



# BERGQUIST GAP PAD TGP EMI1000

Known as BERGQUIST GAP PAD EMI 1.0  
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## PRODUCT DESCRIPTION

Thermally Conductive, Conformable EMI Absorbing Material.

|                                    |                                                         |
|------------------------------------|---------------------------------------------------------|
| <b>Technology</b>                  | Silicone                                                |
| <b>Appearance</b>                  | Black                                                   |
| <b>Reinforcement Carrier</b>       | Fiberglass                                              |
| <b>Thickness</b>                   | 0.508 to 3.175mm , ASTM D374                            |
| <b>Inherent Surface Tack</b>       | 1                                                       |
| <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
- Electromagnetic Interference (EMI) absorbing
- Highly Conformable, low hardness
- Fiberglass reinforced for puncture, shear and tear resistance
- Electrically isolating

BERGQUIST GAP PAD TGP EMI1000 is a highly conformable, combination gap filling material offering both thermal conductivity performance and Electromagnetic Energy absorption (cavity resonances and/or cross-talk causing Electromagnetic Interference) at frequencies of 1GHz and higher. The material offers EMI suppression and 1.0 W/m-K thermal conductivity performance with low assembly stress. The soft nature of the material enhances wet-out at the interface resulting in better thermal performance than harder materials with a similar performance rating.

BERGQUIST GAP PAD TGP EMI1000 has an inherent, natural tack on one side of the material eliminating the need for thermally-impeding adhesive layers and allowing improved handling during placement and assembly. The other side is tack-free, again enhancing handling and rework, if required. BERGQUIST GAP PAD TGP EMI1000 is supplied with a protective liner on the material's tacky side.

## TYPICAL APPLICATIONS

- Consumer electronics
- Telecommunications
- ASICs and DSPs
- PC applications

## 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>.

Relaxation stress @ 40 mil.

### Physical Properties

|                                       |                      |
|---------------------------------------|----------------------|
| Hardness, Shore 00                    | 5                    |
| , Thirty second delay value           |                      |
| , ASTM D2240, Bulk rubber             |                      |
| Heat Capacity, ASTM E1269, J/g-K      | 1.3                  |
| Density, Bulk rubber, ASTM D792, g/cc | 2.4                  |
| Flammability, UL 94                   | V-0                  |
| Young's Modulus, ASTM D575            | kPa 69<br>(psi) (10) |

### Electrical Properties

|                                              |                    |
|----------------------------------------------|--------------------|
| Dielectric Breakdown Voltage, ASTM D149, VAC | >1,700             |
| 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)                           | 1.0  |
| Thermal Impedance, 0.040 inch<br>ASTM D5470, °C-in <sup>2</sup> /W: |      |
| 10% Deflection                                                      | 1.53 |
| 20% Deflection                                                      | 1.4  |
| 30% Deflection                                                      | 1.25 |

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.

### EMI Properties

Based on waveguide testing with 60 mil thickness testing

|                                           |      |
|-------------------------------------------|------|
| EMI Performance<br>ASTM D-5568-01, dB/cm: |      |
| @ 2.4, GHz                                | -2.8 |
| @ 5, GHz                                  | -5.5 |

## 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 EMI1000 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**

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