

Electrically conductive ink Ag 9000 EI

APPLICATION

Chimet Ag 9000 EI is a silver based polymer composition designed for screen printing for use as a front side conductor in thin film solar cells as for example, but it is not limited to, a-Si:H or CIGS. Ag 9000 EI combines high fine line resolution with conductivity, adhesion and scratch resistance.

Benefits

- Low contact resistance on transparent conductive oxides (ITO, AZO, ...)
- Low sheet resistance
- Excellent fine line capability
- Excellent adhesion to TCO
- No phenols and low odour

PROCESSING

Printing

Stainless steel screen 230 – 280 mesh, polyester screen 77 to 99 wires. A polyurethane squeegee with a shore A durometer between 70 and 80 is recommended. Emulsion 20÷40 µm.

Curing conditions

5'-10' @ 170°-200°C in a ventilated oven.

Clean-up solvents

Diethylene glycol monoethyl ether acetate or DBEs

Thinning

Use thinner 0320IT to replace solvent or to dilute the ink. Higher percentage than 1% could affect sheet resistivity.

Table 1. TYPICAL INK PROPERTIES

Appearance	thick yellowish colored ink
Viscosity #1	90 ÷ 130 Pa·s
Solid content	82 ± 2 %
Silver content	76 ± 0.5 %
Hegman Gauge	< 15 µm

Table 2. TYPICAL CURED PROPERTIES

Sheet resistivity (/square/mil)	< 15 mΩ
Thickness	10 ÷ 15 µm
Soldarable	NO

#1 Viscosity test:

Brookfield DV-II+ Pro, 10rpm #14, 25±0.5°C

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STORAGE AND SHELF LIFE

Min. 6 months when properly stored in tightly closed containers at room temperature (5°-25°C). Some settling of solids may occur during storage and ink should be thoroughly mixed prior to use.

SAFETY AND HANDLING

For safety and handling information pertaining Ag 9000 EI, read the safety material data sheet (SDS).

DISCLAIMER

The data published in this document come from experiments carried out in our laboratories and performed in conditions believed to be the most commonly accepted by the industry. It is the end-user's responsibility to check whether this product can be efficiently used in his specific process and under his specific industrial conditions which Chimet SpA can neither control nor foresee. Chimet makes no warranties expressed or implied arising from the product use. Chimet SpA specifically disclaims any liability for consequential or incidental damages of any kinds, including lost profits.

This product is for professional use only. The users are supposed to be aware of health, safety and disposal procedures and recommendations. SDS can be downloaded from the Chimet SpA website <http://sds.chimet.com/front/login>.