Technical Data Sheet

LOCTITE ABLESTIK 933-1

October 2014

PRODUCT DESCRIPTION

LOCTITE ABLESTIK 933-1 provides the following product characteristics:

Technology	Epoxy
Appearance	Black
Cure	Heat cure
Product Benefits	• One component • Electrically Insulating • Provides environmental and mechanical protection
Application	Encapsulant
Application Method	Automatic dispenser

LOCTITE ABLESTIK 933-1 epoxy encapsulant is designed for encapsulating microelectronic chips. The low coefficient of thermal expansion minimizes stress effects on components and wiring during thermal shock tests.

LOCTITE ABLESTIK 933-1 encapsulant exhibits a longer work life and a lower moisture sensitivity than the anhydride-cured system.

TYPICAL PROPERTIES OF UNCURED MATERIAL

Viscosity, Brookfield CP51, 25 °C, mPa·s (cP)	360,500
Density, g/cc	2.0
Work Life @ 25°C, days	61
Shelf Life @ ≥-40°C, days	365
Flash Point - See SDS	

TYPICAL CURING PERFORMANCE

Recommended Curing Conditions

2 hours @ 125°C

Alternative Curing Conditions

30 minutes @ 150°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 TMA:		
Below Tg, ppm/°C		30
Above Tg, ppm/°C		100
Glass Transition Temperature (Tg), °C		124
Hardness, Shore D		92
Storage Modulus:		
@ -65°C	N/mm² (psi)	14,500 (2100×10^3)
@ 25°C	N/mm² (psi)	11,700 (1700×10^3)
@ 150°C	N/mm² (psi)	345 (50×10^3)
Extractable Ionic Content, ppm:		
Chloride (Cl-)		300
Sodium (Na+)		55
Potassium (K+)		N/D
Water Extract Conductivity, µmhos/cm		290
Water Absorption, 24-hours, %		0.11
Specific Gravity		2.1
Weight Loss, %:		
@ 250ºC		0.22
@ 300ºC		0.67
Thermal Conductivity @ 121ºC, W/(m-K)		1.0

Electrical Properties

Volume Resistivity, ohms-cm	1×10^{15}
Dielectric Strength, volts/mil	1,000
Dielectric Constant	6.1
Dissipation Factor	0.007

GENERAL INFORMATION

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

THAWING:

1. Allow container to reach room temperature before use.

DIRECTIONS FOR USE

1. Apply by syringe dispensing.
2. Cure at the recommended cure schedule.

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

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

(°C x 1.8) + 32 = °F
kV/mm x 25.4 = V/mil
mm / 25.4 = inches
N x 0.225 = lb
N/mm x 5.71 = lb/in
N/mm^2 x 145 = psi
MPa = N/mm^2
MPa x 145 = psi
N·m x 8.851 = lb·in
N·m x 0.738 = lb·ft
N·mm x 0.142 = oz·in
mPa·s = cP

Disclaimer

Note:
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Reference 0.1