

LOCTITE ECCOBOND UF 8830S

January 2017

PRODUCT DESCRIPTION

LOCTITE ECCOBOND UF 8830S provides the following product characteristics:

Technology	Epoxy
Appearance	Grey paste
Product Benefits	<ul style="list-style-type: none"> • High purity • High TG, low CTE • Improved toughness • Good flow with self filleting • Long staging time and worklife • 260°C reflow capability for Pb-free, low-k applications
Cure	Heat cure
Application	Underfill
Typical Package Application	Flip Chip BGA

LOCTITE ECCOBOND UF 8830S liquid epoxy underfill encapsulant is formulated for tight bump pitch and narrow gap in flip chip BGA applications. It is designed to improve crack/fracture resistance and deliver faster flow.

When fully cured, this material forms a rigid, low stress seal that dissipates stress in solder joints and extends thermal cycling performance.

TYPICAL PROPERTIES OF UNCURED MATERIAL

Viscosity, Brookfield, °C, mPa·s (cP):	
Spindle 51, Speed 5 rpm	22,120
Thixotropic Index	0.85
Specific Gravity @ 25°C	1.6
Work Life @ 25°C, (100% increase in viscosity), hours	>24
Shelf Life @ -40°C, days	365
Flash Point - See SDS	

TYPICAL CURING PERFORMANCE

Cure Schedule

30 minute ramp from 25°C to 150°C, hold 2hrs at 150°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.

TYPICAL PROPERTIES OF CURED MATERIAL

Physical Properties

Coefficient of Thermal Expansion, TMA, ppm/°C:	
Below Tg	25
Above Tg	100
Glass Transition Temperature (Tg), °C:	
By TMA	118
By DMA	126.5

Storage Modulus, DMA:

@ 25 °C	N/mm ² 11,500
	(psi) (1,667,934)

GENERAL INFORMATION

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

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

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/mm ²
MPa = N/mm ²
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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Reference 0.2