

# Electrically conductive ink Ag 515 EI

## APPLICATION

Ag 515 EI is a silver filled electrically conductive and screen printable ink designed to give a good balance between long open time on screens and short drying time in subsequent drying processes. Typical application includes low voltage circuitry as membrane switch, flex circuits and touch screens. Ag 515 EI can be thinned with solvent for spraying or dipping for EMI/RFI shielding applications.

## Benefits

- high adhesion on all kinds of polyester, polyimide, paper, epoxy glass and ITO
- very low sheet resistance
- outstanding crease resistance when used on flexible substrates
- compatible with UV curable dielectrics, conductive epoxy adhesives and UV curable component encapsulants
- high resistance to light discoloration
- high resistance to ambient pollutions (sulphur oxide, ...)
- fast curing

## PROCESSING

### Printing

Stainless steel screen 230 – 280 mesh, polyester screen 77 to 110 wires. A polyurethane squeegee with a shore A durometer between 70 and 80 is recommended. Emulsion 20÷40 µm.

### Curing conditions

5'-10' @ 125°C. Infra red drying can be successfully used.

### 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	15 ÷ 20 Pa·s
Solid content	73 ± 2 %
Silver content	66 ± 0.5 %
Hegman Gauge #2	< 11 µm

**Table 2. TYPICAL CURED PROPERTIES**

Sheet resistivity (/square/mil)	< 15 mΩ
Coverage [cm <sup>2</sup> /g]	< 300
Crease, bend resistance #3	ΔR <10% (@5cycles)
Thickness	6÷8 µm
Adhesion #4	Grade 5
Sulfur flowers resistance	High
Soldarable	NO

### #1 Viscosity test:

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

# Electrically conductive ink Ag 515 EI

**#2 Equipment:**

Erichsen D-58675 Hemer Grindometer (Model 232) ; 50%

**#3 Creasing and bending test:**

According to ASTM F1683

**#4 Adhesion test:**

According to ASTM F1642

*these are typical values obtained in our laboratory intended to illustrate paste potential and do not represent any specification*

**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 515 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<sup>®</sup> can neither control nor foresee. Chimet makes no warranties expressed or implied arising from the product use. Chimet SpA<sup>®</sup> 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<sup>®</sup> website <http://sds.chimet.com/front/login>.