Technical Data Sheet

BERGQUIST GAP PAD TGP HC5000

Known as BERGQUIST GAP PAD HC 5.0
August 2022

PRODUCT DESCRIPTION

Highly Conformable, Thermally Conductive, Low Modulus Material.

Technology	Silicone
Appearance	Gray
Reinforcement Carrier	Fiberglass
Thickness ASTM D374	*0.508, 1.016, 1.524, 2.032, 2.540, 3.175
Inherent Surface Tack	2
Application	Thermal management, TIM (Thermal Interface Material)
Operating Temperature Range	-60 to 200ºC

*Custom thicknesses available. Please contact your Henkel Sales Representative for more information.

FEATURES AND BENEFITS

- Thermal Conductivity: 5.0 W/m-K
- High-compliance, low compression stress
- Fiberglass reinforced for shear and tear resistance

BERGQUIST GAP PAD TGP HC5000 is a soft and compliant gap filling material with a thermal conductivity of 5.0 W/m-K. The material offers exceptional thermal performance at low pressures due to a unique filler package and low-modulus resin formulation. The enhanced material is ideal for applications requiring low stress on components and boards during assembly.

BERGQUIST GAP PAD TGP HC5000 maintains a conformable nature that allows excellent interfacing and wet-out characteristics, even to surfaces with high roughness and/or topography. BERGQUIST GAP PAD TGP HC5000 is offered with natural inherent tack on both sides of the material, eliminating the need for thermally-impeding adhesive layers. The top side has minimal tack for ease of handling. BERGQUIST GAP PAD TGP HC5000 is supplied with protective liners on both sides.

TYPICAL APPLICATIONS

- Telecommunications
- ASICs and DSPs
- Consumer electronics
- Thermal modules to heat sinks

TYPICAL PROPERTIES OF CURED MATERIAL

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		3.2
Flammability, UL 94		V-0
Young's Modulus, ASTM D575 (1)	kPa (psi)	121 (17.5)

Electrical Properties

Dielectric Breakdown Voltage, ASTM D149, Minimum value @ 20 mil, VAC	5,000
Dielectric Constant, ASTM D150, 1,000Hz	8.0
Volume Resistivity, ASTM D257, ohm-meter	1×10^{10}

Thermal Properties

Thermal Conductivity, ASTM D5470, W/(m-K)	5.0
Thermal Impedance, 0.040"(2) ASTM D5470, ºC-in²/W:	
10% Deflection	0.35
20% Deflection	0.3
30% Deflection	0.26

(1) Young's Modulus, calculated using 0.01 in/min. step rate of strain with a sample size of 0.79 inch2 after 5 minutes of compression at 10% strain on a 1mm thickness material

(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 Henkel representative for assistance and recommendations on the specifications of this product.

CONFIGURATIONS AVAILABLE

BERGQUIST GAP PAD TGP HC5000 is available in the following configurations:

- Sheet form and die-cut parts

STORAGE

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

Optimal Storage: 25ºC (±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

(°C x 1.8) + 32 = °F
kV/mm x 25.4 = V/mil
mm / 25.4 = inches
N x 0.225 = lb/F
N/mm x 5.71 = lb/in
N/mm² x 145 = psi
N/mm² = MPa
N·m x 8.851 = lb·in
N·m x 0.738 = lb·ft
N·mm x 0.142 = oz·in
mPa·s = cP

Disclaimer

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