Technical Data Sheet

LOCTITE® ECCOBOND UV 9060F

May 2024

PRODUCT DESCRIPTION

LOCTITE® ECCOBOND UV 9060F provides the following product characteristics:

Technology	Acrylate
Appearance	Translucent light blue
Product benefits	• Fast cure • One component • Cures in shadowed areas • Easy dispensability without stringing • Fluorescent under UV light
Cure	Ultraviolet (UV) / moisture
Application	Assembly
Typical package application	Local protection of WLCSP and BGA on circuit board

LOCTITE® ECCOBOND UV 9060F no flow, UV/moisture cure encapsulant is designed for local circuit board protection. This product is fluorescent when viewed with ultraviolet (black) light.

TYPICAL PROPERTIES OF UNCURED MATERIAL

Viscosity, Rheometer, Cone and Plate, mPa·s (cP):	
@ 5 s^{-1}	11,000
@ 50 s^{-1}	2,100
Shelf life @ 5°C, (from date of manufacture), months	6
Flash Point - See SDS	

TYPICAL CURING PERFORMANCE

Recommended UV cure condition

Light source and condition:	
Metal halide doped spectrum UV lamp	
Lamp power, W/in	300
Distance between lamp to substrate, inches	4
Irradiance UVA, EIT puck radiometer, mW/cm²	566
Recommended dose, seconds	5 to 25

Moisture cures occurs at ambient temperature and humidity.

*Cures at least 0.25 inch under optimum conditions

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

DMA and TMA tests conducted on samples UV + 7 days moisture (RT, 50% RH) cured.

Hardness, Tg and modulus increases with additional moisture cure.

CTE decreases with additional moisture cure.

Physical properties

Hardness, Shore D, After initial UV dose of 6.4 J/cm², moisture cure condition of 50%RH @ room temperature:		
Initial, after UV cure		15
+ 1 day moisture cure		20
+ 2 days moisture cure		30
+ 3 days moisture cure		50
+ 4 days moisture cure		67
+ 8 days moisture cure		76
Coefficient of thermal expansion, TMA, ppm/°C		
Below Tg		81.5
Above Tg		198
Glass transition temperature, (Tg) by TMA, °C		75
Storage modulus, DMA, @ 25ºC,	N/mm² (psi)	2,200 (319,000)

GENERAL INFORMATION

Please consult the Safety Data Sheet (SDS) for safe handling information of this product.

Directions for use:

1. Use cotton gloves to handle syringe. Touching the syringe with bare hands may induce thaw voids between the adhesive and inside walls of the syringe.
2. Handle the syringe by the end, or, if packaged in bags, by the corner. A warm hand holding a cold syringe can sometimes cause formation of freeze/thaw voids.
3. Complete cleaning of the substrates should be performed to remove contamination such as oxide layers, dust moisture, salt and oils which can cause poor adhesion or corrosion in a bonded part.
4. Usable shelf life may vary depending on method of application and storage conditions.

Thawing

1. 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.
2. DO NOT re-freeze. Once thawed to 25°C, the adhesive should not be re-frozen.
3. Voids can form in the syringes if syringes are repeatedly re-refrigerated.
4. Typical thaw/warm-up times for different package sizes are shown below:

@ 25°C, 30 cc syringes, minutes	45 to 60
@ 25°C, 55 cc syringes, hours	2
@ 25°C, 6 ounce cartridges, hours	3

Storage

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

Optimal storage: 2 to 8°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

(°C x 1.8) + 32 = °F
kV/mm x 25.4 = V/mil
mm / 25.4 = inches
µm / 25.4 = mil
N x 0.225 = lb
N/mm x 5.71 = lb/in
N/mm² x 145 = psi
MPa x 145 = psi
N·m x 8.851 = lb·in
N·m x 0.738 = lb·ft
N·mm x 0.142 = oz·in
mPa·s = cP

Reference 1

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