

LOCTITE ABLESTIK ABP 8920TC

October 2020

PRODUCT DESCRIPTION

LOCTITE ABLESTIK ABP 8920TC provides the following product characteristics:

Technology	BMI Hybrid
Appearance	White paste
Filler Type	Alumina
Product Benefits	• High MRT performance • High thermal conductivity • Good adhesion • Good electrical insulation • Small and controlled particle size
Cure	Heat cure
Application	Electronic Material, Semiconductor Die Attach Paste
Key Substrates	BT, Copper, Silver, PPF and Alloy 42

LOCTITE ABLESTIK ABP 8920TC thermally conductive die attach paste is specially designed for applications requiring good thermal management and robust mechanical properties.

TYPICAL PROPERTIES OF UNCURED MATERIAL

Viscosity, Brookfield CP51, 25 °C, mPa·s (cP):	
Speed 5 rpm	16,000
Thixotropic Index (0.5/5 rpm)	6
Work Life @ 25°C, hours	24
Shelf Life @ -40°C (from date of manufacture), days	365

TYPICAL CURING PERFORMANCE

Cure Schedule

30 minutes ramp to 175°C, hold for 1 hour in air or N₂

The above cure profile 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, TMA expansion mode, ppm/°C:	
Below Tg	19
Above Tg	54
Glass Transition Temperature, TMA expansion, °C	49
Thermal Conductivity, Laser Flash, W/(m·K)	3
Tensile Modulus, DMA Q800, DMTA :	
@ 25°C	N/mm ² 8,580 (psi) (1.24×10 ⁻⁶)
@ 100°C	N/mm ² 2,340 (psi) (339,000)
@ 150°C	N/mm ² 1,520 (psi) (220,000)
@ 250°C	N/mm ² 839 (psi) (122,000)

Extractable Ionic Content, ppm:

Chloride (Cl ⁻)	<10
Sodium (Na ⁺)	<10
Potassium (K ⁺)	<10

Electrical Properties:

Dielectric Strength, Breakdown Voltage, kV/mm	31
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Adhesive Properties:

Shear Strength:

Die Shear Strength:

@ 25°C:	
3 x 3 mm Si die on , kg/die:	
PPF	19.8
Cu	20.8
@ 260°C :	
3 x 3 mm Si die on , kg/die:	
PPF	6.8
Cu	7.5

GENERAL INFORMATION

Please consult the Safety Data Sheet (SDS) for safe handling information of this product.

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. Alternate dispense amounts may be used depending on the application requirements.
5. Star or crossed shaped dispense patterns will yield fewer bondline voids than the matrix style of dispense pattern.

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. Storage below -40°C or above -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 Henkel 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

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