

LOCTITE ECCOBOND UF 3930

February 2022

PRODUCT DESCRIPTION

LOCTITE ECCOBOND UF 3930 provides the following product characteristics:

Technology	Epoxy
Appearance	Black liquid
Cure	Heat cure
Product Benefits	<ul style="list-style-type: none">• One component• Halogen-free• Fluorescent• Reworkable• Room temperature flow capability• Fast cure at moderate temperatures• Compatible with most Pb-free solders• Stable electrical performance under thermal/humidity bias
Application	Electronic Encapsulants, Circuit board underfill
Typical Package Application(s)	CSP, WLCSP and BGA

LOCTITE ECCOBOND UF 3930 reworkable underfill is specially designed for CSP, WLCSP and BGA applications. It is formulated to cure quickly at moderate temperatures to minimize stress to other components. When cured, this material provides excellent mechanical properties to protect solder joints during thermal cycling.

LOCTITE ECCOBOND UF 3930 is fluorescent when viewed under ultraviolet (black) light.

TYPICAL PROPERTIES OF UNCURED MATERIAL

Viscosity, Brookfield CP40, 25 °C, mPa·s (cP):

@ Speed 20 rpm	620
Work Life @ 25°C, day	1
Shelf Life @ -40°C (estimated), days	180

TYPICAL CURING PERFORMANCE**Cure Schedule**

10 minutes @ 150°C

The above cure profile(s) are guideline recommendation(s). 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.

TYPICAL PROPERTIES OF CURED MATERIAL**Physical Properties**

Sample cured 60 minutes @ 150°C

Glass Transition Temperature (Tg) by TMA, °C 125

Coefficient of Thermal Expansion, TMA:

Below Tg, ppm/°C	37
Above Tg, ppm/°C	126

Storage Modulus, DMA, N/mm² :

@ 25°C	6,517
@ 200°C	95

Adhesion Properties

Sample cured 10 minutes @ 150°C

Lap Shear Strength, Fr4 to Fr4, N/mm² 9.7

GENERAL INFORMATION

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

THAWING:

1. Allow container to reach room temperature before use.
2. After removing from the freezer, set the syringes to stand vertically while thawing.
3. DO NOT open the container before contents reach 25 °C temperature. Any moisture that collects on the thawed container should be removed prior to opening the container.
4. DO NOT re-freeze. Once thawed to 25°C, the adhesive should not be re-frozen.
5. Typical thaw times are listed as follows:
2 hours for 30/55cc syringes

STORAGE

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

Optimal Storage: -45 to -35°C. Storage below -45°C or above -35°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 Henkel Representative.



Conversions

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

Reference 1

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