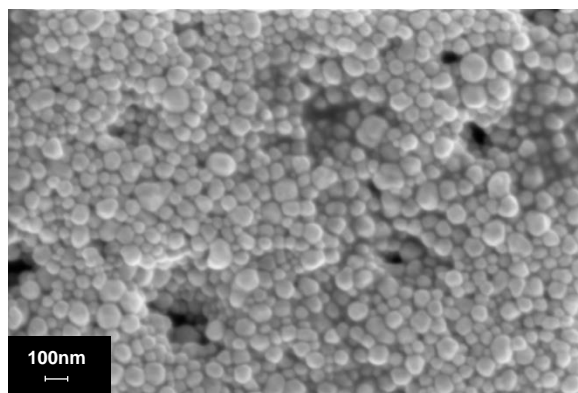


General Information

Sicrys™ I60PM-116, a conductive ink based on single-crystal **silver nanoparticles** in a mixture of propylene glycol monomethyl ether - diethylene glycol monomethyl ether solvents (PM-DGME), has been designed for Aerosol digital printing systems 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, good adhesion to a wide range of substrates and durability to humid and aqueous environments.

Ink Properties

Properties	Typical Values
Metal Loading, Ag (w/w)	60 %
Particle Size (Lumisizer®)	d50 = 70 nm d90 = 130 nm
Specific Gravity	2.19 g/ml
Viscosity (Brookfield, Cone Spindle 40, 25°C)	26 cP
Surface Tension (Pendant Drop Method)	23 dyn/cm
Particle Size and Morphology (HRSEM)	See HRSEM Image



Nano Ag, HRSEM Image, x100,000

Electrical and Adhesion Properties

Sintering conditions (on glass):	Resistivity (4PP)
Thermal: 130°C / 60 min	≤ 10 μΩ·cm (≤ 6 bulk)
Adhesion* (not limited) to: Kapton®, PC, PC/ABS, PA, Glass	
(ISO-2409, no cuts)	

Environmental Reliability

Testing conditions (on glass)	Adhesion
After soaking in NaCl 1M, 2 h	Kept
After soaking in NaCl 1M, 2 h (+) in DIW, 20 h	Kept

Compatible printheads[#]

Ink works well with printheads: **Aerosol**

Product Applications

Digital Printing (Aerosol). Printed Electronics

* - For some substrates UV sintering followed by thermal is needed to reach adhesion; UV: 9 W/cm², 2 min

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

