

ABLEBOND® 961-4

B-STAGEABLE PASTE FOR LID-SELING

DESCRIPTION

Ablebond® 961-4 B-stageable adhesive is designed for sealing ceramic lids to ceramic packages.

FEATURES

- Screen printable
- B-stageable
- High temperature stability

UNCURED PROPERTIES	TEST DESCRIPTION	TEST METHOD
Viscosity @ 25°C Work Life @ 25°C 3 months Typical B-stage Life @ 25°C Typical Storage Life @ -40°C	400,000 cps Estimated 6 months 1 year	Brookfield CP51 @ 0.5 rpm 25% increase in viscosity @ RT PT-42 PT-54 PT-13
CURE PROCESS DATA		
Percent Volatiles	18%	Open cure on glass slide PT-45
Recommended B-stage Condition	20 minutes @ 100°C + 20 minutes @ 120°C	
Recommended Cure Condition	2 hours @ 160°C	
Alternate Cure Condition	20 minutes @ 175°C	

The figures shown above are typical values only. If you need to write a specification, please request our current Standard Release Specification.

PHYSIOCHEMICAL PROPERTIES - POST CURE	TEST DESCRIPTION	TEST METHOD
<p>Ionics</p> <p> Chloride 17 ppm</p> <p> Sodium 77 ppm</p> <p> Potassium 1 ppm</p> <p>Weight Loss @ 300°C 0.9%</p> <p>Glass Transition Temp 175°C</p> <p>Hardness (Shore D) 90</p> <p>Coefficient of Thermal Expansion</p> <p> Below Tg 50 ppm/°C</p> <p> Above Tg 145 ppm/°C</p> <p>Dynamic Teasile Modulus</p> <p> @ -65°C 5,600 MPa</p> <p> @ 25°C 4,600 MPa</p> <p> @ 150°C 2,000 MPa</p> <p> @ 250°C 40 MPa</p>	<p>Teflon Flask 5 gm sample/20-40 mesh 50 gm DI water 100°C for 24 hours Thermogravimetric analysis TMA penetration mode</p> <p>TMA Expansion Mode</p> <p>Dynamic Mechanical Thermal Analysis on <0.5mm thick Sample</p>	<p>CT-13</p> <p>PT-20</p> <p>MT-14</p> <p>PT-25</p> <p>MT-9</p> <p>MT-12</p>
THERMAL/ELECTRICAL/MECHANICAL PROPERTIES - POST CURE	TEST DESCRIPTION	TEST METHOD
<p>Thermal Conductivity 0.4 W/mK</p> <p>Volume Resistivity 6 x 10¹⁴ ohm-cm</p> <p>Lap Shear Strength @ 25°C 27 MPa (3900 psi)</p>	<p>Laser Flash</p> <p>Al to Al with 1.27cm (0.5 inch) overlap</p>	<p>PT-96</p> <p>PT-47</p> <p>MT-6</p>

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APPLICATION GUIDELINES

SHIPMENT

This Ablestik product is packed and shipped in dry ice which is at -80°C. Inside every dry ice shipment of Ablestik's products is a small packet containing the ABLECUBE. This is a small blue cube, which retains its shape at -40°C. If the ABLECUBE is exposed to temperatures above -40°C, the cube will melt.

Please check the state the AbleCube to ensure the integrity of the shipment.

UNPACKING

Transfer the syringes from the dry ice to a -40°C freezer without ANY delays. Freeze-thaw voids will form in the syringes if the syringes are repeatedly thawed and refrozen.

STORAGE

This Ablestik product must be stored at -40°C. The shelf life of the material is only valid when the material has been stored at the correct storage condition. Incorrect storage conditions will degrade the performance of the material in both handling (e.g. dispensing or screen printing) and final cured properties.

THAWING

Allow the container to return to room temperature before use. After removing from the freezer, set the syringes to stand vertically while thawing.

DO NOT open the container before contents reach ambient temperature. Any moisture that collects on the thawed container should be removed prior to opening the container. **DO NOT** re-freeze. Once thawed to room temperature, the adhesive should not be refrozen.

ADHESIVE APPLICATION

Thawed adhesive should be immediately placed on-line. 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. Adhesive must be completely used within the product's recommended work life of 3 months.

Contact Ablestik Technical Service Department for detailed recommendation on adhesive application, including dispensing.

CURE

Adhesive should be cured per the recommended cure cycle(s). Refer to the Cure Process Data section of the Technical Data Sheet for the recommended cure cycles.

AVAILABILITY

Ablebond® adhesives are packaged in syringes or jars per customer specification. Syringe sizes range from 1cc to 30cc and 1 ounce to 1 pound. For details, refer to the Ablestik Standard Package Data Set, or contact your Customer representative.

