



LOCTITE® ECI 1501

November 2024

PRODUCT DESCRIPTION

LOCTITE® ECI 1501 provides the following product characteristics:

Technology	Thermoplastic
Appearance	Gray
Filler type	Silver
Product benefits	• Thermoformable • Good conductivity • Screen printable • Compatible with solvent sensitive substrates
Cure	Hot air drying
Application	Inks and coatings, Conductive and dielectric inks
Typical assembly applications	Conductive circuits
Key substrates	TPU, PET, PC

LOCTITE® ECI 1501 is a formable, conductive silver ink with a good elongation performance. It is often used to print formable circuits to create 2.5 to 3D shaped circuits and in-molded electronic (IME) solutions. LOCTITE® ECI 1501 has a possible elongation to break of ±50%. It is suitable for screen printing and compatible with polyester, polycarbonate, and some TPU foils. LOCTITE® ECI 1501 is compatible with some LOCTITE Electrically Conductive Adhesives (ECAs) for component attach.

TYPICAL PROPERTIES OF UNDRIED MATERIAL

Density, g/ml	2.2
Viscosity @ 25 °C, Rheometer, 1.5 s ⁻¹ , mPa.s (cP)	27,000
Solid content, (wt%)	70
Thixotropic index (15/1.5 s ⁻¹)	2.1
Theoretical coverage, @ 10 µm dry coating thickness, m ² /kg	14
Shelf life @ 5 to 30°C, (from date of manufacture), days	365
Flash Point - See SDS	

TYPICAL DRYING PERFORMANCE

Recommended drying cycle
15 minutes, 120°C

LOCTITE® ECI 1501 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.

TYPICAL PROPERTIES OF THE DRIED MATERIAL

Physical properties

Adhesion to PET (Autostat CUS5), ASTM 3359, Method B, grade	5B
Elongation before break, %	> 50

Electrical properties

Sheet resistance, 4-point probe, Ohm/sq/25µm 15 min at 120°C	0.016
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GENERAL INFORMATION

Please consult the Safety Data Sheet (SDS) for safe handling information of this product.

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 diethylene glycol butyl ether (CAS: 112-34-5).. 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

Recommended screen and printing parameters are:	
Emulsion, solvent resistant, µm	10 to 40
Screen type, stainless steel, mesh/inch	180 to 250
Squeegee hardness	70 to 90

CLEAN UP

The screen and equipment can be cleaned with dilution solvent, or esters (PM-acetate, 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: 20 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

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

Disclaimer

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