

LOCTITE ABLESTIK AAA 3131A-IR

October 2019

PRODUCT DESCRIPTION

LOCTITE ABLESTIK AAA 3131A-IR provides the following product characteristics:

Technology	Acrylate
Appearance	Silver
Cure	Heat cure and Snap Cure
Product Benefits	- Electrically conductive - Thermally conductive - Solvent-free - Low bleed - Excellent adhesion to leadframes - Void-free bondline - Oven Curable - Snap curable - Hydrophobic - Thermally stable at 260°C reflow
Application	Die attach
Filler Type	Silver

LOCTITE ABLESTIK AAA 3131A-IR die attach acrylate adhesive is recommended for package types which require very low electrical resistivity. It is designed for use in leadframe applications.

TYPICAL PROPERTIES OF UNCURED MATERIAL

Thixotropic Index (0.5/5 rpm)	6.1
Viscosity, Brookfield CP51, 25 °C, mPa·s (cP):	
Speed 5 rpm	10,000
Work Life @ 25°C, 30% change in viscosity, hours	>24
Shelf Life @ -40°C (from date of manufacture), days	365
Flash Point - See SDS	

TYPICAL CURING PERFORMANCE

Oven Cure

60 minutes @ 175°C

Recommended Snap Cure Schedule

Seven-Zone Oven:

Temp per zone: 140°C, 150°C, 150°C, 160°C, 200°C, 220°C, 220°C	
Total Time, minutes	5

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

Glass Transition Temperature (Tg) by TMA, °C	25
Coefficient of Thermal Expansion, :	
Below Tg, ppm/°C	49
Above Tg, ppm/°C	133
Tensile Modulus, Rheometrics Rheometer:	
@ 25 °C	N/mm ² 5,140
	(psi) (745,495)
Extractable Ionic Content, @ 100°C for 16 hours:	
Chloride (Cl-)	≤15
Sodium (Na+)	≤15
Potassium (K+)	≤15
Weight Loss @ 175°C, TGA, %	≤1
Thermal Conductivity, Laser Flash, W/(m-K)	5.1
Moisture Absorption, 85°C/85% RH, %	0.17

Electrical Properties

Volume Resistivity, ohm-cm	0.0001
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TYPICAL PERFORMANCE OF CURED MATERIAL

Miscellaneous

Die Shear Strength:

Post Cure

3 X 3 mm (120 x 120 mil), Si die on Ag LF:

Sample oven cured 15 minutes @ 175°C:

@ 25°C, kg-f	25
@ 260°C, kg-f	6

After 85°C/85% RH exposure for 168 hours:

@ RT, kg-f	23
@ 260°C, kg-f	3

GENERAL INFORMATION

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

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. Storage below minus (-)40 °C or greater than minus (-)40 °C can adversely affect product properties.

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

$$(^{\circ}\text{C} \times 1.8) + 32 = ^{\circ}\text{F}$$

$$\text{kV/mm} \times 25.4 = \text{V/mil}$$

$$\text{mm} / 25.4 = \text{inches}$$

$$\text{N} \times 0.225 = \text{lb/F}$$

$$\text{N/mm} \times 5.71 = \text{lb/in}$$

$$\text{psi} \times 145 = \text{N/mm}^2$$

$$\text{MPa} = \text{N/mm}^2$$

$$\text{N} \cdot \text{m} \times 8.851 = \text{lb} \cdot \text{in}$$

$$\text{N} \cdot \text{m} \times 0.738 = \text{lb} \cdot \text{ft}$$

$$\text{N} \cdot \text{mm} \times 0.142 = \text{oz} \cdot \text{in}$$

$$\text{mPa} \cdot \text{s} = \text{cP}$$

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 differing application and working conditions in your environment that are beyond our control. Henkel is, therefore, not liable for the suitability of our product for the production processes and conditions in respect of which you use them, as well as the intended applications and results. We strongly recommend that you carry out your own prior trials to confirm such suitability of our product.

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Reference **N/A**