

LOCTITE ABLESTIK 3290P

November 2016

PRODUCT DESCRIPTION

LOCTITE ABLESTIK 3290P provides the following product characteristics:

Technology	Epoxy
Appearance	Silver
Filler Type	Silver
Cure	Heat cure
Product Benefits	<ul style="list-style-type: none"> • Snap curable • Medium modulus • Low outgassing • Conductive • High reliability
Application	Die attach
Typical Package Application	QFP and Large die QFN
Key Substrates	PPF, Silver Plated Copper and Bare Copper

LOCTITE ABLESTIK 3290P electrically conductive die attach adhesive is designed for high reliability package applications. This material is the higher modulus version of 3290 adhesive.

TYPICAL PROPERTIES OF UNCURED MATERIAL

Thixotropic Index (0.5/5 rpm)	3.5
Viscosity, Cone & Plate, @ 25 °C, mPa·s (cP): Speed 5 rpm	12,000
Work Life @ 25°C, hours	24
Shelf Life @ -40°C (from date of manufacture), days	365

TYPICAL CURING PERFORMANCE Cure Schedule

30 minute ramp to 175°C + 60 minutes @ 175°C

Recommended Snap Cure Condition

Zone No.	1	2	3	4	Total Time
Temp °C	140	180	220	240	2 min

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	68
Above Tg, ppm/°C	101
Glass Transition Temperature, Tan Δ Max, °C	136
Extractable Ionic Content, @ 100°C ppm:	
Chloride (Cl-)	<10
Sodium (Na+)	<10
Potassium (K+)	<10
Tensile Modulus, DMTA :	
@ 25 °C	N/mm ² 2,900 (psi) (420,609)
@ 150 °C	N/mm ² 400 (psi) (58,015)
@ 200 °C	N/mm ² 280 (psi) (40,610)
@ 250 °C	N/mm ² 280 (psi) (40,610)

Weight Loss @ 250°C, %	0.78
Shrinkage, %	6.2
DSC, °C:	
Onset	117
Peak	127
Moisture Absorption @ Saturation, wt.% @ 85°C/85°RH	0.28

Electrical Properties:

Volume Resistivity, cured 1 hour @ 200°C, ohms-cm	0.02
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TYPICAL PERFORMANCE OF CURED MATERIAL

Die Shear Strength :

2 X 2 mm Si die, kg-f,
Post Cure, Snap Cured

Substrate	@25°C
Pd/Ni/Cu leadframe	6.9

Die Shear Strength:

2 X 2 mm Si die, kg-f,
Post Cure, Snap Cured

Substrate	@240°C
Pd/Ni/Cu leadframe	1.2

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

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

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

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

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

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

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

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

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

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

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

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

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Reference 1

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