Technical Data Sheet

BERGQUIST GAP PAD TGP 3500ULM

Known as BERGQUIST GAP PAD 3500ULM
October 2018

PRODUCT DESCRIPTION

Highly Conformable, Thermally Conductive, Ultra-Low Modulus Material.

Technology	Silicone
Appearance	Gray
Reinforcement Carrier	Fiberglass or No fiberglass
Thickness	0.508 to 3.175mm , ASTM D374
Inherent Surface Tack	2
Application	Thermal management, TIM (Thermal Interface Material)
Operating Temperature Range	-60 to 200ºC

FEATURES AND BENEFITS

- Thermal Conductivity: 3.5 W/m-K
- Fiberglass reinforced for shear and tear resistance
- Non-fiberglass option for applications that require an additional reduction in stress

BERGQUIST GAP PAD TGP 3500ULM (ultra-low modulus) is an extremely soft gap filling material with a thermal conductivity of 3.5 W/m-K. The material offers exceptional thermal performance at low pressures due to a unique 3.5 W/m-K filler package and ultra-low modulus resin formulation. The enhanced material is well suited for high performance applications requiring extremely low assembly stress. BERGQUIST GAP PAD TGP 3500ULM maintains a conformable nature that allows for excellent interfacing and wet-out characteristics, even to surfaces with high roughness and/or topography.

BERGQUIST GAP PAD TGP 3500ULM is offered with and without fiberglass and has higher natural inherent tack on one side 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 3500ULM is supplied with protective liners on both sides.

TYPICAL APPLICATIONS

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

TYPICAL PROPERTIES OF CURED MATERIAL

Young's modulus is calculated using 0.01in/min, step rate of strain with a sample size 0.79 in² , after 5 minutes of compression at 10% strain on a 1mm thickness material.

Physical Properties		
Hardness, Shore 000 , 30 seconds delay value @ 125 mil		70
Heat Capacity, ASTM E1269, J/g-K		1.0
Density, Bulk rubber, ASTM D792, g/cc		3.1
Flammability, UL 94		V-0
Young's Modulus	kPa (psi)	27.5 (4)
Electrical Properties		
Dielectric Breakdown Voltage , ASTM D149, VAC		>5,000
Dielectric Constant, ASTM D150, 1,000Hz Minimum value at 20 mil.		6.0
Volume Resistivity, ASTM D257, ohm-meter		1×10^{10}
Thermal Properties		
Thermal Conductivity, ASTM D5470, W/(m-K)		3.5
Thermal Impedance, 0.040 inch ASTM D5470, ºC-in²/W:		
10% Deflection		0.5
20% Deflection		0.44
30% Deflection		0.39

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).

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 3500ULM 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: 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
N/mm x 5.71 = lb/in
psi x 145 = N/mm²
MPa = N/mm²
N·m x 8.851 = lb·in
N·m x 0.738 = lb·ft
N·mm x 0.142 = oz·in
mPa·s = cP

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Reference 1

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