

# BERGQUIST® GAP PAD TGP 5000 AP

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## PRODUCT DESCRIPTION

BERGQUIST® GAP PAD TGP 5000 AP is a highly conformable Gap Pad with exceptional thermal performance.

<b>Technology</b>	Silicone
<b>Appearance</b>	Light green
<b>Reinforcement carrier</b>	Fiberglass
<b>Thickness, ASTM D374</b>	0.508 to 3.175 mm,
<b>Inherent surface tack</b>	2 (1 sided)
<b>Application</b>	Thermal management, TIM (Thermal Interface Material)
<b>Operating temperature range</b>	-60 to 200°C

## Features and benefits

- High thermal conductivity: 5.0 W/m-K
- Highly conformable, "S-Class" softness
- Natural inherent tack reduces interfacial thermal resistance
- Conforms to demanding contours and maintains structural integrity with little or no stress applied to fragile component leads
- Fiberglass reinforced for puncture, shear and tear resistance
- Excellent thermal performance at low pressures

BERGQUIST® GAP PAD TGP 5000 AP is a fiberglass-reinforced filler and polymer featuring a high thermal conductivity. The material yields extremely soft characteristics while maintaining elasticity and conformability. The fiberglass reinforcement provides easy handling and converting, added electrical isolation and tear resistance. The inherent natural tack on both sides assists in application and allows the product to effectively fill air gaps, enhancing the overall thermal performance.

The top side has reduced tack for ease of handling BERGQUIST® GAP PAD TGP 5000 AP is ideal for high-performance applications at low mounting pressures.

## Typical applications

- Voltage regulator modules (VRMs) and POLs
- CD ROM/DVD ROM
- PC board to chassis
- ASICs and DSPs
- Memory packages/modules
- Thermally-enhanced BGAs

## TYPICAL PROPERTIES OF CURED MATERIAL

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

### Physical properties

Hardness, Shore 00, Thirty second delay value, ASTM D2240, Bulk rubber	35
Heat capacity, ASTM E1269, J/g-K	1.0
Density, Bulk rubber, ASTM D792, g/cc	3.6
Flammability, UL 94	V-0
Young's modulus, ASTM D575	kPa 310 (psi) (45)

### Electrical properties

Dielectric breakdown voltage, ASTM D149, VAC	>5,000
Dielectric constant, ASTM D150, 1,000 Hz	7.5
Volume resistivity, ASTM D257, ohm-meter	1x10 <sup>9</sup>

### Thermal properties

Thermal conductivity, ASTM D5470, W/(m-K)	5.0
Thermal impedance 0.040 inch ASTM D5470, °C-in <sup>2</sup> /W:	
10% Deflection	0.41
20% Deflection	0.34
30% Deflection	0.3

The recorded value includes interfacial thermal resistance. These 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).

### Configurations available

BERGQUIST® GAP PAD TGP 5000 AP is available in the following configurations:

Die-cut parts are available in any shape or size, separated or in sheet form.

Natural tack both sides with fiberglass.

**Storage**

Store product in an 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-month shelf life.**

Material removed from containers may be contaminated during use. Do not return product to the original container. Henkel 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 Henkel representative.

**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 the specifications of this product.

**Approval and certificate**

Please contact Henkel representative for related approval or certificate of this product

**Data ranges**

The data contained herein may be reported as a typical value. Values are based on actual test data and are verified on a periodic basis.

Temperature/Humidity Ranges: 23°C / 50% RH = 23±2°C / 50±5% RH

**Conversions**

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

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Reference 3