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LOCTITE

Technical Data Sheet

LOCTITE ECCOBOND FP0097

September 2012

PRODUCT DESCRIPTION

LOCTITE ECCOBOND FP0097 provides the following product characteristics:

Technology	Epoxy
Appearance	Black
Product Benefits	• High purity • Low ionic impurities • Improved wet adhesion • Excellent moisture resistance • Good thermal stability • High flow properties • Forms a rigid, low stress seal
Cure	Heat cure
Application	Encapsulant
Operating Temperature	-65 to 150 °C

LOCTITE ECCOBOND FP0097 high performance liquid epoxy encapsulant is designed to dissipate stress and extend thermal cycling performance. Autoclave performance on live devices is greater than 1,000 hours with no failure, depending upon device and package type. LOCTITE ECCOBOND FP0097 features filler with 25micron maximum particle size, giving it improved handling properties for fine wire pitch applications.

TYPICAL PROPERTIES OF UNCURED MATERIAL

Viscosity, Brookfield - RVF, 25 °C, mPa·s (cP):	
Spindle 6, speed 20 rpm	20,000
Filler Content, % Ignition	73
Pot Life @ 25 °C (time to double viscosity), days	4
Gel Time @ 121ºC, minutes	11
Shelf Life @ -40°C, days	274
Flash Point - See SDS	

TYPICAL CURING PERFORMANCE

Recommended Cure Schedule

30 minutes @ 125°C plus
90 minutes @ 165°C
Designed to be used with packages which are affected by higher levels of stress. This cure will give optimum properties.

Alternate Cure Schedule

1 hour @ 110°C plus
3 hours @ 165°C
Designed for robust packages which are not sensitive to stress.

Substrate Temperature

Temperature, °C	90

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

Physical Properties :

Coefficient of Thermal Expansion , ppm/°C:		
Below Tg (40 to 120°C)		21
Above Tg (190 to 220°C)		72
Glass Transition Temperature (Tg), °C		149
Extractable Ionic Content, ppm:		
Chloride (Cl-)		<2
Sodium (Na+)		<1
Flexural strength	N/mm²	113
	(psi)	(16,385)
Flexural Modulus	N/mm²	11,500
	(psi)	(1,667,500)
Alpha Particle Emissions, cts/cm² /hr		0.001

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.

THAWING:

1. Frozen packages must be completely thawed before use.
2. Store tip down and warm at room temperature until no longer cool to the touch (normally 60 to 90 minutes).
3. DO NOT thaw in an oven.

DIRECTIONS FOR USE

1. A positive displacement pump is recommended for reproducible shot sizes.
2. An 18 to 20gauge tapered tip needle should be used for easy dispensing.
3. For best results, the material should be dispensed onto a substrate that has been preheated to approximately 90°C and held at that temperature until flow stops.
4. Moisture curing begins immediately after product is exposed to the atmosphere. Parts should be assembled within a few minutes after the product is applied.
5. The cured properties of moisture contaminated material will be poorer than those described.
6. **NOTE:** Elevated temperatures reduce working life.

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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. Storage below minus (-)40 °C or greater than minus (-)40 °C can adversely affect product properties.

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
(°C x 1.8) + 32 = °F
kV/mm x 25.4 = V/mil
mm / 25.4 = inches
N x 0.225 = lb
N/mm x 5.71 = lb/in
psi x 145 = N/mm²
MPa = N/mm²
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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