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Conductive Flexographic Ink

PFI 200

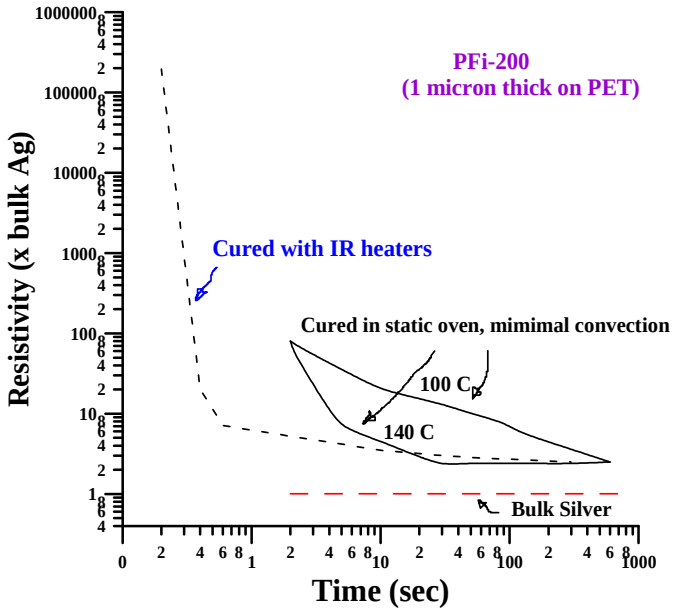
Nanoparticle Silver Ink for Substrates Requiring a Low Temperature Cure

Description:

PFI 200 is a flexographic ink formulated with silver nanoparticles to deliver high conductivity for printing conductive traces or circuits on low temperature substrates such as polyester and paper.

Features:

- Excellent for printing traces up to 2000 nm thick
- 100 micron lines and spaces possible
- Excellent adhesion for treated polyester.
- Inline curing for low temperature substrates



Physical Properties

Viscosity	500-1500 cP @ $10s^{-1}$ ($25^{o}C$)
Solvent	Water based
Silver Content	40% by weight
Color	Black

Cured Properties

Sheet Resistance	4 mΩ/sq./mil
Volume Resistance	8 μΩ-cm
Crease Resistance	Excellent
Adhesion	Excellent on PET

Application Method

The ink as supplied is ready to use with mixing to re-suspend the silver filler. Thinning can be done with distilled water. Textured plates are recommended for best results. The ink is shear thinning and performs better at print speeds in excess of 100 feet per minute. For print runs in excess of 1 hour, pH monitoring to maintain a pH of 5.2-5.6 is recommended

Curing:

Curing can be achieved inline with forced hot air at $100^{o}C$ for 30 seconds. Standard inline heaters at multiple print stations can apply heated air at run speeds in excess of 100 feet per minute. Results will vary depending upon the equipment, substrate and operating conditions. The user should examine time and temperature variables for their individual application

Compatibility:

The ink as-supplied is sensitive to the addition of “uncontrolled” solvent systems. These systems may cause the particles to settle out of solution prematurely, possibly leading to irreversible agglomeration that could lead to longer cure times and difficulty in printing. If an alternate rheology or solvent system is required, contact PChem personnel for guidance.