



EO1016

July 2010

PRODUCT DESCRIPTION

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	Encapsulant
Typical Applications	IC's, transistors and similar semiconductors
Flammability	Passes UL 94V-0

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	62,000
Spindle 6, speed 20	58,000

Thixotropic Index 1.1

Specific Gravity @ 25°C 1.56

Shelf Life:

@ 4°C, months	12
@ -40°C, months	12

Gel Time @ 121°C, minutes 4.5

Pot life @ 25 °C, months 3

Flash Point - See MSDS

TYPICAL CURING PERFORMANCE

Recommended Cure Schedule

20 minutes @ 150°C

Alternative Cure Schedule

24 hours @ 93°C

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.

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/°C:	
Below Tg	46
Above Tg	140

Glass Transition Temperature, °C 126

Coefficient of Thermal Conductivity, W/(m·K) 0.39

Extractable Ionic Content, ppm:
Chloride (Cl-) 1.2

Tensile Strength N/mm² 55.17
(psi) (8,000)

Flexural Modulus N/mm² 5,880
(psi) (852,600)

Flexural strength N/mm² 100
(psi) (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, IEC 60250:

@ 25 °C:
1kHz 4.3 / 0.0084

Arc Resistance, ASTM D495, 180

Volume Resistivity, IEC 60093, 6×10¹⁵

Surface Resistivity, IEC 60093, 1×10¹⁶

GENERAL INFORMATION

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

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.

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.

Liquid Storage - Liquids should be stored at 23°C or below, in closed containers. If stored below 23°C, the material MUST be allowed to come to room temperature, in the sealed container, to avoid moisture contamination.

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

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

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

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

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

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

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

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

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

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

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

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

Note

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Reference 0.0