

LOCTITE ECCOBOND F 114 BIPAX

September 2012

PRODUCT DESCRIPTION

LOCTITE ECCOBOND F 114 BIPAX provides the following product characteristics:

Technology	Epoxy
Color	Clear
Cure	Room temperature cure or Heat cure
Operating Temperature	-60 to 130 °C
Product Benefits	<ul style="list-style-type: none"> • Low viscosity • Solvent-free • Excellent wicking • Good wetting • Good adhesion • Blush-free cure under high humidity conditions
Mix Ratio, by weight - Resin : Hardener	100 : 50
Application	Assembly
Typical Optic Application	Fiber optic assembly, Lens assembly, Prism assembly and Optical potting
Substrates	Most metals, Ceramic, Glass and Plastics

LOCTITE ECCOBOND F 114 BIPAX is an optically clear adhesive developed for bonding and small volume potting of plastic or glass optical fibers, lenses and prisms, LED displays and other optical components. LOCTITE ECCOBOND F 114 BIPAX bonds offer resistance to salt solutions, mild acids and alkalis, petroleum solvents, lubricating oils and alcohol.

ISO-10993-5

LOCTITE ECCOBOND F 114 BIPAX was tested to and passed the requirements of ISO 10993-5 for Cytotoxicity.

TYPICAL PROPERTIES OF UNCURED MATERIAL

Thixotropic Index	1.0
Mixed Viscosity @ 25 °C, mPa·s (cP)	625
Specific Gravity, mixed	1.0
Reactive solids contents, %	100
Pot Life:	
@ 25grams, minutes	40
@ 100grams, minutes	35
Work Life:	
@ 25grams, hour	1
@ 100grams, minutes	35
Flash Point - See SDS	

TYPICAL CURING PERFORMANCE
Cure Schedule

24 hours @ 25°C

Alternative Cure Schedule

4 hours @ 65°C

Percent Volatiles

VOC, grams/liter	9.03
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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

Coefficient of Thermal Expansion, ppm/°C	80
Glass Transition Temperature (Tg), °C	53
Hardness, Shore D	83
Refractive Index	1.53
Water Absorption, after 24 hours saturation, %	0.01

Electrical Properties

Volume Resistivity, ohm-cm @ 25°C	6.00×10 ¹³
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TYPICAL PERFORMANCE OF CURED MATERIAL
Miscellaneous

Lap Shear Strength, :	
Aluminum to Aluminum	
4 hours @ 65°C, psi	2,600
24 hours @ 25°C, psi	3,000

GENERAL INFORMATION

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

DIRECTIONS FOR USE

1. Carefully clean and dry all surfaces to be bonded
2. Remove clamp and thoroughly mix the LOCTITE ECCOBOND F 114 BIPAX epoxy adhesive system components in the handy BIPAX mixing-dispenser package until color is uniform throughout
3. Apply this completely mixed adhesive to the prepared surfaces, and gently press these surfaces together. Contact pressure is adequate for strong, reliable bonds; however, maintain contact until adhesive is completely cured
4. Some separation of components is common during shipping and storage. For this reason, it is recommended that the contents of the shipping container be thoroughly mixed prior to use
5. Some ingredients in this formulation provided in BIPAX, TRA-PAX and bulk packaging may crystallize when subjected to low temperature storage. A gentle warming cycle of 52°C for 30 minutes prior to mixing components may be necessary. Crystallized epoxy components do not react as well as liquid components and should be redissolved prior to use for best results

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.

Storage

The expiration date for pre-mixed and frozen materials is based upon dry storage conditions at or below the temperature indicated on each package. Store product in the unopened container in a dry location. Storage information may be indicated on the product container labeling.

Optimal Storage : 27 °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. Contents may separate during storage. Resin or hardener in bulk containers (e.g., quarts, gallons) should be thoroughly mixed prior to combining them to obtain all the benefits of the properties designed into the formulation.

Conversions

$(^{\circ}\text{C} \times 1.8) + 32 = ^{\circ}\text{F}$

$\text{kV/mm} \times 25.4 = \text{V/mil}$

$\text{mm} / 25.4 = \text{inches}$

$\text{N} \times 0.225 = \text{lb}$

$\text{N/mm} \times 5.71 = \text{lb/in}$

$\text{psi} \times 145 = \text{N/mm}^2$

$\text{MPa} = \text{N/mm}^2$

$\text{N}\cdot\text{m} \times 8.851 = \text{lb}\cdot\text{in}$

$\text{N}\cdot\text{m} \times 0.738 = \text{lb}\cdot\text{ft}$

$\text{N}\cdot\text{mm} \times 0.142 = \text{oz}\cdot\text{in}$

$\text{mPa}\cdot\text{s} = \text{cP}$

Disclaimer**Note**

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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Reference 0.3