Technical Data Sheet

LOCTITE ECCOBOND 50400-1

April 2023

PRODUCT DESCRIPTION

LOCTITE ECCOBOND 50400-1 provides the following product characteristics:

Technology	Epoxy
Appearance	Black
Product Benefits	• One component • Low viscosity • Low CTE
Filler content by weight, %	70
Percent Solids by Weight	100
Cure	Heat Cure
Application	Encapsulant - glob top

LOCTITE ECCOBOND 50400-1 glob top is designed for encapsulating wire bonded bare die on epoxy laminate and similar substates. The formulation of this single component material ensures a long pot and a very stable viscosity during use. It is recommended for use on ICs with high wire profiles and in applications where the spreading of the glob top during cure must be controlled.

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TYPICAL PROPERTIES OF UNCURED MATERIAL

Viscosity, Brookfield Sp #6, 25 °C, Pa·s:	
Speed 2.5 rpm	100
Speed 20 rpm	40
Density, g/cm³	1.75
Pot Life:	
@ 18 to 25ºC, days	7
@ 40ºC, 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 70ºC) 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 specific 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 of1hour @ 120°C, %	0.2
Thermal Conductivity, W/(m·K)	0.63
Extractable Ionic Content, :	
Chloride (Cl-)	10
Sodium (Na+)	10
Potassium (K+)	10
Ammonium (NH4+)	10
Water Absorption, by weight, %	0.4

Electrical Properties

Dielectric Constant / Dissipation Factor @ 25ºC:	
1kHz	3.2 / 0.009
Volume Resistivity, Ω·cm	3.3×10^{14}

GENERAL INFORMATION

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

THAWING:

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

DIRECTIONS FOR USE

1. LOCTITE ECCOBOND 50400-1 can be used on both manual and automatic dispensing equipment.
2. The surfaces on which the adhesive has to be applied should be clean, dry and free from all dust.
3. Packages removed from storage must be allowed to return to ambient temperature before use. This normally takes 2hours for a 40gram syringeand8 to 12hours for a 500gramcartridge.
4. LOCTITE ECCOBOND 50400-1 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 Henkel Representative.

Not for product specifications
The technical data contained herein are intended as reference only. Please contact your local Henkel representative for assistance and recommendations on the specifications of this product.

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