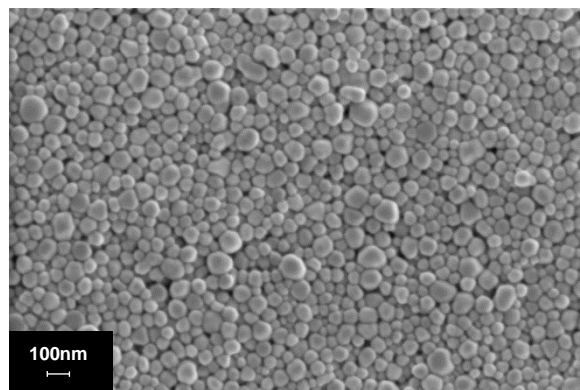


General Information

Sicrys™ I50DM-106, a conductive ink based on single-crystal **silver nanoparticles** in diethylene glycol monomethyl ether (DGME), has been designed for inkjet printing and low temperature sintering applications. The ink offers a unique combination of properties, including high silver loading, low viscosity, storage at ambient conditions, long shelf life, reliable jetting and good printability. Printed patterns, sinterable at low temperatures, provide low electrical resistivity and 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	1.87 g/ml
Viscosity (Brookfield, Cone Spindle 40, 25°C)	20 cP
Surface Tension (Pendant Drop Method)	34 dyn/cm
Open Time (Ricoh E3 printhead, 30°C)	10 min
Particle Size and Morphology (HRSEM)	See HRSEM Image



Nano Ag, HRSEM Image, x100,000

Electrical and Adhesion Properties

Substrates: ITO, glass

Sintering Profile	Resistivity (4PP)	Sheet Resistance
150°C / 30 min	≤10 μΩ·cm (≤6.3 bulk)	10 mΩ/□ (10 μm)
130°C / 30 min	≤12 μΩ·cm (≤7.5 bulk)	12 mΩ/□ (10 μm)

Adhesion (not limited) to: ITO, Glass

(ISO-2409, no cuts)

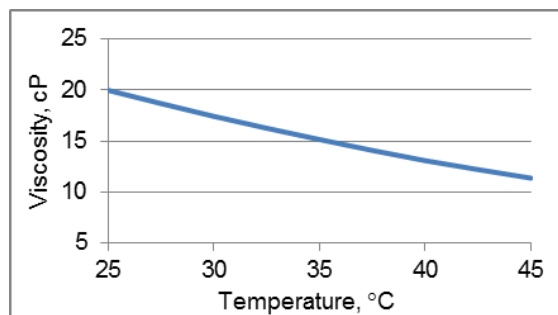
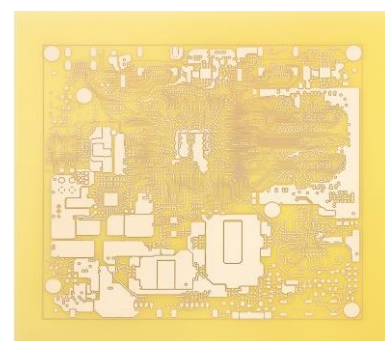
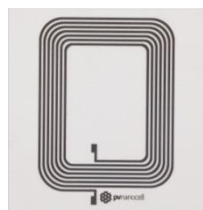
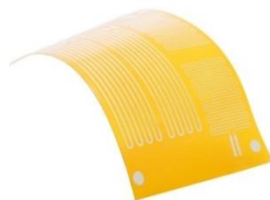
Compatible printheads[#]

Ink works well, among others, with printheads:

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

Product Applications

Digital Printing (Inkjet, Aerosol)
Printed Electronics



Viscosity Profile

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