Technical Data Sheet

LOCTITE ECCOBOND EO1016

April 2023

PRODUCT DESCRIPTION

LOCTITE ECCOBOND EO1016 provides the following product characteristics:

Technology	Epoxy
Appearance (cured)	Black
Product Benefits	• Excellent shelf stability • Fast curing • flame-out
Components	One-component
Cure	Heat cure
Application	Encapsulation
Typical Applications	IC's, transistors and similar semiconductors
Flammability Rating	Passes UL 94 V-0

LOCTITE ECCOBOND EO1016 is an epoxy encapsulant intended for applications requiring excellent handling properties. The cured material survives severe thermal shock and offers continuous service to 177 °C. It is particularly suited for use on transistors and similar semiconductors, can be used for encapsulation of watch ICs.

TYPICAL PROPERTIES OF UNCURED MATERIAL

Viscosity, Brookfield - RVF, 25 °C, mPa·s (cP):	
Spindle 6, speed 2 rpm	62,000
Spindle 6, speed 20 rpm	58,000
Thixotropic Index	1.1
Specific Gravity @ 25ºC	1.56
Shelf Life:	
@ 4ºC, days	365
@ -40ºC, days	365
Gel Time @ 121ºC, minutes	4.5
Pot life@ 25°C, days	91
Flash Point - See SDS	

TYPICAL CURING PERFORMANCE Recommended Cure Schedule

20 minutes @ 150°C

Alternate Cure Schedule

24 hours @ 93°C

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

Differential Scanning Calorimetry

Initial Temperature, °C	122
Peak Temperature, °C	138
Energy to break point, Joules	0.414

TYPICAL PROPERTIES OF CURED MATERIAL

Physical Properties:

Coefficient of Linear Thermal Expansion, ppm/ºC:		
Below Tg		46
Above Tg		140
Glass Transition Temperature, °C		126
Coefficient of Thermal Conductivity, W/(m-K)		0.39
Tensile Strength	N/mm² (psi)	55.17 (8,000)
Flexural Modulus	N/mm² (psi)	5,880 (852,600)
Flexural strength	N/mm² (psi)	100 (14,500)
Adhesion, psi Cohesive Al-Al Tensile shear		3,660
Elongation, %		1.8
Shore Hardness, Durometer D		≥86
Linear Shrinkage, 10 grams, %		1.7
Moisture Absorption, %:		
24 hours immersion @ 25°C		0.06
24 hours immersion @ 50°C		0.23

Electrical Properties:

Dielectric Constant / Dissipation Factor, IEC 60250:	
@ 25 °C:	
1kHz	4.3 / 0.0084
Arc Resistance, ASTM D495,	180
Volume Resistivity, IEC 60093, Ohm-cm	6×10^{15}
Surface Resistivity, IEC 60093, Ohm-cm	1×10^{16}

GENERAL INFORMATION

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

Directions for use

1. Mix thoroughly each time it is used.
2. Heating to 32 to 43°C will lower viscosity and aid in mixing and pouring.

STORAGE

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

Optimal Storage: -40 °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

(°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
N/mm² x 145 = psi
N/mm² = MPa
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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