

LOCTITE ABLESTIK C 990 316

October 2016

PRODUCT DESCRIPTION

LOCTITE ABLESTIK C 990 316 provides the following product characteristics:

Technology	Epoxy
Appearance	Silver
Components	One-component
Product Benefits	<ul style="list-style-type: none"> • Silver-filled • Electrically conductive • Low extractable ionics • Syringe dispensable
Filler Type	Silver
Cure	Heat Cure
Application	Die attach

LOCTITE ABLESTIK C 990 316 silver filled epoxy adhesive is specially suited for die and component bonding in microelectronic applications.

TYPICAL PROPERTIES OF UNCURED MATERIAL

Silver content as supplied, % by weight	71
Density, g/cm ³	2.9
Viscosity @ 25 °C, mPa·s (cP)	45,000
Shelf Life @ -25 to -18°C, days	180
Flash Point - See SDS	

TYPICAL CURING PERFORMANCE

Recommended Cure Schedule

Convection Oven:

1 hour @ 150°C

Hot Plate:

20 seconds @ 270°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 Linear Thermal Expansion, ppm/°C	55
Glass Transition Temperature, °C	90
Extractable Ionic Content, ppm:	
Chloride (Cl ⁻)	30
Sodium (Na ⁺)	30
Potassium (K ⁺)	10
Ammonium (NH ₄ ⁺)	10
Weight Loss, %:	
@ 250°C	0.1
@ 300°C	0.2

Electrical Properties

Volume Resistivity (Maximum), ohm-cm	1×10 ⁻³
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TYPICAL PERFORMANCE OF CURED MATERIAL

Die Shear Strength :

1.3 x 1.3 mm die, Kg

2

GENERAL INFORMATION

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

DIRECTIONS FOR USE

1. Complete cleaning of the substrates should be performed to remove contamination such as oxide layers, dust, moisture, salt and oils which can cause poor adhesion or corrosion in a bonded part.
2. Allow material to reach ambient temperature before use.
3. Some separation of components is common during shipping and storage. If separation occurs, stir gently until uniform, being careful not to entrap air.
4. Equipment parts can be cleaned using solvents such as acetone, methyl ethyl ketone, ethanol, isopropanol or LOCTITE STYCAST CLEANER 50306.

STORAGE:

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

Optimal Storage : -25 to -18 °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.

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.

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

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Reference **N/A**