Technical Data Sheet

LOCTITE ECI 1501 E&C

October 2019

PRODUCT DESCRIPTION

LOCTITE ECI 1501 E&C 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 E&C thermoforming, electrically conductive ink specially formulated for use in electronic circuit assembly applications.

TYPICAL PROPERTIES OF UNCURED MATERIAL

Solids Content, box oven 2 hours @ 150°C, %	70
Density, g/ml	2.2
Viscosity, Plate & Plate, mPa·s (cP):	
Plate 20 mm gap @ Shear rate 15 s^{-1}	13,000
Thixotropic Index (1.5/15 s^{-1})	2.0
Shelf Life @ 5 to 30°C (from date of manufacture), days	365
Theoretical coverage @ 10 µm dry coating thickness, m^2 /kg	14
Flash Point - See SDS	

TYPICAL CURING PERFORMANCE

Recommended Drying Cycle

15 minutes @ 120°C

LOCTITE ECI 1501 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. 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 CURED MATERIAL

Physical Properties

Adhesion to PET (Autostat CUS5), ASTM 3359 Method B, grade	5B

Electrical Properties

Sheet Resistance , 4-point probe, Ohm/sq/25µm	<0.025

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 it is homogenous. A slow speed propeller may be utilized to mix until product is uniform.
   - If needed, the ink can be diluted with butyl carbitol
3. **Application**
   - Recommended screen and printing parameters are:

Emulsion, Solvent resistant, µm	10 to 40
Screen Type, Polyester, mesh/inch	180 to 250
Squeegee Hardness	70 to 90

CLEAN-UP

- Carbitol acetate can be used to clean the screen.

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 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 Technical Service Center or Customer Service Representative.

Conversions

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

Disclaimer

Note:
The information provided in this Technical Data Sheet (TDS) including the recommendations for use and application of the product are based on our knowledge and experience of the product as at the date of this TDS. The product can have a variety of different applications as well as differing application and working conditions in your environment that are beyond our control. Henkel is, therefore, not liable for the suitability of our product for the production processes and conditions in respect of which you use them, as well as the intended applications and results. We strongly recommend that you carry out your own prior trials to confirm such suitability of our product.
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