

LOCTITE ECCOBOND EO7039

December 2016

PRODUCT DESCRIPTION

LOCTITE ECCOBOND EO7039 provides the following product characteristics:

Technology	Epoxy
Appearance	Black
Product Benefits	<ul style="list-style-type: none">• Electrically non-conductive• Hydrophobic• Stable at high temperatures• Void-free bondline• Long pot life• Fast cure at low temperatures
Cure	Heat cure
Application	Encapsulant
Typical Assembly Applications	Smart card IC module

LOCTITE ECCOBOND EO7039 encapsulant is designed for attachment of integrated circuits and components to advanced flexible substrates. This material is formulated to produce a void-free bond line with excellent interfacial adhesive strength to a wide variety of organic substrates and various metal surfaces.

TYPICAL PROPERTIES OF UNCURED MATERIAL

Viscosity @ 25 °C, mPa·s (cP):	
Speed 5 rpm	20,000
Thixotropic Index (0.5/5 rpm)	1.6
Particle Size, µm	50
Shelf Life @ 5°C (from date of manufacture), months	6
Pot Life @ 25°C, days	7
Flash Point - See SDS	

TYPICAL CURING PERFORMANCE

Recommended Cure Schedule

45 to 60 seconds @ 120°C in Conventional oven

The temperatures stated are bondline temperatures and the stated times are at temperature

If adhesion needs to be further improved on certain organic substrates, a bondline temperature of 60 seconds @ 140°C is recommended.

LOCTITE ECCOBOND EO7039 can also be cured using IR or convection ovens.

The above cure profiles are guideline recommendations. 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

Physical Properties :

Glass Transition Temperature (Tg) by TMA, °C	85
Coefficient of Thermal Expansion :	
Alpha 1, ppm/°C	55
Alpha 2, ppm/°C	160

TYPICAL PERFORMANCE OF CURED MATERIAL

Die Shear Strength:

Die on Organic substrate, kg/mm ²	1.3
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GENERAL INFORMATION

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

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. LOCTITE ECCOBOND EO7039 adhesion is tested using die sizes up to 18 mm² with 15 to 20 µm bondline thickness..
2. Thinner bondline may increase stress and decrease adhesion. Please contact your nearest Henkel Technical Service engineer for consultation.
3. LOCTITE ECCOBOND EO7039 has excellent rheology and flow easily under shear stresses such as those present during die bonding. Therefore, bondforces used with other adhesives which produce a certain bondline thickness may result in thinner bondlines when used with LOCTITE ECCOBOND EO7039.
4. Optimization of diebonding parameters is strongly recommended to consistently meet target bondline thickness.

STORAGE:

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

Optimal Storage : 2 to 8 °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.

Conversions $(^{\circ}\text{C} \times 1.8) + 32 = ^{\circ}\text{F}$ $\text{kV/mm} \times 25.4 = \text{V/mil}$ $\text{mm} / 25.4 = \text{inches}$ $\text{N} \times 0.225 = \text{lb}$ $\text{N/mm} \times 5.71 = \text{lb/in}$ $\text{psi} \times 145 = \text{N/mm}^2$ $\text{MPa} = \text{N/mm}^2$ $\text{N}\cdot\text{m} \times 8.851 = \text{lb}\cdot\text{in}$ $\text{N}\cdot\text{m} \times 0.738 = \text{lb}\cdot\text{ft}$ $\text{N}\cdot\text{mm} \times 0.142 = \text{oz}\cdot\text{in}$ $\text{mPa}\cdot\text{s} = \text{cP}$ **Disclaimer****Note:**

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