

LOCTITE ECI 8001 E&C

September 2015

PRODUCT DESCRIPTION

LOCTITE ECI 8001 E&C provides the following product characteristics:

Technology	Thermoplastic
Appearance	Black paste
Product Benefits	<ul style="list-style-type: none"> • Screen printable • Flexible • Printable on most common substrates • Rapid heating with fast, defined cut-off temperatures, no external control devices needed
Filler Type	Carbon
Operating Temperature	65°C
Cure	Hot air drying or infrared
Application	Conductive Ink
Typical Assembly Applications	Self regulating heating elements
Key Substrates	PET substrates

LOCTITE ECI 8001 E&C is a Positive Temperature Coefficient (PTC) screen printable ink designed for applications where self regulating heaters are required. This material is formulated to rapidly heat to a specific threshold temperature and then maintain constant temperature for the device.

TYPICAL PROPERTIES OF UNCURED MATERIAL

Solids Content (TGA, 1hour @ 150°C), %	50
Density, g/ml	1.0
Viscosity, Plate & Plate, mPa·s (cP):	
Plate 20mm @ Shear rate 15 s ⁻¹	6,500
Thixotropic Index (1.5/15 rpm)	6.0
Theoretical coverage, m ² /kg:	
@ 10 µm coating thickness	48
Flash Point - See SDS	

TYPICAL CURING PERFORMANCE

Recommended Drying Cycle

10 minutes @ 120°C

LOCTITE ECI 8001 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.

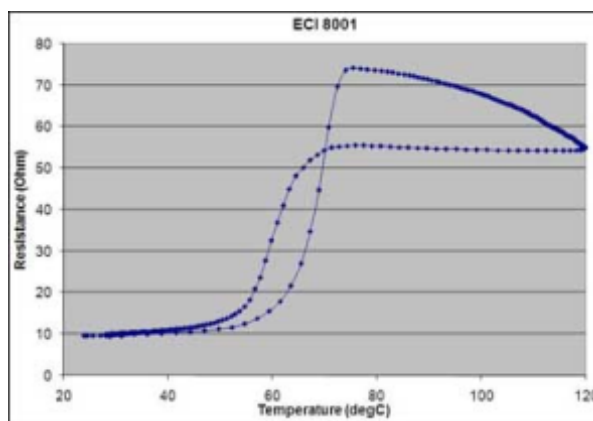
TYPICAL PROPERTIES OF CURED MATERIAL

Electrical Properties

Electrical Resistance per 25 µm, kOhm/sq	1.7
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Resistance vs. Temperature

Below is the Resistance versus Temperature curve of dried PTC-ink, measured on a test design.



TYPICAL PERFORMANCE OF CURED MATERIAL

Miscellaneous

Adhesion Strength	5B
PET/PTC ratio	>7

GENERAL INFORMATION

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

DIRECTIONS FOR USE

1. LOCTITE ECI 8001 E&C is supplied ready for use
2. Mix thoroughly with plastic spatula or mechanical stirrer from bottom of container, careful not to whip air in to the product.
3. If dilution is necessary, use Butylglycolacetate.
4. This product can be applied by screen printing through a 250 mesh stainless steel screen

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 specifications for this product.

Clean-up

The equipment can be cleaned with esters (butylacetate, ethylacetate) or ketones (MIBK, MEK).

Storage

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

Optimal Storage: 0 to 40°C. Storage below 0°C or above 40°C can adversely affect product properties.

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

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

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Reference 0.2