

Ablestik

ABLEFLEX 6202C

August 2010

PRODUCT DESCRIPTION

ABLEFLEX 6202C provides the following product characteristics:

Technology	Proprietary Hybrid Chemistry
Appearance	Orange
Filler Type	Silica and Rubber
Cure	Heat cure
Product Benefits	• Stencil printing • Low moisture uptake • Low flow (<150µm) • Low warpage • Long work life • Low modulus
Application	Die attach
Substrates	Laminate
Typical Package Application	Chip scale packages and Stencil printing

ABLEFLEX 6202C B-stageable adhesive is ideal for chip scale packages where tolerance and bleed need to be minimized. This low modulus adhesive is recommended for large die sizes.

TYPICAL PROPERTIES OF UNCURED MATERIAL

Thixotropic Index (0.5/5 rpm)	≥2.3
Viscosity, Brookfield CP51, 25 °C, mPa·s (cP):	
Speed 5 rpm	28,000
Work Life @ 25°C, week	1
Shelf Life (from date of manufacture):	
@ -20°C, months	6
@ -40°C, year	1
Print Open Time, hours	15

Flash Point - See MSDS

TYPICAL PROCESS DATA

Recommended B-Stage Condition

1 hour @ 125°C

Dwell Time after B-Stage

Without Predry, hours	8
With Predry, days	10

Pre-Dry Prior to Die Attach

4 to 10 minutes @ 90 to 95°C

(Based on substrate thickness and complexity. Needs to be optimized for each customer based on real-life data)

Recommended when there is a significant amount of time (i.e., 4 hours or more) between B-stage and die attach.

Chip Attach

Die Temperature, °C	150 to 175
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Substrate Temperature, °C	30 to 70
Force, kg-f	6 to 12
Time, seconds	0.5 to 1.5

Post Die Attach Dwell

Prior to Cure, hours	24
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TYPICAL CURING PERFORMANCE

Cure Schedule

30 minute ramp to 175°C + 60 minutes @ 175°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 :	
Below Tg, ppm/°C	70
Above Tg, ppm/°C	350

Glass Transition Temperature (Tg) by TMA, °C	40
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Tensile Modulus, DMTA :

@ 25 °C	N/mm ²	500
	(psi)	(72,500)
@ 150 °C	N/mm ²	5
	(psi)	(725)
@ 250 °C	N/mm ²	6
	(psi)	(812)

Extractable Ionic Content, ppm:

Chloride (Cl-)	<25
Sodium (Na+)	<20
Potassium (K+)	<20

Water Extract Conductivity, µmhos/cm	120
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Moisture Absorption @ Saturation, wt. %	1.03
@ 85°C/85%RH	

Density before B-Stage, g/cc	1.1
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Density after B-Stage, g/cc	1.15
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TYPICAL PERFORMANCE OF CURED MATERIAL

Die Shear Strength:

2 X 2 mm, kg-f,

Substrate	@25°C
Ceramic to Ceramic	≥8.0

2 X 2 mm, kg-f,

Substrate	@25°C	@245°C
Si die to Ceramic	10.4	1.1

Lap Shear Strength, psi:

Substrate	LSS
Al to Al	1500

GENERAL INFORMATION

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

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. Apply enough adhesive to the stencil to ensure complete filling of the stencil with a 15 to 20 mm diameter bead. Typically, this requires 20 to 50 cc of adhesive, depending on the stencil size. For two-direction printing, double beading is recommended.
2. Unused adhesive may be re-frozen, provided the total time at ambient temperature does not exceed the recommended work life.

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 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

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

Note

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Reference 0.1