

EI-616 Ink

SILVER CONDUCTIVE INK

Product Description

EI-616 ink is formulated for aerosol printing and for applications that require both conductivity and adhesion. The ultrasonic ink is capable of fine line <20 um printed features. EI-616 can be conductive when cured at 120 °C, but the minimum curing temperature to achieve the best conductivity is at 180 °C.

Product Highlights

- Designed for aerosol printing. Compatible with both Optomec and IDS ultrasonic system
- Marginal resistivity (~9 uohm-cm @ 180 °C)
- Adhesion to various substrates such as polyimide, glass, Si and ceramic materials

Ink Processing

Handling

- Store refrigerated at -18 °C
- Print and cure in a well-ventilated area
- Recommend not to return product to original container, due to possible contamination during use.

Curing

- 180 °C for 60 minutes in a convection oven

Table 1-Typical Ink Physical Properties

Properties	Values
Color	Dark Liquid
Viscosity	1.1 cP
Silver Content	12-13 wt%
Shelf Life	3 months at -18 °C
Resistivity	9 uOhm-cm @180 °C
Curing Temp	180 °C
Curing Time	60 minutes

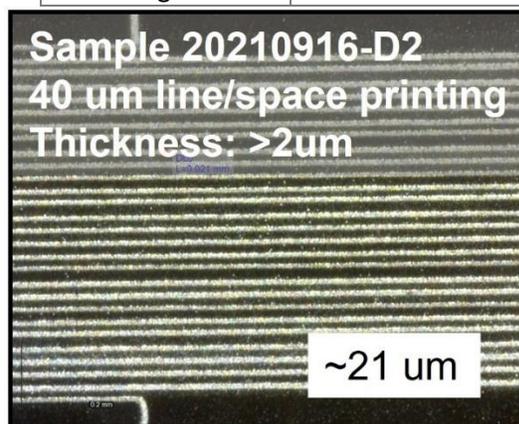


Figure 1: Optical image of 20 um wide lines

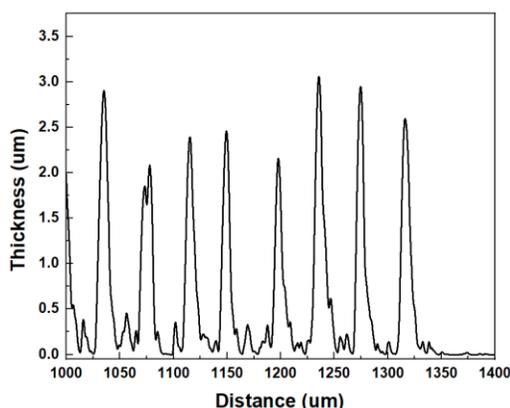


Figure 2: Profile of line and space

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Table 2: Recommended Fine Line Width Parameters and Expected Performance

Parameter	Units	Conditions
Equipment	-	IDS desktop system
Print Pattern	-	40 µm pitch test
Layers	-	2
Ink	-	EI-616
Substrate	-	Glass
Print Speed	mm/min	270
Sheath	sccm	75
Ultrasonic Atomizer	sccm	4
Atomizer Chiller Temp.	°C	30
Voltage	v	20-25
Nozzle Diameter	um	150
Platen Temperature	°C	23
Print Time	minutes	Less than 3
Final Oven Cure	°C	180 °C / 60 min
Line Width	um	Around 20 µm
Final Ink Thickness	um	2.0-2.5
Tape Test	ASTM Rated Tape	Passed

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