

**LOCTITE ECI 1001 E&C**

August 2022

**PRODUCT DESCRIPTION**

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

|                                |                                                                                                                |
|--------------------------------|----------------------------------------------------------------------------------------------------------------|
| <b>Technology</b>              | Thermoplastic                                                                                                  |
| Appearance                     | Grey Paste                                                                                                     |
| Operating Temperature -Maximum | 105°C                                                                                                          |
| Product Benefits               | <ul style="list-style-type: none"> <li>• Highly conductive</li> <li>• Low silver content – Low cost</li> </ul> |
| Filler Type                    | Silver                                                                                                         |
| <b>Cure</b>                    | Hot air drying or infrared                                                                                     |
| <b>Application</b>             | 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 <sup>3</sup>                                          | 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 <sup>2</sup> /kg | 12     |

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

|                        |         |
|------------------------|---------|
| Dry Film Thickness, µm | 6 to 10 |
|------------------------|---------|

**Emulsion Thickness**

|                        |          |
|------------------------|----------|
| Emulsion Thickness, µm | 10 to 40 |
|------------------------|----------|

**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 |
|-----------------------------------------------|------|

**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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