

# Nanosilver Conductive Ink

## EMD5800

### Product Description

SunTronic™ Nanosilver EMD5800 is formulated for inkjet printing of conductive traces onto a variety of substrates.

EMD5800 is a solvent-based nanoparticle ink which demonstrates superior conductivity, at low sintering temperatures with stable jetting performance and adhesion to temperature sensitive plastics.

They can be used in the manufacture of touch panel displays, printed RFID antennae, smart cards, sensors, security labels, touch switches and other printed electronics applications.

### Typical Properties

PROPERTY	EMD5800
Silver Content	40-50%
Binder	Oil-based
Viscosity	6 – 8 cPs @25°C
Surface Tension	25 - 28 dynes/cm
Volume Resistivity	6 – 25 $\mu\Omega\cdot\text{cm}$
Sintering Temperature	100 - 150°C for 10 – 60 min.

### Application and Processing Guidelines

#### Printing

EMD5800 is supplied as ready-to-use oil based inks, and can be printed on various deposition printers and jetted on through various piezo DOD inkjet printhead suitable for oil based inks, although full printhead compatibility will need to be verified in each case.

Compatible flush SunTronic EMD0580 should be used as a head flush with the silver products.

Relevant Material Safety Data Sheet (MSDS) should be read carefully prior to using this product.

#### Sintering

Sintering conditions may change for different ink film thicknesses. Typical sintering temperature may range from 100-200°C depending on temperature tolerance of the substrate. Sintering time may range from 10-30 minutes. Electrical resistance may be reduced with higher sintering temperature and/or longer sintering times.

#### Storage and Shelf Life

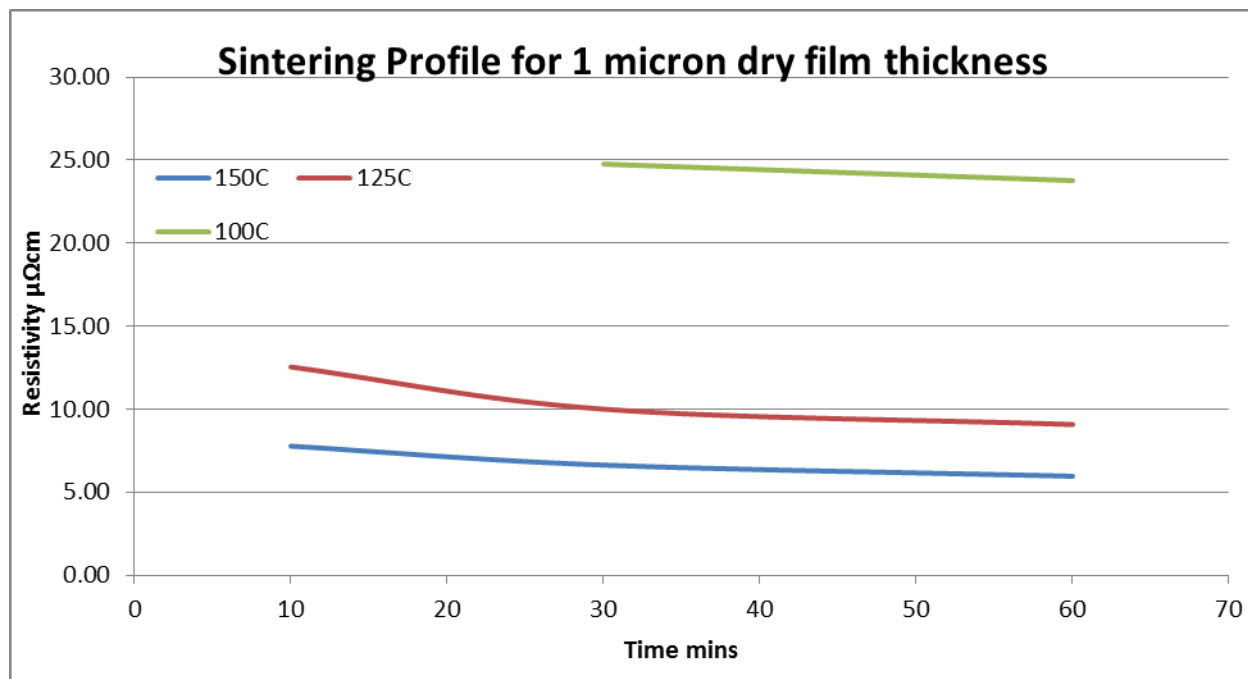
Storage at a cool room temperature 10-15°C is recommended. Refrigeration can be used but agitation to assure proper dispersion is recommended. Shelf life of the product stored in sealed containers in a cool, dry place is 3 months.

#### Availability

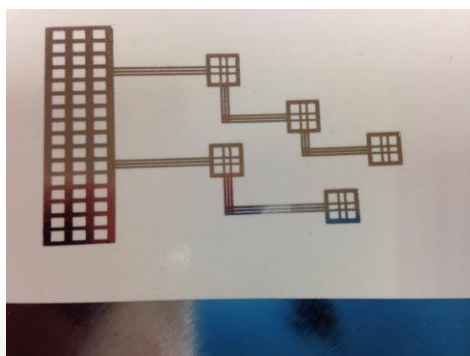
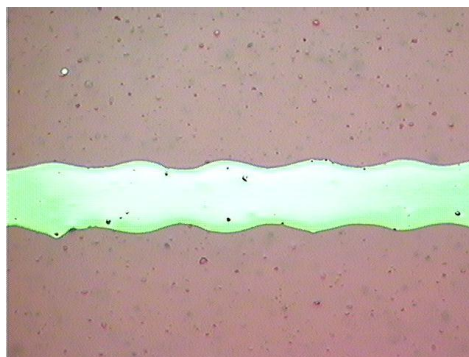
Standard packaging of 100ml and 1 Liter amber jars with HDPE screw tops are available. For orders, pricing or technical assistance, please contact your local Sun Chemical Electronic Materials sales representative.

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Additional Data Based on Printing EMD5800 on DMP



Single Pixel Line printed on DMP  
Line width circa 60-80 microns



Simple Grid Structure printed on  
DMP

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