

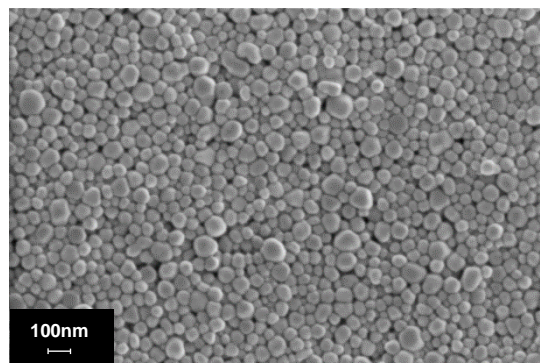
General Information

Sicrys™ I50TG4-3, conductive ink based on single-crystal **silver nanoparticles** in tripropylene glycol monomethyl ether (TPM), is designed to provide good adhesion to glass. The ink offers high silver loading, low viscosity, reliable jetting, good printability, storage at ambient conditions and long shelf life.

The ink is suitable for various digital printing technologies such as Inkjet and Aerosol systems. Applications include, but are not limited to, FPD, RFID and PCB.

Ink Properties

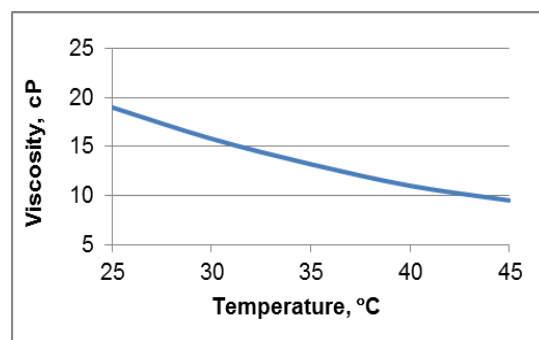
Properties	Typical Values
Metal Loading, Ag (w/w)	50 %
Ag Particle Size (Lumisizer®)	d50 = 70 nm d90 = 125 nm
Specific Gravity	1.78 g/ml
Viscosity (Brookfield, Cone Spindle 40, 25°C)	19 cP
Surface Tension (Pendant Drop Method)	27 dyn/cm
Open Time (Ricoh E3 printhead, 35°C)	10 min
Particle Size and Morphology	See HRSEM image



Nano Ag, HRSEM Image, x100,000

Electrical and Adhesion Properties

Sintering Profile (bare glass)	Resistivity (4PP)
400°C / 60min	≤3.5 μΩ-cm (≤2.2 bulk)
450°C / 15min	≤3 μΩ-cm (≤2 bulk)
Sheet Resistance	Layer Thickness
Sintering @ 450°C / 15 minutes	(bare glass)
20 mΩ/□	1 μm
4 mΩ/□	5 μm
Adhesion (ASTM 3359-09)	Rating
Glass (sintering 450°C / 15min)	5B



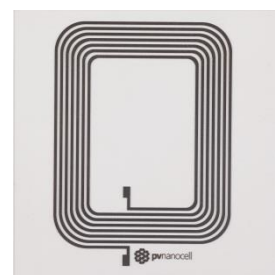
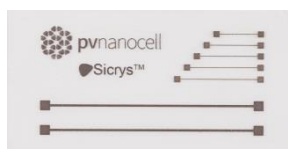
Viscosity Profile

Compatible Printheads[#]

Ink works well, among others, with printheads: **KM1024, KM1024i, Ricoh E3**

Product Applications

Digital Printing (Inkjet)
Printed Electronics



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