

# BERGQUIST LIQUI BOND TLB SA2005RT

December 2017

## PRODUCT DESCRIPTION

A two-part, high performance, 2 W/m-K thermally conductive silicone adhesive.

<b>Technology</b>	Silicone
Appearance (cured)	Violet
Appearance - Part A	Red
Appearance - Part B	Blue
<b>Cure</b>	Heat cure or Room temperature 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
UL Flammability Rating	UL 94 V-0

## FEATURES AND BENEFITS

- Thermally conductive : 2.0 W/m-K
- Adaptive thermal cure
- No cure by-products
- Cures and bonds at room temperature
- Cure rate is greatly accelerated at elevated temperatures
- Room temperature storage

**BERGQUIST LIQUI BOND TLB SA2005RT** is a two-part, high performance silicone thermal adhesive designed for automotive applications. It is formulated for applications where a reliable silicone thermal interface material and a structural adhesive are required.

**BERGQUIST LIQUI BOND TLB SA2005RT** offers an adaptable and reliable cure at multiple temperatures, independent of ambient moisture. This two-part silicone material cures and bonds at temperatures from 25°C up to 180°C. The cure rate is accelerated at elevated temperatures. At temperatures as high as 85°C, **BERGQUIST LIQUI BOND TLB SA2005RT** can achieve full cure in just 60 minutes. This material's cure chemistry is compatible with other BERGQUIST brand two-part Gap Fillers.

## TYPICAL APPLICATIONS

- Automotive electronics (HEV, NEV, batteries)
- Automotive pumps
- Automotive modules
- Power supplies

## TYPICAL PROPERTIES OF UNCURED MATERIAL

Viscosity, Capillary, ASTM D5099, mPa·s (cP):	
High shear, Shear Rate 3,000 s <sup>-1</sup>	70,000
Viscosity, Parallel Plate, ASTM D2196, mPa·s (cP):	
Low shear, Shear Rate 1 s <sup>-1</sup>	500,000
Density, ASTM D792, g/cc	2.8
Pot life @ 25°C, ASTM D4473, minutes	30

## TYPICAL CURE SCHEDULE

Shear Strength, ASTM D1002

Temperature	25°C	50°C	85°C
Self-Fixture (0.3 MPa)	6 hours	30 minutes	5 minutes
0.7 MPa	1 day	6 hours	10 minutes
1.2 MPa	3 days	1 day	1 hour
1.4 MPa	7 days	1 day	1 hour

## TYPICAL PROPERTIES OF CURED MATERIAL

### Physical Properties

Hardness, Shore A, 30 second delay, ASTM D2240	65
Heat Capacity, ASTM E1269, J/g-K	1.0

### Electrical Properties

Dielectric Strength, ASTM D149, V/mil	275
Dielectric Constant, ASTM D150, 1,000Hz	6.9
Volume Resistivity, ASTM D257, ohm-meter	1×10 <sup>11</sup>

### Thermal Properties

Thermal Conductivity, ASTM D5470, W/(m-K)	2.0
---	-----

## TYPICAL PERFORMANCE OF CURED MATERIAL

### Shear Strength

Shear Strength, ASTM D1002, MPa	1.4
---------------------------------	-----

## 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 SA2005RT** is available with or without glass beads. Glass beads are available in 7 mil configuration.

**BERGQUIST LIQUI BOND TLB SA2005RT** is supplied in:

Cartridges	50cc, 200cc, 400cc
Kits	1,200cc, 7 gallon

**THAWING:**

1. If refrigerated, allow container to reach room temperature before use.
2. 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.

**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**

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

**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.

Any liability in respect of the information in the Technical Data Sheet or any other written or oral recommendation(s) regarding the concerned product is excluded, except if otherwise explicitly agreed and except in relation to death or personal injury caused by our negligence and any liability under any applicable mandatory product liability law.

**In case products are delivered by Henkel Belgium NV, Henkel Electronic Materials NV, Henkel Nederland BV, Henkel Technologies France SAS and Henkel France SA please additionally note the following:**

In case Henkel would be nevertheless held liable, on whatever legal ground, Henkel's liability will in no event exceed the amount of the concerned delivery.

**In case products are delivered by Henkel Colombiana, S.A.S. the following disclaimer is applicable:**

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. 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.

Any liability in respect of the information in the Technical Data Sheet or any other written or oral recommendation(s) regarding the concerned product is excluded, except if otherwise explicitly agreed and except in relation to death or personal injury caused by our negligence and any liability under any applicable mandatory product liability law.

**In case products are delivered by Henkel Corporation, Resin Technology Group, Inc., or Henkel Canada Corporation, the following disclaimer is applicable:**

The data contained herein are furnished for information only and are believed to be reliable. We cannot assume responsibility for the results obtained by others over whose methods we have no control. It is the user's responsibility to determine suitability for the user's purpose of any production methods mentioned herein and to adopt such precautions as may be advisable for the protection of property and of persons against any hazards that may be involved in the handling and use thereof. In light of the foregoing, **Henkel Corporation specifically disclaims all warranties expressed or implied, including warranties of merchantability or fitness for a particular purpose, arising from sale or use of Henkel Corporation's products. Henkel Corporation specifically disclaims any liability for consequential or incidental damages of any kind, including lost profits.** The discussion herein of various processes or compositions is not to be interpreted as representation that they are free from domination of patents owned by others or as a license under any Henkel Corporation patents that may cover such processes or compositions. We recommend that each prospective user test his proposed application before repetitive use, using this data as a guide. This product may be covered by one or more United States or foreign patents or patent applications.

**Trademark usage:** [Except as otherwise noted] All trademarks in this document are trademarks and/or registered trademarks of Henkel and its affiliates in the U.S. and elsewhere.

**Reference 1**