Technical Data Sheet

LOCTITE® ECI 1006

January 2025

PRODUCT DESCRIPTION

LOCTITE® ECI 1006 provides the following product characteristics:

Technology	Thermoplastic
Appearance	Creamy, silver paste
Product benefits	• Fine-line screen printable • Halogen free • Excellent adhesion • High conductivity
Cure	Heat cure
Application	Conductive ink
Typical assembly applications	ITO film, membrane switches, digitizers, flexible circuits and electroluminescent lamps
Key substrates	PET, PI, PEN, paper, copper, ITO, glass

LOCTITE® ECI 1006 is a halogen-free, low particle size conductive silver ink with a high viscosity. It is suitable for fine line screen printing, even below 50 µm line/spacing is possible, when using appropriate processing parameter. It also shows low contact resistance and good adhesion onto ITO films. Thanks to good thermal and chemical stability, LOCTITE® ECI 1006 is compatible with high operating temperature, has good adhesion to many susbtrates, and is compatible with a large range of electrically conductive adhesives or solderable with low melting Sn42Bi58 solder for component attach.

TYPICAL PROPERTIES OF UNDRIED MATERIAL

Solid content, wt %	74
Density, g/mL	2.6
Viscosity, Brookfield, CP 52, 25°C, mPa.s (cP)	
Speed 5 rpm	83,000
Thixotropic index (5/0.5 rpm)	6.5
Theoretical coverage, @ 10µm dry coating thickness, m²/kg	14
Shelf life @ 25°C, days	365
Flash point - see SDS	

TYPICAL PROPERTIES OF THE DRIED MATERIAL

Recommended drying cycle
15 minutes @ 120°C

The above drying profile is a guideline recommendation. Conditions (time and temperature) may vary based on customers' experience and their application requirements, as well as customer drying equipment, oven loading and actual oven temperatures.

Physical properties

Adhesion, Cross Hatch, grade	5B
Pencil hardness, PET substrate	2H

Electrical properties

Sheet resistance, 10 minutes at 130°C, Ohm/sq/25µm	0.021

GENERAL INFORMATION

For safe handling information on this product, consult the Safety Data Sheet (SDS).

Directions for use

1 Surface preparation

- No surface treatment is needed for ITO or etched ITO substrates.

2 Mixing/Dilution

- Mix thoroughly before use to ensure the entire ink volume is homogenous. A slow speed propeller may be utilized to mix until product is uniform.
- Avoid rapid stirring, as this causes air entrapment.
- Should dilution be necessary, use dibasic ester, DBE (CAS: 95481-62-2). Henkel recommends a maximum of 10 wt %. This should be accomplished by adding solvent at 0.5 wt % intervals until desired viscosity and printability is achieved.

3 Application

- LOCTITE® ECI 1006 is designed for fine line screen printing application.
- Recommended screen and printing parameters are:

Stainless steel screen, mesh/inch	400
Emulsion thickness, µm	10 to 12
Polyurethane squeegee, durometer	D90
Print speed, in/sec	7 to 10
Snap-off distance, mils	50 to 80

Clean up

The screen and equipment can be cleaned with dilution solvent, or esters (butylacetate, propylacetate, or ethylacetate), or ketones (MEK, Acetone), or similar solvents.

Storage
Store product in the unopened container in a dry location. Storage information may be indicated on the product container labeling.

Optimal storage: 18 to 25°C

Material removed from containers may be contaminated during use. Do not return product to the original container. Henkel cannot assume responsibility for product which has been contaminated or stored under conditions other than those previously indicated. If additional information is required, please contact your local Henkel representative.

Not for product specifications
The technical data contained herein are intended as reference only. Please contact your local quality department for assistance and recommendations on the specifications of this product.

Conversions
(°C x 1.8) + 32 = °F
kV/mm x 25.4 = V/mil
mm / 25.4 = inches
µm / 25.4 = mil
N x 0.225 = lb
N/mm x 5.71 = lb/in
N/mm² x 145 = psi
MPa x 145 = psi
N·m x 8.851 = lb·in
N·m x 0.738 = lb·ft
N·mm x 0.142 = oz·in
mPa·s = cP

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