

# BERGQUIST LIQUI BOND TLB 400SLT

Known as BERGQUIST THERMAL LIQUI-BOND 400 SLT  
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## PRODUCT DESCRIPTION

High Performance Silicone Adhesive Sealant With An Adaptable Cure Profile.

<b>Technology</b>	Silicone
Appearance (cured)	Black
Appearance - Part A	Off-white
Appearance - Part B	Black
<b>Cure</b>	Room temperature cure or Heat cure
<b>Application</b>	Thermal management, TIM (Thermal Interface Material)
Mix Ratio by weight: Part A: Part B	1 : 1
Mix Ratio by volume: Part A: Part B	1 : 1
Operating Temperature Range	-60 to 180°C

## FEATURES AND BENEFITS

- Fast and adaptable cure
- Cures and bonds at room temperature
- Cure rate is greatly accelerated at elevated temperatures
- Room temperature storage
- Excellent elongation to break
- Thixotropic, designed for automated dispensing as FIPG (Form-In-Place Gasket)

BERGQUIST LIQUI BOND TLB 400SLT is a high performance two-part silicone sealant designed for automotive applications. BERGQUIST LIQUI BOND TLB 400SLT offers an adaptable and reliable cure at multiple temperatures, independent of ambient moisture.

BERGQUIST LIQUI BOND TLB 400SLT is targeting the automotive module market which demands a reliable silicone sealant and adhesive. This two-part silicone material cures and bonds at temperatures from 25°C up to 180°C. At elevated temperatures, the cure rate is very fast, for example at 85°C, BERGQUIST LIQUI BOND TLB 400SLT cures in 15 minutes. The cure chemistry is compatible with Henkel's BERGQUIST brand of two-part Gap Fillers.

The cure can be adapted to suit current production capabilities, providing the option to use existing product equipment and eliminate additional capital expense. A lower temperature can also be selected to save energy or a higher temperature to save time.

## TYPICAL APPLICATIONS

- Engine control modules
- Modules with large thermal mass
- Modules with temperature sensitive components
- Integrated Brake Control modules
- HEV, EV modules
- Any electronic enclosures

## TYPICAL PROPERTIES OF UNCURED MATERIAL

Mixed Viscosity, Brookfield , ASTM D2196, mPa·s (cP)::	
@ 1 s <sup>-1</sup>	800,000
Density, ASTM D792, g/cc	1.5
Working Time @ 25°C, minutes <sup>(1)</sup>	60
Shelf Life @ 25°C , months	6

<sup>(1)</sup> Dwell time between bead dispensed on substrate, to aluminum lap shear substrates mated together.

## TYPICAL CURE SCHEDULE

### Fixture Time

Self-Fixture(~50 psi):  
12 hours @ 25°C  
30 minutes @ 50°C  
5 minutes @ 85°C

### Adhesion

50% Adhesion:  
24 hours @ 25°C  
60 minutes @ 50°C  
10 minutes @ 85°C

90% Adhesion:  
72 hours @ 25°C  
4 hours @ 50°C  
15 minutes @ 85°C

100% Adhesion:  
7 days @ 25°C  
12 hours @ 50°C  
30 minutes @ 85°C  
Typically 100% cohesive adhesion failure.



**TYPICAL PROPERTIES OF CURED MATERIAL****Physical Properties**

Hardness, Shore A <sup>(2)</sup> , ASTM D2240	40	
Elongation @ break, ASTM D412, %	400	
Breaking Strength, ASTM D1458, KN/m	4.4	
Flammability, UL 94	V-0	
Tensile Strength, ASTM D412	MPa (psi)	2.1 (300)
Lap Shear Strength, ASTM D1002 <sup>(2)</sup>	MPa (psi)	2.1 (300)

**Electrical Properties**

Dielectric Strength, ASTM D149, V/mil / V/mm	250/10,000
Dielectric Constant, ASTM D150 @ 1,000 Hz	4.3
Volume Resistivity, ASTM D257, ohm-meter	$1 \times 10^{12}$

<sup>(2)</sup> Cured at 85°C for 15 minutes, aluminum to aluminum, typical 100% cohesive failure.

**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 400SLT is available in the following configurations:

Kits	400cc, 1,200cc, 10 gallon
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**STORAGE**

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

Optimal Storage: 5 to 25°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**

(°C x 1.8) + 32 = °F
kV/mm x 25.4 = V/mil
mm / 25.4 = inches
N x 0.225 = lb
N/mm x 5.71 = lb/in
psi x 145 = N/mm <sup>2</sup>
MPa = N/mm <sup>2</sup>
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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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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