TECHNICAL DATASHEET:
BERGQUIST GAP PAD TGP EMI4000

PRODUCT DESCRIPTION

Thermally conductive, conformable EM absorbing material. BERGQUIST GAP PAD TGP EMI4000 is a highly conformable, silicone-free material offering both thermal conductivity (4 W/m·K) and electromagnetic absorption of cavity resonances and/or cross-talk that cause electromagnetic interference, at frequencies up to 77 GHz. The soft nature of the material enables low assembly stress and enhances wet-out at the interface, resulting in better thermal performance than harder materials with a similar rating. A low-bleed formula prevents gap instability and loss of functionality over time. The material has an inherent natural tack on both sides, eliminating the need for heat-flow-impeding adhesive layers and improving handling during placement and assembly, and is supplied with protective liners.

TYPICAL APPLICATIONS

- Radars
- ADAS data modules / domain controllers
- V2X / telematics
- Control units
- Telecommunications

PRODUCT FEATURES & BENEFITS

- Thermal conductivity: 4 W/m·K
- Silicone-free formulation
- Electromagnetic radiation absorbing up to 77 GHz
- Highly conformable with natural tack on both sides
- Low-bleed formula for long-term gap stability
- UL 94 V-0 flammability rating

PRODUCT SPECIFICATIONS

Technology	Silicone free
Appearance	Dark gray pad
Reinforcement Carrier	None
Thickness (ASTM D374)	0.75 to 2.0 mm
Inherent Surface Tack	2
Application	Thermal Management / EM Absorbing / TIM (Thermal Interface Material)
Operating Temperature Range	-40 to 125°C
Configurations Available	Die-cut parts; Trays; Tape and reel
Shelf Life (Optimal Storage)	12 months at 25°C (±3), 50% RH (±10)

Specifications are believed to be accurate at the time of publication and are subject to change without notice. It is the responsibility of the end-user to test and determine suitability of this material for a particular application. H-O will provide samples for this purpose at no charge. **REV. 0**

TYPICAL PROPERTIES OF CURED MATERIAL

Young's modulus is based on stress at 10% strain using a 0.25 mm/min step rate with a 509 mm² sample. Thermal impedance values are provided for reference only; actual performance depends on surface roughness, flatness and applied pressure.

TECHNICAL DATA	VALUE	UNIT	TEST METHOD / STANDARD
Physical Properties			
Hardness, Shore 00 (30-sec delay, bulk rubber)	60	—	ASTM D2240
Heat Capacity	0.8	J/g·K	ASTM E1269
Density (bulk rubber)	2.67	g/cc	ASTM D792
Flammability	V-0	—	UL 94
Young's Modulus (10% strain)	550 (80)	kPa (psi)	ASTM D575
Electrical Properties (measured at 1 mm)			
Dielectric Breakdown Voltage	1,000	VAC	ASTM D149
Dielectric Constant @ 1,000 Hz	48	—	ASTM D150
Volume Resistivity	4.4×10^{7}	ohm·meter	ASTM D257
Thermal Properties			
Thermal Conductivity	4	W/(m·K)	ASTM D5470
Thermal Impedance @ 1 mm, 10% Deflection	0.35	°C·in²/W	ASTM D5470
Thermal Impedance @ 1 mm, 20% Deflection	0.3	°C·in²/W	ASTM D5470
Thermal Impedance @ 1 mm, 30% Deflection	0.26	°C·in²/W	ASTM D5470
EMI Properties (waveguide, 1 mm thickness)			
Attenuation @ 18 GHz	86	dB/cm	ASTM D5568
Attenuation @ 77 GHz	98	dB/cm	ASTM D5568

STORAGE

Store product in the unopened container in a dry location. 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.

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