Technical Data Sheet

LOCTITE PE 401E E&C

October 2014

PRODUCT DESCRIPTION

LOCTITE PE 401E E&C provides the following product characteristics:

Technology	Thermoplastic
Appearance	Black
Operating Temperature - Continuous	105°C
Product Benefits	• Screen printable • Good screen residence time • Non-critical, flexible low temperature drying cycles • Excellent adhesion to PVC and Polycarbonate • Compatible for use with polyester film, polycarbonate film, PVC film, paper or cardboard
Cure	Air dry
Application	Conductive Ink
Typical Assembly Applications	• Membrane touch switches • Printed resistors • Keyboards • Heating elements • Flexible circuitry • Protection against electrostatic discharge (ESD)

LOCTITE PE 401E E&C conductive, screen printable ink is a blend of finely divided carbon particles disperesed in a thermoplastic resin. It is specifically designed for use in the assembly of low voltage circuitry on sensitive substrates such as polycarbonate and PVC.

TYPICAL PROPERTIES OF UNCURED MATERIAL

Solids Content, %	36
Viscosity, Brookfield , 20 °C, mPa·s (cP):	
Speed 20 rpm	16,400
Shelf Life @ 25 °C (from date of manufacture), days	365
Flash Point - See SDS	

TYPICAL SCREEN PRINTING PROCESS

Printing Equipment Type

Manual
Semi-automatic
High speed reel-to-reel

Recommended Screen Type

Monofilament polyester screen, threads/cm	69 to 90
Stainless steel screen, threads/cm	77 to 110

Recommended Squeegee

Polyurethane , durometer	70 to 75

Emulsion Thickness

Emulsion Thickness , µm	20 to 40

Applied Dry Coating Thickness

Applied Dry Coating Thickness, µm	6 to 10

TYPICAL DRYING CYCLE

Recommended Drying Cycle

30 minutes @ 90 °C
15 minutes @ 120 °C

LOCTITE PE 401E E&C can be dried immediately after printing.

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

Dry Coating on Polycarbonate film, dried 30 minutes @ 90ºC

Physical Properties

Adhesion , ASTM 3359 Method B, grade	5B

Electrical Properties

Electrical Resistance, ohms/sq/mil	25

GENERAL INFORMATION

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

DIRECTIONS FOR USE

1. LOCTITE PE 401E E&C is supplied ready for use and does not require dilution.
2. Avoid rapid stirring as this causes air entrapment.
3. Should thinning become necessary, dilute 1 to 3% by weight with Arcosolv PM-Acetate.
4. The equipment can be cleaned with MEK, MIBK, Acetone or similar solvents.
5. If a gel structure forms after extended storage, the product may be warmed slightly in a water bath (not exceeding 65ºC) and stirred.

Storage

Store product in the unopened container in a cool dry well ventilated area. Storage information may be indicated on the product container labeling.

Optimal Storage : 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.

Empty containers may retain hazardous properties.

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.

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

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Reference 0.1