

## Sicrys™ Copper Digital Conductive Inks for General Purpose

Ink properties	IC25EG-1	IC40DM-7	IC50DM-7	IC50TM-8
Metal Loading (% w/w)	20%	40%	50%	50%
Main Solvent <sup>1</sup>	EG	DGME	DGME	TGME
Cu oxide in Cu nano-particles	< 10%	< 5%	< 5%	< 5%
Typical Viscosity @ 25°C (cP)	32	16	20	32
Surface Tension (dyn/cm) (Pendant Drop method)	47	28	28	30
Open Time <sup>2</sup> (jetting temperature, °C)	5 min (35°C)	1.5 min (35°C)	1.5 min (35°C)	20 min (40°C)
Resistivity (μΩcm) - Laser sintering (Photonic sintering)	≤ 5 (≤ 32)	≤ 5	≤ 5	≤ 5
Resistivity (μΩcm) - Thermal sintering (°C, min, Argon)	≤ 90 (300, 30, Ar)	≤ 120 (300, 30, Ar)	≤ 120 (300, 30, Ar)	≤ 120 (300, 30, Ar)
Substrate Adhesion <sup>3</sup> (tested) <sup>4</sup>	Kapton®, PA, LCP, Glass	Kapton®, FR4, ITO, Glass	Kapton®, FR4, ITO, Glass	Kapton®, FR4, ITO, Glass
Compatible Printing Technologies	Inkjet Aerosol	Inkjet	Inkjet Aerosol	Inkjet
Compatible Printheads <sup>4</sup>	KM1024 KM1024i Ricoh E3 Aerosol	KM1024 KM1024i Ricoh E3 DMC-11610	KM1024 KM1024i Ricoh E3 Aerosol	KM1024 KM1024i Ricoh E3

Shelf life: 12 months. Storage at room temperature under Argon. No need to stir the ink. Copper ink can be exposed to air for short periods of time (minutes), refill the bottle with Argon every time the bottle is opened.

<sup>1</sup> - Solvents: EG - ethylene glycol, DGME - diethylene glycol methyl ether, TGME - triethylene glycol methyl ether

<sup>2</sup> - Ricoh E3 printhead

<sup>3</sup> - Adhesion depends on substrate, sintering conditions, substrate pretreatment and pattern thickness  
(tested according to ASTM-3359-09 or ISO-2409)

<sup>4</sup> - Substrates and printheads listed here were tested and perform well. Other substrates and compatible printheads may also be applicable

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