

**LOCTITE ECCOBOND FP4660**

September 2012

**PRODUCT DESCRIPTION**

LOCTITE ECCOBOND FP4660 provides the following product characteristics:

<b>Technology</b>	Epoxy/Anhydride
<b>Appearance</b>	Black
Product Benefits	<ul style="list-style-type: none"><li>• High purity</li><li>• Low stress</li><li>• Excellent chemical resistance</li><li>• Excellent thermal stability</li><li>• Jettable</li></ul>
Filler Weight, %	80
<b>Cure</b>	Heat cure
<b>Application</b>	Encapsulant - glob top
Temperature Range, °C	-65 to 150

LOCTITE ECCOBOND FP4660 encapsulant is designed for globbing or glob top applications where low stress is a requirement.

**TYPICAL PROPERTIES OF UNCURED MATERIAL**

Viscosity, Brookfield - Cone & Plate, 25 °C, mPa·s (cP):	
Spindle 52, speed 5 rpm	120,000
Specific Gravity @ 25 °C	1.85
Pot Life @ 25 °C (time to double viscosity), days	>2
Gel Time @ 121°C, minutes	10
Shelf Life @ -40°C, days	274

Flash Point - See SDS

**TYPICAL CURING PERFORMANCE****Recommended Cure Schedule**

30 minutes @ 125°C Plus  
90 minutes @ 165°C

The above cure profile is a guideline recommendation. 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:	
Below Tg (<55°C)	13
Above Tg (190 to 220°C)	56
Glass Transition Temperature (Tg), °C	135
Tensile Modulus, By DMA:	
@ 25 °C	N/mm <sup>2</sup> (psi)
	16,900 (2,450,500)
Extractable Ionic Content, @ 121°C ppm:	
Chloride (Cl-)	2
Sodium (Na+)	1
Potassium (K+)	1

**GENERAL INFORMATION**

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

**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.

**THAWING:**

1. Allow container to reach room temperature before use.
2. Store tip down and warm at room temperature until no longer cool to the touch (normally 60 to 90 minutes).
3. DO NOT thaw in an oven.

**Directions for use**

1. For best results, dispense onto substrate warmed to 80°C
2. **NOTE:** Elevated temperatures reduce working life
3. Care should be taken to protect syringe material from excessive heat prior to dispense



**STORAGE:**

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

**Optimal Storage : ≤-40 °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.

**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**

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Reference N/A