

LOCTITE[®] ECCOBOND FIL 7010C

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PRODUCT DESCRIPTION

LOCTITE[®] ECCOBOND FIL 7010C provides the following product characteristics:

Technology	Epoxy
Appearance	Black
Components	One-component
Cure	Heat cure
Product Benefits	• Crack and thermal resistant • Good chemical resistance • Low thermal expansion • High purity
Operating Temperature	-40 to 150°C
Application	Encapsulants, Potting
Typical Applications	Potting of stress sensitive electronic components

LOCTITE[®] ECCOBOND FIL 7010C is a low viscosity, one component epoxy product designed for use as a potting or encapsulation resin protection for stress sensitive electronic components. It is specially formulated with a low thermal expansion and high Tg, along with a toughened polymer backbone making it ideally suited to survive severe thermal shock conditions with a high resistance to micro cracking.

LOCTITE[®] ECCOBOND FIL 7010C is designed to survive constant service temperatures of 150°C, with peak temperatures of up to 180°C.

TYPICAL PROPERTIES OF UNCURED MATERIAL

Viscosity @ 25 °C, mPa·s (cP):	
@ 15 s ⁻¹	20,000 to 30,000
Density, gm/cc	1.9
Shelf Life:	
@ -40 °C, days	180
@ 25°C, day	1
Flash Point - See SDS	

TYPICAL CURING PERFORMANCE

Recommended Cure Schedule

2 hours @ 140°C

Low Stress Cure Schedule

1 hour @ 100°C plus 1 hour @ 150°C

The above cure profile is a guideline recommendation. These 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	≥90
Glass Transition Temperature(Tg), °C:	
(Tg) by DMA	155 to 165
(Tg) by TMA	135 to 145
Coefficient of Thermal Expansion, 10 ⁻⁶ /°C:	
Below Tg	14 to 18
Above Tg	55 to 60
Young's modulus (E) @ 25°C, GPa	11
Thermal Conductivity, W/(m·K)	0.72
Extractable Ionic Content @ °C, , ppm:	
Chloride (Cl ⁻)	≤10
Potassium (K ⁺)	≤10
Sodium (Na ⁺)	≤10
Ammonia (NH ₃ ⁺)	≤10
Water Absorption , %:	
24-hour boil test by weight	0.63

Electrical Properties

Volume Resistivity , ohms-cm	9.6×10 ⁺¹⁵
Surface Resistivity, ohms	3.4×10 ⁺¹⁶
Dielectric Strength, kV/mm	>20
Dielectric Constant/Dissipation Factor @ 1 MHz	3.5/0.016

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. 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.
3. DO NOT re-freeze. Once thawed, the adhesive should not be re-frozen.

Directions for use

1. Cure the product per the cure schedule mentioned in the Typical Cure Schedule section of the document.
2. The surfaces on which the adhesive has to be applied should be clean, dry and free from all dust.
3. Initially dispense LOCTITE ECCOBOND DAM 7010C on the outline of the glob referred to as the "dam".
4. The dam is then filled in with LOCTITE ECCOBOND FIL 7010C material.
5. Both materials can be co-cured after 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 Henkel Representative.

Conversions

$(^{\circ}\text{C} \times 1.8) + 32 = ^{\circ}\text{F}$
 $\text{kV/mm} \times 25.4 = \text{V/mil}$
 $\text{mm} / 25.4 = \text{inches}$
 $\text{N} \times 0.225 = \text{lb/F}$
 $\text{N/mm} \times 5.71 = \text{lb/in}$
 $\text{psi} \times 145 = \text{N/mm}^2$
 $\text{MPa} = \text{N/mm}^2$
 $\text{N}\cdot\text{m} \times 8.851 = \text{lb}\cdot\text{in}$
 $\text{N}\cdot\text{m} \times 0.738 = \text{lb}\cdot\text{ft}$
 $\text{N}\cdot\text{mm} \times 0.142 = \text{oz}\cdot\text{in}$
 $\text{mPa}\cdot\text{s} = \text{cP}$

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