

# LOCTITE® ECCOBOND UF 3712

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## PRODUCT DESCRIPTION

LOCTITE® ECCOBOND UF 3712 provides the following product characteristics:

Technology	Epoxy
Appearance	Black liquid
Components	One component
Product benefits	<ul style="list-style-type: none"> <li>Fast cure</li> <li>Thixotropic</li> <li>Good balance between rework and reliability</li> <li>ROHS, REACH and halogen free compliant</li> </ul>
Cure	Heat cure
Application	Edgebond, Encapsulation
Operating temperature range	(-40°C to 125°C)

LOCTITE® ECCOBOND UF 3712 is formulated for big chip to enhance the reliability performance. It provides a uniform and void-free encapsulant edgebond to maximize the device's temperature cycling capability and distribute stress away from solder connects.

## TYPICAL PROPERTIES OF UNCURED MATERIAL

Viscosity, Rheometer, Spindle PP25, 25°C, mPa.s (cP)	
@20 rpm	11,600
TI (2/20 rpm)	3.8
Specific gravity @ 25°C, g/cc	1.57
Work life, hours	≥24
Shelf life @ -20°C, days	180
Flash point - see SDS	

## TYPICAL CURING PERFORMANCE

**Cure schedule**  
30 min @ 125°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.

## TYPICAL PROPERTIES OF CURED MATERIAL

Sample cured by 30 min @ 125°C

### Physical properties

Coefficient of thermal expansion, $\mu\text{m/m/K}$	
Below Tg	32
Above Tg	115
Glass transition temperature, (Tg) by TMA, °C	133
Tensile Modulus, by DMA, MPa	
@25°C	7,800
@125°C	2,500
Cure shrinkage, Volume, %	1.6
Water absorption, (168h, 85°C 85%RH), %	0.5

## TYPICAL PERFORMANCE OF CURED MATERIAL

Die shear strength, kgf	
2*1*0.5mm <sup>3</sup> adhesive strips to FR4	11

## GENERAL INFORMATION

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

### Directions for use

- Set the syringe to stand vertically at room temperature, thaw the adhesive to 25°C.
- Thawed adhesive should be immediately placed on dispense equipment for use.
- If the adhesive is transferred to a final dispensing reservoir, additional SOP need to be generated to avoid entrapment of contaminants, moisture and air into the adhesive.
- Adhesive must be completely used within the product's recommended work life.
- Do not re-freeze/re-use any thawed adhesive.

### Storage

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

### Optimal storage: -25 to -15°C

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.

**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 the specifications of this product.

**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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