

# LOCTITE ECCOBOND FS 245

November 2016

## PRODUCT DESCRIPTION

LOCTITE ECCOBOND FS 245 provides the following product characteristics:

<b>Technology</b>	Epoxy
Color	Black
<b>Cure</b>	Room temperature cure or Heat cure
Operating Temperature	-70 to 125 °C
Product Benefits	<ul style="list-style-type: none"> <li>Electrically Insulating</li> <li>Thermally conductive</li> <li>Two component</li> <li>Excellent impact resistance</li> <li>Excellent chemical resistance</li> <li>Medium viscosity</li> </ul>
Mix Ratio, by weight - Resin : Hardener	100 : 5.2
<b>Application</b>	Casting
Typical Assembly Applications	Staking transistors, Diodes, Resistors, Heat sensitive components, Integrated circuits and Printed circuit electronics applications
Substrates	Wide variety of metals, Silica, Steatite, Alumina sapphire, Ceramic surfaces, Glass and Plastics

LOCTITE ECCOBOND FS 245 is a thixotropic, two-part adhesive that develops strong, durable high-impact bonds at room temperature, improving heat transfer while maintaining electrical insulation. Fully cured, LOCTITE ECCOBOND FS 245 provides excellent resistance to salt solutions, mild acid, alkalis, petroleum solvents, lubricating oil and alcohol.

## TYPICAL PROPERTIES OF UNCURED MATERIAL

Viscosity, Brookfield - RV #7, 25 °C, mPa·s (cP):

Speed 10 rpm, mixed	13,500
Specific Gravity, mixed	1.7
Pot Life, minutes	30
Work Life, minutes	90
Flash Point - See SDS	

## TYPICAL CURING PERFORMANCE

### Cure Schedule

72 hours @ 27°C or  
2 hours @ 65°C

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	50.9
Hardness, Shore D	90
Thermal Conductivity, W/(m·K)	$5.60 \times 10^{-01}$
Reactive solids contents, %	100

### Electrical Properties

Volume Resistivity :	
@ 25°C, ohm-cm	$3.00 \times 10^{15}$
@ 75°C, ohm-cm	$2.00 \times 10^{13}$
Dielectric Strength, volts/mil	410
Dielectric Constant @ 25°C :	
1kHz	5.9
Dissipation Factor @ 25°C:	
1kHz	0.01

## GENERAL INFORMATION

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

## DIRECTIONS FOR USE

1. Apply mold release to mold walls if casting is to be removed after cure
2. Carefully clean and dry all surfaces to be bonded
3. Remove clamp and thoroughly mix the LOCTITE ECCOBOND FS 245 epoxy adhesive system components in the handy BIPAX mixing-dispenser package until color is uniform throughout
4. Pour the completely mixed epoxy system into the mold and then cure. A vacuum deairing step for 10 minutes immediately after pouring (but prior to curing) may be used to remove entrapped air for void-free castings
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 2**