

LOCTITE ECCOBOND 50300LT

January 2015

PRODUCT DESCRIPTION

LOCTITE ECCOBOND 50300LT provides the following product characteristics:

Technology	Epoxy
Appearance	Black
Product Benefits	- One component - Low viscosity - Low CTE
Filler content by weight, %	69
Percent Solids by Weight	100
Cure	Heat Cure
Application	Encapsulant - glob top

LOCTITE ECCOBOND 50300LT glob top is designed for encapsulating wire bonded bare die on epoxy laminate and similar substrates. The formulation of this single component material ensures a long pot and a very stable viscosity during use. It is recommended for use large ICs with high wire profile. LOCTITE ECCOBOND 50300LT is the less thixotropic version of LOCTITE ECCOBOND 50300HT and LOCTITE ECCOBOND 50300-1.

TYPICAL PROPERTIES OF UNCURED MATERIAL

Viscosity, Brookfield Sp #6, 25 °C, mPa·s (cP):

Speed 2.5 rpm	55
Speed 20 rpm	25

Density, g/cm³ 1.73

Pot Life:

@ 18 to 25°C, days	7
@ 40°C, days	5

Shelf Life @ -40 to 0°C (from date of manufacture), months 4

Flash Point - See SDS

TYPICAL CURING PERFORMANCE

Recommended Cure Schedule

2 hours @ 150°C

Low Stress Cure Schedule

1 hour @ 120°C + 1 hour @ 150°C

For best results, substrate should be preheated (up to a maximum of 70°C) to obtain the optimum flow under and around the wires.

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

Hardness, Shore D	95
Coefficient of Linear Thermal Expansion, 10 ⁻⁶ K ⁻¹	20

Glass Transition Temperature, °C 140

Shrinkage on Cure:

On Cure, %	0.5
With Pre-cure of 1 hour @ 120°C, %	0.2

Thermal Conductivity, W/(m·K) 0.63

Extractable Ionic Content, ppm:

Chloride (Cl ⁻)	10
Sodium (Na ⁺)	10
Potassium (K ⁺)	10
Ammonium (NH ₄ ⁺)	10

Water Absorption, by weight, % 0.4

Electrical Properties

Dielectric Constant / Dissipation Factor @ 25°C:

1kHz	3.2 / 0.009
Volume Resistivity, Ω·cm	2.9×10 ¹⁴

GENERAL INFORMATION

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

THAWING:

- This adhesive is packed and shipped in dry ice.
- Transfer the syringes from the shipping container to a <0°C freezer without ANY delays.
- Allow material to reach room temperature before use.

DIRECTIONS FOR USE

- LOCTITE ECCOBOND 50300LT can be used on both manual and automatic dispensing equipment.
- The surfaces on which the adhesive has to be applied should be clean, dry and free from all dust.
- Packages removed from storage must be allowed to return to ambient temperature before use. This normally takes 2 hours for a 40 gram syringe and 8 to 12 hours for a 500 gram cartridge.
- LOCTITE ECCOBOND 50300LT is manufactured to a very narrow specifications and is specially processed to avoid the inclusion of air in the material.

Storage

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

Optimal Storage: -40 to 0 °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.

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.

Conversions

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

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The information provided in this Technical Data Sheet (TDS) including the recommendations for use and application of the product are based on our knowledge and experience of the product as at the date of this TDS. The product can have a variety of different applications as well as differing application and working conditions in your environment that are beyond our control. Henkel is, therefore, not liable for the suitability of our product for the production processes and conditions in respect of which you use them, as well as the intended applications and results. We strongly recommend that you carry out your own prior trials to confirm such suitability of our product.

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