

LOCTITE® ECCOBOND EO1016

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PRODUCT DESCRIPTION

LOCTITE® ECCOBOND EO1016 provides the following product characteristics:

Technology	Epoxy
Appearance (cured)	Black
Product benefits	<ul style="list-style-type: none"> • 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 @ 25°C	1.56
Shelf life	
@ 4°C, days	365
@ -40°C, days	365
Gel time @121°C, 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 profiles are guideline recommendations. These 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, J	0.414

TYPICAL PERFORMANCE OF CURED MATERIAL

Physical properties

Coefficient of linear thermal expansion, ppm/°C:		
Below Tg		46
Above Tg		140
Glass transition temperature, °C		126
Coefficient of thermal conductivity, W/(m·K)		0.39
Tensile strength	N/mm ² (psi)	55.17 (8,000)
Flexural modulus	N/mm ² (psi)	5,880 (852,600)
Flexural strength	N/mm ² (psi)	100 (14,500)
Adhesion, psi		3,660
Cohesive		
Al-Al Tensile shear		
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 EC 60250: @ 25 °C:		
1kHz		4.3 / 0.0084
Arc resistance, ASTM D495		180
Volume resistivity, IEC 60093, Ω·cm		6x10 ¹⁵
Surface resistivity, IEC 60093, Ω·cm		1x10 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: Refer to package label for proper storage conditions.

Material removed from containers may be contaminated during use. Do not return product to the original container. Henkel 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

$(^{\circ}\text{C} \times 1.8) + 32 = ^{\circ}\text{F}$

$\text{kV/mm} \times 25.4 = \text{V/mil}$

$\text{mm} / 25.4 = \text{inches}$

$\mu\text{m} / 25.4 = \text{mil}$

$\text{N} \times 0.225 = \text{lb}$

$\text{N/mm} \times 5.71 = \text{lb/in}$

$\text{N/mm}^2 \times 145 = \text{psi}$

$\text{MPa} \times 145 = \text{psi}$

$\text{N}\cdot\text{m} \times 8.851 = \text{lb}\cdot\text{in}$

$\text{N}\cdot\text{m} \times 0.738 = \text{lb}\cdot\text{ft}$

$\text{N}\cdot\text{mm} \times 0.142 = \text{oz}\cdot\text{in}$

$\text{mPa}\cdot\text{s} = \text{cP}$

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