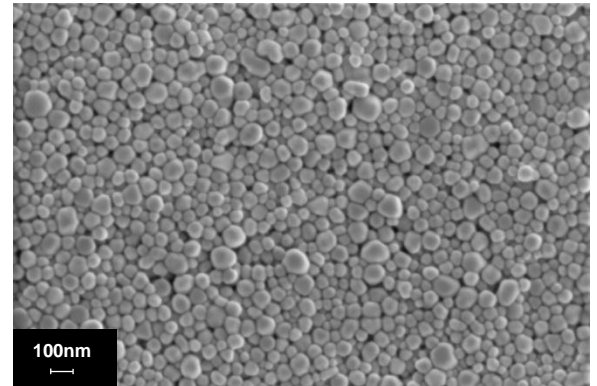


General Information

Sicrys™ I50T-13, a conductive ink based on single-crystal silver nanoparticles in tripropylene glycol monomethyl ether (TPM), is suitable for various digital printing technologies such as Inkjet and Aerosol systems. The ink offers high silver loading, low viscosity, long shelf life, storage at ambient conditions, reliable jetting and good printability. Printed and sintered patterns provide good adhesion to a wide range of substrates.

Ink Properties

Properties	Typical Values
Metal Loading, Ag (w/w)	50 %
Particle Size (Lumisizer®)	d50 = 70 nm d90 = 115 nm
Specific Gravity (Calculated)	1.76 g/ml
Viscosity (Brookfield, Cone Spindle 42, 25°C)	26 cP
Surface Tension (Du Noüy Ring Method)	28 dyne/cm
Particle Size and Morphology (HRSEM)	See HRSEM image



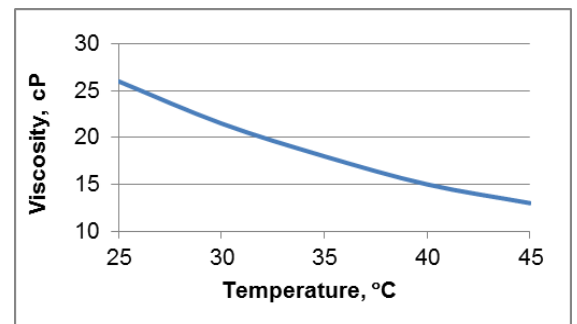
Nano Ag, HRSEM Image, x100,000

Electrical properties

Sintering Conditions (on PET)	Resistivity (4PP)
130°C/30min	≤160 μΩ-cm (≤100 bulk)
150°C/30min	≤112 μΩ-cm (≤70 bulk)
180°C/30min	≤11 μΩ-cm (≤7 bulk)

Sheet Resistance	Layer Thickness
Sintering@180°C/30min (on PET)	
0.025 Ω/□	4 μm
0.1 Ω/□	1 μm

Adhesion (ASTM 3359-09)	Rating
PC, PEN, PET	5B



Viscosity profile

Product Applications

Digital Printing (Inkjet)
Printed Electronics: FPD, RFID, PCB

