



# BERGQUIST GAP PAD TGP 1000VOUSB

Known as BERGQUIST GAP PAD VO ULTRA SOFT-B  
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## PRODUCT DESCRIPTION

Ultra Conformable, Thermally Conductive Material for Filling Air Gaps.

|                                    |                                                         |
|------------------------------------|---------------------------------------------------------|
| <b>Technology</b>                  | Silicone                                                |
| <b>Appearance</b>                  | Black                                                   |
| <b>Reinforcement Carrier</b>       | Fiberglass                                              |
| <b>Thickness, ASTM D374</b>        | 0.508 to 3.175mm                                        |
| <b>Inherent Surface Tack</b>       | 1 (1 sided)                                             |
| <b>Application</b>                 | Thermal management,<br>TIM (Thermal Interface Material) |
| <b>Operating Temperature Range</b> | -60 to 200°C                                            |

## FEATURES AND BENEFITS

- Thermal Conductivity: 1.0 W/m-K
- Highly Conformable, low hardness
- "Gel-like" modulus
- Decreased strain
- Puncture, shear and tear resistant
- Electrically isolating

BERGQUIST GAP PAD TGP 1000VOUSB is recommended for applications that require a minimum amount of pressure on components. The viscoelastic nature of the material also gives excellent low-stress vibration dampening and shock absorbing characteristics.

BERGQUIST GAP PAD TGP 1000VOUSB is an electrically isolating material, which allows its use in applications requiring isolation between heat sinks and high-voltage, bare-leaded devices.

## TYPICAL APPLICATIONS

- Various IC packages
- Telecommunications
- Between any heat-generating semiconductor and a heat sink
- Automotive
- LED lighting packages
- Computer and peripherals

## TYPICAL PROPERTIES OF CURED MATERIAL

### Physical Properties

|                                                                        |                     |
|------------------------------------------------------------------------|---------------------|
| Hardness, Shore 00, Thirty second delay value, ASTM D2240, Bulk rubber | 5                   |
| Heat Capacity, ASTM E1269, J/g-K                                       | 1.0                 |
| Density, Bulk rubber, ASTM D792, g/cc                                  | 1.6                 |
| Flammability, UL 94                                                    | V-0                 |
| Young's Modulus, ASTM D575 <sup>(1)</sup>                              | kPa 55<br>(psi) (8) |

### Electrical Properties

|                                              |                    |
|----------------------------------------------|--------------------|
| Dielectric Breakdown Voltage, ASTM D149, VAC | 6,000              |
| Dielectric Constant, ASTM D150, 1,000Hz      | 5.5                |
| Volume Resistivity, ASTM D257, ohm-meter     | $1 \times 10^{11}$ |

### Thermal Properties

|                                           |      |
|-------------------------------------------|------|
| Thermal Conductivity, ASTM D5470, W/(m-K) | 1.0  |
| Thermal Impedance                         |      |
| ASTM D5470, °C-in <sup>2</sup> /W:        |      |
| @ 0.040":                                 |      |
| 10% Deflection                            | 1.97 |
| 20% Deflection                            | 1.87 |
| 30% Deflection                            | 1.68 |
| @ 1.016 mm:                               |      |
| 10% Deflection                            | 12.7 |
| 20% Deflection                            | 12.1 |
| 30% Deflection                            | 10.8 |

(1) Young's Modulus, calculated using 0.01 in/min. step rate of strain with a sample size of 0.79 inch<sup>2</sup>

(2) The ASTM D5470 test fixture was utilized. The recorded values include the interfacial thermal resistance. The values are provided for reference only. Actual application performance is directly related to the surface roughness, flatness and pressure applied

## 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.



**CONFIGURATIONS AVAILABLE**

BERGQUIST GAP PAD TGP 1000VOUSB is available in the following configurations:

- Sheet form
- Die-Cut parts

Natural tack both sides with fiberglass.

**STORAGE**

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

Optimal Storage: 25°C (±3), 50% RH (±10) for a 12 months 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**

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

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**Reference 1**