



Product Description

PSI-211 is an aqueous screen printable conductive ink containing PChem's proprietary silver nanoparticles. PSI-211 has been specifically formulated for high conductivity and minimal cured film thicknesses. This allows equivalent sheet resistances with less material usage compared to conventional polymer thick film conductive 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
- Good adhesion, flexibility, and crease resistance to select 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	0.50 g- Ω /m ² ($\leq 3X$ Bulk)
Volume Resistivity	9 $\mu\Omega$ -cm (3.6 m Ω /sq/mil)
Dry Film Thickness	1.5 – 4 μ m (mesh dependent)
Printed Sheet Resistance	< 30 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 100°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.