

LOCTITE M 4100 MINICO E&C

September 2014

PRODUCT DESCRIPTION

LOCTITE M 4100 MINICO E&C provides the following product characteristics:

Technology	Thermosetting
Appearance	Silver
Product Benefits	<ul style="list-style-type: none"> • Conductive • Screen printable • One component • Electroless nickel plateable
Cure	Heat cure
Application	Conductive Ink
Filler Type	Silver
Typical Assembly Applications	Interconnect and Crossovers
Key Substrates	FR-2, FR-3, FR-4, FR-5, CEM-1, CEM-3, Copper and Ceramic

LOCTITE M 4100 MINICO E&C electroless nickel plateable conductive polymer is designed as a terminator where the M 2000 RS MINICO E&C polymer resistor series has been applied. This material is designed to be applied using standard screen printing methods.

TYPICAL PROPERTIES OF UNCURED MATERIAL

Solids Content, %	78
Viscosity, Brookfield - HBT, mPa·s (cP)	45
Density, kg/cm ³	2,800
Shelf Life @ 18 to 25°C, days:	
From date of qualification in original seal	365
Theoretical coverage, m ² /kg:	
Wet product @ 10 µm dry coating thickness	14

TYPICAL SCREEN PRINTING PROCESS

Emulsion Thickness	
Direct or indirect emulsion µm	25 to 50
Printing Equipment Type	
Manual	
Semi-automatic	
Recommended Screen Type	
Monofilament polyester & Stainless Steel threads/cm	61 to 77
Recommended Squeegee	
Polyurethane, Shore Hardness	60 to 75
Speed (not to exceed), cm/s	10

TYPICAL DRYING CYCLE

5 minutes @ 120 °C:

TYPICAL CURING PERFORMANCE

Convection Box Oven

20 minutes @ 200°C

Infrared Heat Source

2 to 6 minutes @ 200°C

These cure schedules are a general guideline for additive circuitry. Other cure schedules can be utilized depending on laminates and processing parameters.

The above cure profile is a guideline recommendation. Cure conditions (time and temperature) may vary based on customers' experience and their application requirements, as well as customer curing equipment, oven loading and actual oven temperatures.

TYPICAL PROPERTIES OF CURED MATERIAL

Cured as coating on FR4

Physical Properties :

Adhesion, grade 5B

Electrical Properties:

Sheet Resistivity @ 25µm, ohms/sq <0.04

GENERAL INFORMATION

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

DIRECTIONS FOR USE

1. LOCTITE M 4100 MINICO E&C should be thoroughly stirred prior to use. Avoid rapid stirring as this causes air entrapment.
2. Should thinning become necessary, dilute (not to exceed) 0.5% by weight with Electrodag Diluent 2.

Storage

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

Store in a cool, well ventilated area.

Optimal Storage : 18 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.

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

$(^{\circ}\text{C} \times 1.8) + 32 = ^{\circ}\text{F}$
 kV/mm $\times 25.4 = \text{V/mil}$
 mm / 25.4 = inches
 N $\times 0.225 = \text{lb}$
 N/mm $\times 5.71 = \text{lb/in}$
 N/mm² $\times 145 = \text{psi}$
 MPa = N/mm²
 MPa $\times 145 = \text{psi}$
 N·m $\times 8.851 = \text{lb-in}$
 N·m $\times 0.738 = \text{lb-ft}$
 N·mm $\times 0.142 = \text{oz-in}$
 mPa·s = cP

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Reference 0.1