

Conductor 4

Description

Voltera Conductor 4 ink is a fourth generation ink that allows for higher conductivity, improved printability, and more robust hand soldering when compared against Voltera Conductor 3.

Application notes

Curing

For best results, follow the recommendations in Table 4. For curing on the V-One, use the automatic bake cycle. The board should be face up, with clamps still attached. For a box oven, dry right side up at 100°C for 10 mins, then cure at 170°C for 10 minutes.

Soldering

Use SMD291 flux. Solder at 180°C for hand soldering and rework.

Recommended substrates

- Fibreglass epoxy or epoxy laminates (FR4, FR1), bare or soldermask-coated
- Glass (untreated, no coating)
- PET
- Polyimide (Kapton)

Design recommendations

For circuit board applications with the standard 250 µm nozzle, consider these design recommendations:

- Minimum IC pin-to-pin pitch: 0.65 mm
- Minimum 2-terminal package: 0402 (imperial)
- Minimum tracewidth: 8 mil/200 µm (recommend 10 mil)

Safety and handling:

See SDS for safety, handling, and disposal information.

Table 1: Physical and electrical properties (post-cure)

Test	Value
Sheet resistance (15 µm film thickness)	2.4 mΩ/sq
Resistivity	4.8E-06
Typical cured film thickness	15 µm

Table 2: Composition properties

Test	Value
Gravity	3.5
Clean-up solvent	Isopropyl Alcohol (99%)

Table 3: Printing properties (printed on FR4)

Test	Value
Trace spread after print	< 20%
Recommended nozzle ID	150–250 µm nozzle
Typical line width	7-9 mil 175-225 µm
*Typical print height	100 µm
*Typical feedrate	500 mm/min
*Typical kick	0.35 mm

**V-One specific settings*

Table 4: Processing parameters

Test	Value
Curing	10 Minutes at 175°C
Compatible solder	SnBiAg1 SnBiAg0.4 Sn62Pb36Ag2
Typical height (post cure)	10-30 µm
Typical shelf life	12 months, refrigerated
Storage	4–10°C, sealed container