designed for fine line screen printing of electrodes and conductive traces on both rigid and flexible substrates. P-205 is a high solids, one-part epoxy system that combines high productivity and ease of use with excellent conductivity and exceptional printability.

Product Benefits

- Enables direct printing of fine features
- High conductivity
- High solids for high efficiency
- Excellent adhesion to flexible media
- Easy-to-use, one-part system

Typical Properties

Paste Properties	
VOC (%)	14.6
Viscosity (cps) ¹	40,000 typical
Cured Properties	
Temperature Use Range (°C)	-50 to 200
Durability	Excellent
Sheet Resistivity (mΩ/sq @ 1 mil)	< 25
Adhesion Tape Test	Pass

(1) Brookfield R/S Rheometer, 25 mm cone/plate @ 9.6 s⁻¹, 25°C.

Processing Recommendations

Application: Screen printing

Preparation for Use: P-205 is a one-part cure system ready for use. Thinning is not recommended since the paste is supplied at the correct viscosity for application. Should thinning become necessary, ester-type solvents are recommended. Contact Five Star for appropriate solvent choices.

Typical Line Resolution: 100-125 μm (4-5 mils). Finer resolution is achieved under appropriate 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. 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.

Curing: P-205 may be cured at temperatures from 100-200°C. Recommended curing condition for proper conductivity development: 140°C for 30 minutes. Actual curing times will vary with customer use conditions.

Cleanup: For screen cleaning, use a combination of carbitol acetate and other ester solvents. Do not use alcohol-based solvents with P-205, as this may cause the product to cure on the screen.

Safety and Handling

Use with adequate ventilation. Keep away from heat, sparks and open flame. Keep container closed when not in use. Avoid prolonged contact with skin and breathing of vapors. Wash skin thoroughly with soap and water after handling. Consult the Five Star Material Safety Data Sheet for further information.

Applications

P-205 is ideally suited to applications requiring fine feature printing with tight registration. Typical applications include capacitive touch sensors, thin film photovoltaics, biosensors, flexible circuits, and RFID antenna.



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