



Product Description

PSI-219 is an aqueous screen printable conductive ink containing PChem's proprietary silver nanoparticles. PSI-219 has been specifically formulated for excellent adhesion to a variety of substrates while maintaining high conductivity and minimal cured film thickness. This allows equivalent sheet resistances with less material usage compared to competitive inks.

Key Benefits

- Fast curing at low temperatures suitable for reel to reel processing
- Excellent conductivity and thin cured film thicknesses for material cost savings
- Good printability (< 100 micron features) with low surface roughness
- Excellent adhesion, flexibility, and crease resistance to treated PET films
- Minimal VOC's

Typical Formulation Properties

Solids Content (wt%)	44% ($\pm 2\%$)
Density (wet)	1.6 g/ml (13.4 lb/gallon)
Viscosity @ 10s-1	5,000-10,000 cP
Viscosity @ 100s-1	2500-3,000 cP
pH	5.80 (± 0.05)
Shelf Life	> 6 months (may need pH adjustment)

Typical Properties of Printed Films on PET**

Weight Resistivity	0.60 g- Ω /m ² ($\leq 3.5X$ Bulk)
Volume Resistivity	11 $\mu\Omega$ -cm (4.4 m Ω /sq/mil)
Dry Film Thickness	1.5 – 4 μ m (mesh dependent)
Printed Sheet Resistance	< 40 m Ω /sq (at 3 micron DFT)
Coverage	250-400 cm ² /g at 2-3 micron (typical DFT)

Typical Processing Guidelines

- Printing Equipment: reel to reel, manual, rotary*
- Local Humidity: > 45%*
- Substrates: Treated PET, PC, coated papers and card stock
- Screen Types: Stainless Steel & Polyester with water-compatible emulsion*
- Curing Conditions:
 - Infrared: < 5s*
 - Convection: 15-90s at 140°C, > 2 min at 80°C
- Clean-up solution: 1:10 dish detergent : water

* Please contact PChem Associates for detailed application information or assistance.

** Data represents typical properties based on controlled tests and results may vary.