Technical Data Sheet

LOCTITE® ABLESTIK ABP 2100ACNP

October 2024

PRODUCT DESCRIPTION

LOCTITE® ABLESTIK ABP 2100ACNP provides the following product characteristics:

Technology	Proprietary hybrid chemistry
Appearance	Silver
Filler type	Silver coated copper
Product benefits	• Conductive • Low stress • Ultra-low moisture absorption • Pb-free applications • Excellent dispensability • Fast cure capability • Does not contain any intentionally added PFAS
Cure	Heat cure
Application	Die attach
Typical package application	PBGA
Key substrates	BGA

LOCTITE® ABLESTIK ABP 2100ACNP the electrically conductive die attach adhesive is designed for use in high throughput and Pb-free array packaging. The product is able to withstand the high reflow temperature necessary for Pb-free solders @ 260°C and pass automotive grade. It is suitable for die size which is up to 12.7 mm x 12.7 mm.

TYPICAL PROPERTIES OF UNCURED MATERIAL

Viscosity, Brookfield CP51, 25°C, mPa.s (cP)	
Speed 5 rpm	10,000
Thixotropic index, (0.5/5 rpm)	4.5
Density, g/cm^3	3.5
Work life @ 25ºC, (condition), hours	24
Shelf life @ -40°C, (condition), days	365
Flash point - see SDS	

TYPICAL CURING PERFORMANCE

Recommended cure schedule

30 minutes ramp to 175°C + 15 minutes @ 175°C in N2

Alternate cure schedule

30 minutes ramp to 175°C + 30 minutes @ 175°C in N2

The above cure profile(s) are guideline recommendations. These cure 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

Sample cured 15 minutes @ 175°C

Coefficient of thermal expansion, TMA, (ppm/°C):	
Below Tg	60
Above Tg	160
Glass transition temperature, DMTA, °C	41
Storage modulus, DMTA, Mpa	
@25ºC	3,056
@150ºC	400
@250ºC	524
Extractable ionic content, ppm	
Sodium (Na+)	<10
Potassium (K+)	<10
Chloride (Cl-)	<10
Thermal conductivity, W/(m-k)	1.5
Weight loss @ 300ºC, TGA, %	1.6
Weight loss on cure, %	1.3
Moisture absorption @ Saturation, wt. %,	
@ 85ºC/85% RH	0.18

Electrical properties

Sample cured 15 minutes @ 175ºC

Bond joint resistance, ohms/0.5 sq. in.	0.002

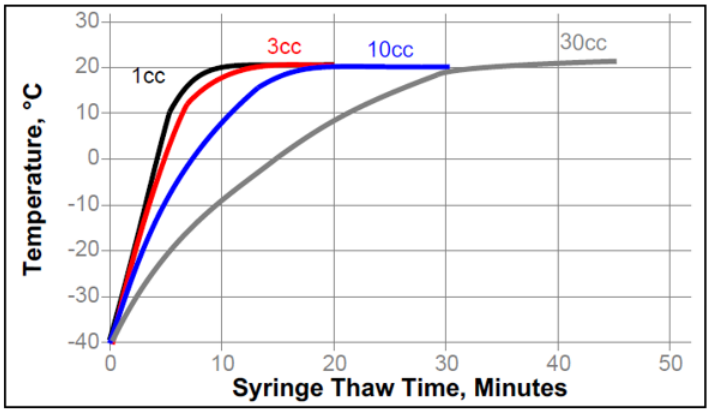
Adhesion properties

Sample cured 15 minutes @ 175°C

Die shear strength	
2x2 mm Si die, @25ºC, kg/f	
On Ag/Cu	10
On BGA	8
Die shear strength	
5x5mm Si die, @250°C, kg/f	
On BGA	10

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. Thaw times depend on the syringe size.
4. Consult handling guide for more information.
5. 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.
6. DO NOT re-freeze. Once thawed to 25°C, the adhesive should not be re-frozen.



Direction 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.

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 greater than -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 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.

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 the specifications of this product.

Conversions
(°C x 1.8) + 32 = °F
kV/mm x 25.4 = V/mil
mm / 25.4 = inches
µm / 25.4 = mil
N x 0.225 = lb
N/mm x 5.71 = lb/in
N/mm² x 145 = psi
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

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