

LOCTITE ABLESTIK 8212

December 2016

PRODUCT DESCRIPTION

LOCTITE ABLESTIK 8212 provides the following product characteristics:

Technology	Epoxy
Appearance	Silver
Cure	Heat cure
Product Benefits	- Electrically conductive - Solvent-free - One component - High strength - Low levels of void - Low bleed - Low contaminants
Application	Die attach
Filler Type	Silver

LOCTITE ABLESTIK 8212 die attach adhesive is designed for use in automated assembly operations. The rheology of the adhesive has been designed for trouble-free dispensing in high speed, automated die attach units. It features high strength @ 260°C providing high reliability.

TYPICAL PROPERTIES OF UNCURED MATERIAL

Thixotropic Index	5.8
Viscosity, Cone & Plate, @ 25 °C mPa·s (cP):	
Speed 5 rpm	9,000
Work Life @ 25°C, hours	24
Shelf Life @ -40°C, days	365
Flash Point - See SDS	

TYPICAL CURING PERFORMANCE

Weight Loss on Cure

Weight Loss on Cure, %	7.5
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Recommended Curing Conditions

2 hours @ 200°C

Alternative Curing Conditions

1 hour @ 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	28
Above Tg, ppm	56
Glass Transition Temperature, °C	86
Extractable Ionic Content, ppm:	
Chloride (Cl-)	≤20
Sodium (Na+)	≤10
Potassium (K+)	≤1
Water Extract Conductivity, μmhos/cm	10
pH	5.0

Electrical Properties:

Volume Resistivity, ohms-cm	0.0003
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TYPICAL PERFORMANCE OF CURED MATERIAL

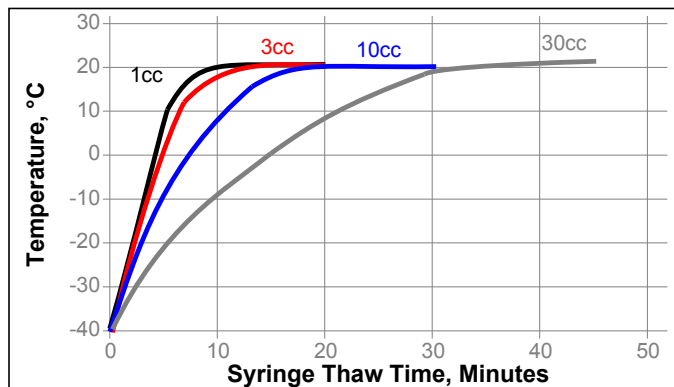
Die Shear Strength (80 mil ² IC) Si to Ag-Cu L/F:	
@ 25°C	N/mm ² 20
	(psi) (2,900)
@ 260°C	N/mm ² 5.31
	(psi) (770)
Die Shear 80 X 80 mil:	
Si-Ag Alloy42 LF @RT, kgf/chip	≥5.0
Die Shear 80 X 80 mil:	
Si-Ag Alloy42 LF @260C, kgf/chip	≥0.5

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. 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.
4. DO NOT re-freeze. Once thawed to 25°C, the adhesive should not be re-frozen.



DIRECTIONS FOR USE

1. Thawed material should immediately be placed on dispense equipment for use.
2. If the adhesive is transferred to a final dispensing reservoir, care must be exercised to avoid entrapment of contaminants and/or air into the adhesive.
3. Adhesive must be completely used within the product's recommended work life.
4. Apply enough adhesive to achieve a 25 to 50 μm wet bondline thickness, dispensed with approximately 25 to 50 % filletting on all sides of the die.
5. Alternate dispense amounts may be used depending on the application requirements.
6. Star or crossed shaped dispense patterns will yield fewer bondline voids than the matrix style of dispense pattern.

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

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

Disclaimer

Note:

The information provided in this Technical Data Sheet (TDS) including the

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Reference 1