

LOCTITE ECI 1001 E&C

August 2022

PRODUCT DESCRIPTION

LOCTITE ECI 1001 E&C provides the following product characteristics:

Technology	Thermoplastic
Appearance	Grey Paste
Operating Temperature -Maximum	105°C
Product Benefits	<ul style="list-style-type: none"> • Highly conductive • Low silver content – Low cost
Filler Type	Silver
Cure	Hot air drying or infrared
Application	Conductive Ink
Application Method	Screen printing
Typical Assembly Applications	PTF circuits, membrane touch switches and Flexible circuits
Key Substrates	Heat treated PET, PEN and PI

LOCTITE ECI 1001 E&C screen printable, conductive ink is designed for use on membrane touch switch and other flex circuit applications. It offers excellent balance of flexibility, hardness and adhesion. Its low silver content reduces the price per kg.

TYPICAL PROPERTIES OF UNDRIED MATERIAL

Viscosity, Brookfield , 25 °C, mPa·s (cP):

Speed 20 rpm	14,000
Density, g/cm ³	1.6
Solids Content, after 1 hour @ 150°C, %	51
Shelf Life @ 5°C, months	12
Flash Point - See SDS	
Theoretical coverage @ 10 µm dry film thickness, m ² /kg	12

TYPICAL SCREEN PRINTING PROCESS**Recommended Dry Film Thickness**

Dry Film Thickness, µm	6 to 10
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Emulsion Thickness

Emulsion Thickness, µm	10 to 40
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Recommended Screen Mesh

Screen Type, Polyester screen, mesh/cm	64 to 80
Stainless steel screen, mesh/inch	250 to 300

Recommended Squeegee

Polyurethane, durometer	70A to 80A
Squeegee Hardness	70 to 90

TYPICAL DRYING PERFORMANCE**Recommended Drying Cycle**

10 minutes @ 120°C Minimum, in Convection oven

LOCTITE ECI 1001 E&C 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.

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 DRIED MATERIAL**Physical Properties :**

Pencil hardness, ASTM 3363	≥ 2H
Adhesion on PET, ASTM D3359 Method B, grade	5B

Electrical Properties :

Sheet Resistance , 4-point probe, Ohm/sq/25µm	0.02
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GENERAL INFORMATION

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

STORAGE

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

Optimal Storage : 4 to 8 °C

Material removed from containers may be contaminated during use. Do not return product to the original container. Henkel Corporation 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.

Conversions

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

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Reference 0.2