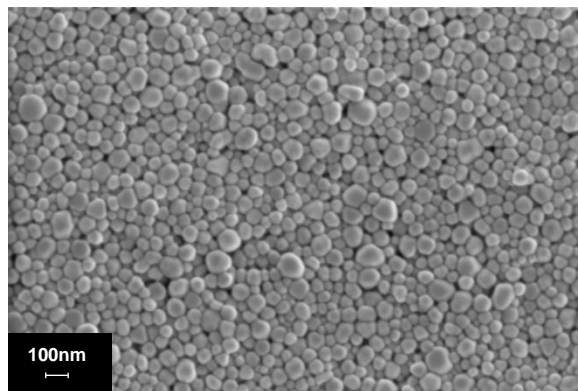


General Information

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

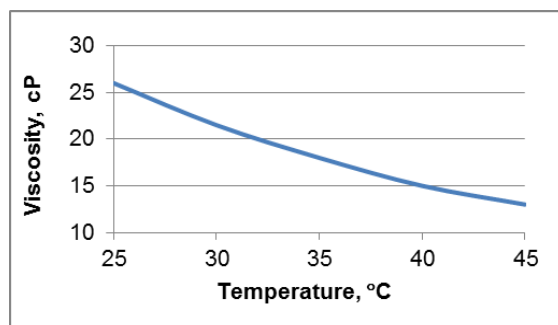
Properties	Typical Values
Metal Loading, Ag (w/w)	50 %
Particle Size (Lumisizer®)	d50 = 70 nm d90 = 125 nm
Specific Gravity	1.76 g/ml
Viscosity (Brookfield, Cone Spindle 40, 25°C)	26 cP
Surface Tension (Pendant Drop Method)	26 dyn/cm
Open Time (Ricoh E3 printhead, 35°C)	60 min
Particle Size and Morphology (HRSEM)	See HRSEM Image



Nano Ag, HRSEM Image, x100,000

Electrical and Adhesion Properties

Sintering Conditions (on PET)	Resistivity (4PP)
200°C / 30 min	≤10 μΩ·cm (≤6 bulk)
180°C / 30 min	≤24 μΩ·cm (≤15 bulk)
Sheet Resistance (180°C/30min)	Layer Thickness
100 mΩ/□	1 μm
25 mΩ/□	4 μm



Viscosity profile

Adhesion to (but not limited): PC, PEN, PET
(ISO-2409, no cuts)

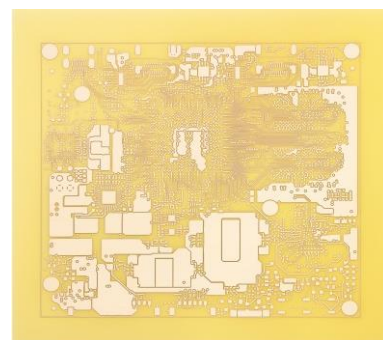
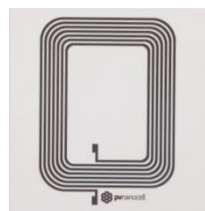
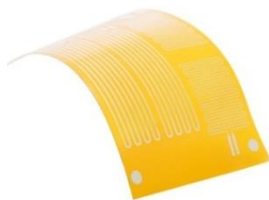
Compatible printheads[#]

Ink works well, among others, with printheads:

KM1024, KM1024i, Ricoh E3, DMC-11610, Sapphire QS-10pl

Product Applications

Digital Printing (Inkjet)
Printed Electronics



[#] - Printheads listed here were tested and perform well. Other compatible printheads may also be applicable.