

# LOCTITE® ECI 1010

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## PRODUCT DESCRIPTION

LOCTITE® ECI 1010 provides the following product characteristics:

<b>Technology</b>	Thermoplastic
<b>Appearance</b>	Gray paste
<b>Filler type</b>	Silver
<b>Product benefits</b>	<ul style="list-style-type: none"> <li>• Flexible</li> <li>• Good adhesion</li> <li>• High conductivity</li> </ul>
<b>Operating temperature</b>	max 100°C
<b>Cure</b>	Heat drying
<b>Application</b>	Conductive ink
<b>Typical assembly applications</b>	Flexible printed circuits, RFID and other conductive circuits
<b>Key substrates</b>	PET, PI, PEN, Paper

LOCTITE® ECI 1010 is a state-of-the-art conductive silver ink with good adhesion and mechanical strength. It offers high conductivity combined with optimal mechanical performance. The resistance level of LOCTITE® ECI 1010 typically lies around 6 mOhm/sq/25µm. Further, it can be blended with the carbon inks LOCTITE® EDAG 440A or B and is compatible with the dielectric ink LOCTITE® EDAG PF 455B. It is also compatible with some LOCTITE® electrically conductive adhesives (ECAs) for component attach. This product is suitable for screen printing.

## TYPICAL PROPERTIES OF UNDRIED MATERIAL

Solid content, wt %	62
Density, g/mL	2.1
Viscosity, Rheometer, at 25°C; mPa.s (cP)	
Shear rate, 1.5 s <sup>-1</sup>	6,400
Theoretical coverage, m <sup>2</sup> /kg	
at 10 µm dry coating thickness	10.6
Thixotropic index (15/1.5 s <sup>-1</sup> )	1.6
Shelf life at 2 to 8°C, from date of manufacture, days	365

## TYPICAL PROPERTIES OF THE DRIED MATERIAL

**Recommended drying cycle**  
15 minutes at 120°C

LOCTITE® ECI 1010 can be dried using forced air or infrared systems. Higher temperatures for longer time exposure will improve the performance. Care should be taken with infrared. Too much energy can destroy the coating. Design drying rates for the maximum the substrate and production speeds can tolerate.

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.

## Electrical properties

Sheet resistance, 15 min at 120°C, Ohm/sq/25µm	0.0057
Resistance increase after double crease test, %	14

## GENERAL INFORMATION

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

## Directions for use

### 1 Surface preparation

- Clean surface thoroughly prior to application.

### 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.
- Should dilution be necessary, use butyl glycol acetate (CAS: 112-07-2). 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 1010 may be applied by screen printing method.
- Recommended screen and printing parameters are

Screen type	Polyester screen
Screen mesh, mesh/cm	68 to 90
Emulsion thickness, µm	10 to 40
Squeegee hardness	70 to 80

**Clean up**

1. 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: 2 to 8°C. Storage below 0°C or above 30°C can adversely affect product properties.**

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**

$(^{\circ}\text{C} \times 1.8) + 32 = ^{\circ}\text{F}$   
 $\text{kV/mm} \times 25.4 = \text{V/mil}$   
 $\text{mm} / 25.4 = \text{inches}$   
 $\mu\text{m} / 25.4 = \text{mil}$   
 $\text{N} \times 0.225 = \text{lb}$   
 $\text{N/mm} \times 5.71 = \text{lb/in}$   
 $\text{N/mm}^2 \times 145 = \text{psi}$   
 $\text{MPa} \times 145 = \text{psi}$   
 $\text{N}\cdot\text{m} \times 8.851 = \text{lb}\cdot\text{in}$   
 $\text{N}\cdot\text{m} \times 0.738 = \text{lb}\cdot\text{ft}$   
 $\text{N}\cdot\text{mm} \times 0.142 = \text{oz}\cdot\text{in}$   
 $\text{mPa}\cdot\text{s} = \text{cP}$

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