Technical Data Sheet

LOCTITE ABLESTIK ATB 120US2

July 2019

PRODUCT DESCRIPTION

LOCTITE ABLESTIK ATB 120US2 provides the following product characteristics:

Technology	Epoxy Film
Appearance	Transparent
Cure	*Skip*-Cure Process
Product Benefits	• Long thermal budget • Meets thin wafer requirements • Co-curable during molding process • Consistent dicing and die pickup for large die applications
Application	Encapsulation or Semi-Films
Filler Type	Silica
Typical Package Application	Die to die stack and Die to substrate
Carrier Type	Polyolefin
Adhesive Thickness	20µm
Carrier Film Thickness	85µm
Wafer Size in	8 and 12 in

LOCTITE ABLESTIK ATB 120US2 adhesive film with none UV dicing tape is formulated for use in wafer lamination processes or as a preform decal.

It is designed for use in both mother/daughter die in stack packages.

TYPICAL PROPERTIES OF UNCURED MATERIAL

Work Life @ 25°C, days	90
Shelf Life @ 5°C (from date of manufacture), days	365

TYPICAL PROCESS DATA

Wafer Backside Lamination

Temperature, °C	65
Pressure, psi	30
Taping Duration, ft/ minute	1

Chip Attach

Temperature, °C	100 to 130
Pressure, kg-f	0.5 to 1.0
Attach Duration, second	0.5 to 1.0

TYPICAL CURING PERFORMANCE

*Skip*Cure Process

Cured at post mold cure

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		81
Glass Transition Temperature (Tg) by DMTA, °C		41
Tensile Modulus, DMTA :		
@ -65 °C	N/mm² (psi)	3,505 (508,357)
@ 25 °C	N/mm² (psi)	1,277 (185,213)
@ 150 °C	N/mm² (psi)	2.4 (348)
@ 200 °C	N/mm² (psi)	2.0 (290)
@ 250 °C	N/mm² (psi)	1.9 (275)
Extractable Ionic Content, :		
Chloride (Cl-)		7
Sodium (Na+)		6
Potassium (K+)		2
Weight Loss @ 250ºC, %		0.6
Moisture Absorption @ Saturation, after 85ºC/85% RH exposure, wt %		1.8

TYPICAL PERFORMANCE OF CURED MATERIAL

Thermal Budget @ 175ºC, hours	>4

Die Shear Strength vs Temperature, kg-f:

2.5 X 2.5 mm Si die, kg-f,

Die on Substrate:	@260°C
BT Substrate	1.0

GENERAL INFORMATION

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

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.

DIRECTIONS FOR USE

1. Ensure all surfaces to be bonded are free from surface contamination.
2. Adhesive must be completely used within the product's recommended work life.
3. Remove the tape reel from the moisture-resistant package and load into the tape application machine.
4. Store unused adhesive film in the original sealed moisture-resistant package until needed.

STORAGE:
Store product in the unopened container in a dry location. Storage information may be indicated on the product container labeling.

Optimal Storage: 5°C. Storage below 5°C or greater than 5°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
(°C x 1.8) + 32 = °F
kV/mm x 25.4 = V/mil
mm / 25.4 = inches
N x 0.225 = lb/F
N/mm x 5.71 = lb/in
psi x 145 = N/mm²
MPa = N/mm²
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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