

LOCTITE® ECCOBOND EN 3915T

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PRODUCT DESCRIPTION

LOCTITE® ECCOBOND EN 3915T provides the following product characteristics:

Technology	Epoxy
Appearance	Black liquid
Product benefits	<ul style="list-style-type: none">• Thixotropic• Low CTE• Halogen free• Fast cure
Cure	Heat cure
Application	Encapsulation
Typical package application(s)	Flip chip devices

LOCTITE® ECCOBOND EN 3915T encapsulant is specially designed for flip chip device applications. This material is formulated to be thixotropic thus reducing liquid migration after it is applied to the substrate.

TYPICAL PROPERTIES OF UNCURED MATERIAL

Viscosity, Rheometer, Cone 20 mm, Angle 2°, mPa·s (cP):

Shear rate 20 s ⁻¹	22,000
Thixotropic index	3.5
Specific gravity, g/ml	1.66
Pot life @ 25°C, (25% increase in viscosity), hours	24
Shelf life @ -40°C, days	270
Flash point - see SDS	

TYPICAL CURING PERFORMANCE

Recommended cure condition

7 min @ 160°C

Alternate cure schedule

10 minutes @ 150°C or
20 minutes @ 130°C

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

Physical properties

Coefficient of thermal expansion, ppm/°C:	
Below Tg	24
Above Tg	103
Glass transition temperature, (Tg) by TMA, °C	130
Storage modulus, DMA	
@25°C	N/mm ² 9,400 (psi) (1,363,355)

GENERAL INFORMATION

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

Thawing

1. Allow container to reach room temperature before use.
2. After removing from the freezer, set the syringes to stand vertically while thawing.
3. Thaw times are listed as follows:
 - 1.5 hours for 30 cc syringes
 - 2 to 3 hours for 55 cc syringes
 - 1 hour for 10 cc syringes
4. DO NOT re-freeze. Once thawed to 25°C, the adhesive should not be re-frozen.

Storage

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

Optimal Storage: -45 to -35°C. Storage above -35°C can adversely affect product properties.

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

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

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