



# BERGQUIST LIQUI BOND TLB SA1800

BERGQUIST LIQUI-BOND SA 1800

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## PRODUCT DESCRIPTION

Thermally Conductive, One-Part, Liquid Silicone Adhesive.

|                                    |                                                      |
|------------------------------------|------------------------------------------------------|
| <b>Technology</b>                  | Silicone                                             |
| <b>Appearance</b>                  | Black                                                |
| <b>Cure</b>                        | Heat cure                                            |
| <b>Application</b>                 | Thermal management, TIM (Thermal Interface Material) |
| <b>Operating Temperature Range</b> | -60 to 200°C                                         |
| <b>UL Flammability Rating</b>      | UL 94 V-0                                            |

## FEATURES AND BENEFITS

- High Thermal Conductivity: 1.8 W/m-K
- Eliminates need for mechanical fasteners
- Low viscosity for ease of screening or stenciling
- Maintains structural bond in severe environment applications
- Heat cure

BERGQUIST LIQUI BOND TLB SA1800 is a high performance, liquid silicone adhesive that cures to a solid bonding elastomer. The adhesive is supplied as a one-part liquid component, offered in a tube or mid-size container.

BERGQUIST LIQUI BOND TLB SA1800 features a combination of high thermal conductivity with a low viscosity which allows for ease of screen or stencil application. This material is also ideal for high volume automated pattern dispensing.

BERGQUIST LIQUI BOND TLB SA1800 contains no cure by-products, cures at elevated temperatures and requires refrigeration storage at 10°C. The material is available in both tube and mid-sized container forms.

BERGQUIST LIQUI BOND TLB SA1800's low viscosity allows the material to achieve a very thin bond line, producing excellent thermal performance and a high shear strength. The material's mild elastic properties assist in relieving CTE stresses during thermal cycling.

BERGQUIST LIQUI BOND TLB SA1800 cures at elevated temperatures and requires refrigeration storage at 10°C. BERGQUIST LIQUI BOND TLB SA1800 is available with optional glass beads to provide a consistent stand-off and ensure dielectric integrity.

## TYPICAL APPLICATIONS

- PCB assembly to housing
- Discrete component to heat spreader

## TYPICAL PROPERTIES OF UNCURED MATERIAL

|                                                                        |         |
|------------------------------------------------------------------------|---------|
| Viscosity, Brookfield - RV, - Helipath, ASTM D2196, 25 °C, mPa·s (cP): |         |
| Spindle TF, speed 20 rpm                                               | 125,000 |
| Density, ASTM D792, g/cc                                               | 2.8     |
| Shelf Life @ 10°C, months                                              | 6       |
| Pot life @ 25 °C, based on 1/8" diameter bead, hours                   | 10      |

## TYPICAL CURE SCHEDULE

### Cure Schedule

- 20 minutes @ 125°C or
- 10 minutes @ 150°C

Time after cure temperature is achieved at the interface. Ramp time is application dependent.

## TYPICAL PROPERTIES OF CURED MATERIAL

### Physical Properties

|                               |    |
|-------------------------------|----|
| Hardness, Shore A, ASTM D2240 | 80 |
|-------------------------------|----|

### Electrical Properties

|                                          |                    |
|------------------------------------------|--------------------|
| Dielectric Strength, ASTM D149, V/mm     | 10,000             |
| Dielectric Constant, ASTM D150, 1,000Hz  | 6.0                |
| Volume Resistivity, ASTM D257, ohm-meter | 1×10 <sup>10</sup> |

### Thermal Properties

|                                           |     |
|-------------------------------------------|-----|
| Thermal Conductivity, ASTM D5470, W/(m-K) | 1.8 |
|-------------------------------------------|-----|

## TYPICAL PERFORMANCE OF CURED MATERIAL

### Shear Strength

|                            |       |       |
|----------------------------|-------|-------|
| Shear Strength, ASTM D1002 | MPa   | 1.4   |
|                            | (psi) | (200) |

## 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.



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.

## CONFIGURATIONS AVAILABLE

BERGQUIST LIQUI BOND TLB SA1800 is available with or without glass beads.

## STORAGE

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

Optimal Storage: 10°C for a 6 month shelf life. 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

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

## Disclaimer

### Note:

The information provided in this Technical Data Sheet (TDS) including the recommendations for use and application of the product are based on our knowledge and experience of the product as at the date of this TDS. The product can have a variety of different applications as well as differing application and working conditions in your environment that are beyond our control. Henkel is, therefore, not liable for the suitability of our product for the production processes and conditions in respect of which you use them, as well as the intended applications and results. We strongly recommend that you carry out your own prior trials to confirm such suitability of our product.

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