

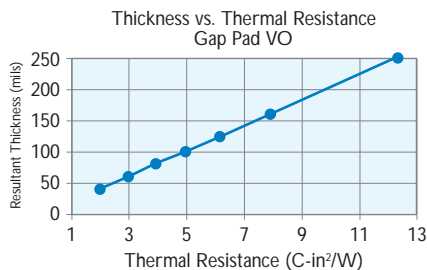
Features and Benefits

- Thermal conductivity: 0.8 W/m-K
- Enhanced puncture, shear and tear resistance
- Conformable gap filling material
- Electrically isolating



Gap Pad VO is a cost-effective, thermally conductive interface material. The material is a filled, thermally conductive polymer supplied on a rubber-coated fiberglass carrier allowing for easy material handling. The conformable nature of Gap Pad VO allows the pad to fill in air gaps between PC boards and heat sinks or a metal chassis.

Note: Resultant thickness is defined as the final gap thickness of the application.



TYPICAL PROPERTIES OF GAP PAD VO				
PROPERTY	IMPERIAL VALUE	METRIC VALUE	TEST METHOD	
Color	Gold/Pink	Gold/Pink	Visual	
Reinforcement Carrier	Sil-Pad	Sil-Pad	—	
Thickness (inch) / (mm)	0.020 to 0.250	0.508 to 6.350	ASTM D374	
Inherent Surface Tack (1 sided)	1	1	—	
Density (Bulk Rubber) (g/cc)	1.6	1.6	ASTM D792	
Heat Capacity (J/g-K)	1.0	1.0	ASTM E1269	
Hardness (Bulk Rubber) (Shore 00) (1)	40	40	ASTM D2240	
Young's Modulus (psi) / (kPa) (2)	100	689	ASTM D575	
Continuous Use Temp (°F) / (°C)	-76 to 392	-60 to 200	—	
ELECTRICAL				
Dielectric Breakdown Voltage (Vac)	>6000	>6000	ASTM D149	
Dielectric Constant (1 Mhz)	5.5	5.5	ASTM D150	
Volume Resistivity (Ohm-meter)	10 ¹¹	10 ¹¹	ASTM D257	
Flame Rating	V-O	V-O	U.L. 94	
THERMAL				
Thermal Conductivity (W/m-K)	0.8	0.8	ASTM D5470	
THERMAL PERFORMANCE vs. STRAIN				
	Deflection (% strain)	10	20	30
	Thermal Impedance (°C-in²/W) 0.040" (3)	2.47	2.37	2.24
1) Thirty second delay value Shore 00 hardness scale. 2)Young's Modulus, calculated using 0.01 in/min. step rate of strain with a sample size of 0.79 inch². 3) The ASTM D5470 test fixture was used. 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.				

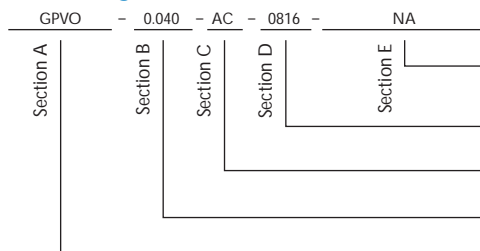
Typical Applications Include:

- Telecommunications
- Computer and peripherals
- Power conversion
- Between heat-generating semiconductors and a heat sink
- Area where heat needs to be transferred to a frame, chassis, or other type of heat spreader
- Between heat-generating magnetic components and a heat sink

Configurations Available:

- Sheet form and die-cut parts

Building a Part Number



Standard Options

NA = Selected standard option. If not selecting a standard option, insert company name, drawing number, and revision level.

0816 = Standard sheet size 8" x 16" or 00 = custom configuration

AC = Adhesive on Sil-Pad® side, natural tack on one side
00 = No pressure sensitive adhesive, natural tack on one side

Standard thicknesses available: 0.020", 0.040", 0.060", 0.080", 0.100", 0.125", 0.160", 0.200", 0.250"

GPVO = Gap Pad VO Material

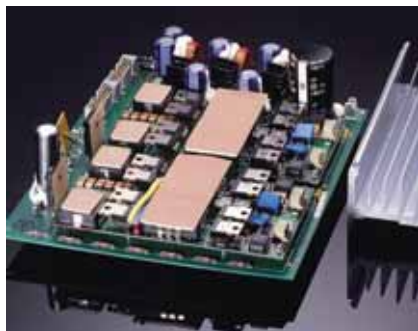
Note: To build a part number, visit our website at www.bergquistcompany.com.

Gap Pad® VO Soft

Highly Conformable, Thermally Conductive Material for Filling Air Gaps

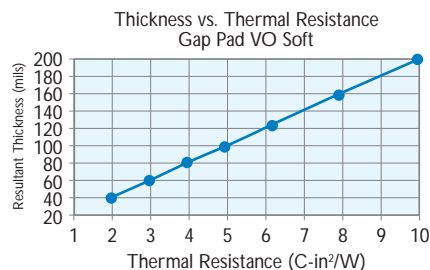
Features and Benefits

- Thermal conductivity: 0.8 W/m-K
- Conformable, low hardness
- Enhanced puncture, shear and tear resistance
- Electrically isolating



Gap Pad VO Soft is recommended for applications that require a minimum amount of pressure on components. Gap Pad VO Soft is a highly conformable, low-modulus, filled-silicone polymer on a rubber-coated fiberglass carrier. The material can be used as an interface where one side is in contact with a leaded device.

Note: Resultant thickness is defined as the final gap thickness of the application.



TYPICAL PROPERTIES OF GAP PAD VO SOFT

PROPERTY	IMPERIAL VALUE	METRIC VALUE	TEST METHOD	
Color	Mauve/Pink	Mauve/Pink	Visual	
Reinforcement Carrier	Sil-Pad	Sil-Pad	—	
Thickness (inch) / (mm)	0.020 to 0.200	0.508 to 5.080	ASTM D374	
Inherent Surface Tack (1 side)	1	1	—	
Density (Bulk Rubber) (g/cc)	1.6	1.6	ASTM D792	
Heat Capacity (J/g-K)	1.0	1.0	ASTM E1269	
Hardness (Bulk Rubber) (Shore 00) (1)	25	25	ASTM D2240	
Young's Modulus (psi) / (kPa) (2)	40	275	ASTM D575	
Continuous Use Temp (°F) / (°C)	-76 to 392	-60 to 200	—	
ELECTRICAL				
Dielectric Breakdown Voltage (Vac)	>6000	>6000	ASTM D149	
Dielectric Constant (1 Mhz)	5.5	5.5	ASTM D150	
Volume Resistivity (Ohm-meter)	10 ¹¹	10 ¹¹	ASTM D257	
Flame Rating	V-O	V-O	U.L. 94	
THERMAL				
Thermal Conductivity (W/m-K)	0.8	0.8	ASTM D5470	
THERMAL PERFORMANCE vs. STRAIN				
	Deflection (% strain)	10	20	30
	Thermal Impedance (°C-in²/W) 0.040" (3)	2.48	2.29	2.11

1) Thirty second delay value Shore 00 hardness scale. 2)Young's Modulus, calculated using 0.01 in/min. step rate of strain with a sample size of 0.79 inch². 3) The ASTM D5470 test fixture was used. 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.

Typical Applications Include:

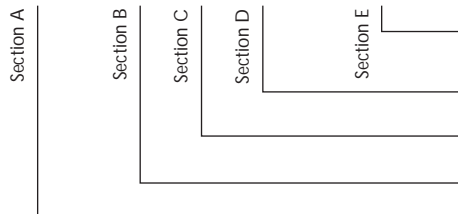
- Telecommunications
- Computer and peripherals
- Power conversion
- Between heat-generating semiconductors or magnetic components and a heat sink
- Area where heat needs to be transferred to a frame, chassis, or other type of heat spreader

Configurations Available:

- Sheet form and die-cut parts

Building a Part Number

GPVOS - 0.060 - AC - 00 - ACME10256 Rev. a



Standard Options

◀ example

NA = Selected standard option. If not selecting a standard option, insert company name, drawing number, and revision level.

0816 = Standard sheet size 8" x 16", or
00 = custom configuration

AC = Adhesive on Sil-Pad® side, natural tack on one side
00 = No pressure sensitive adhesive, natural tack on one side

Standard thicknesses available: 0.020", 0.040", 0.060",
0.080", 0.100", 0.125", 0.160", 0.200"

GPVOS = Gap Pad VO Soft Material

Note: To build a part number, visit our website at www.bergquistcompany.com.

Gap Pad® VO Ultra Soft

Ultra Conformable, Thermally Conductive Material for Filling Air Gaps

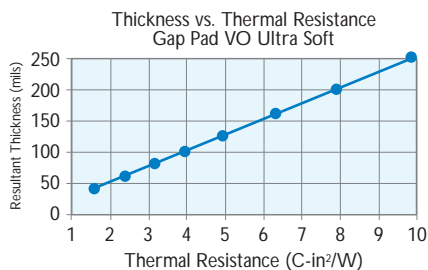
Features and Benefits

- Thermal conductivity: 1.0 W/m-K
- Highly conformable, low hardness
- "Gel-like" modulus
- Decreased strain
- Puncture, shear and tear resistant
- Electrically isolating



Gap Pad VO Ultra Soft is recommended for applications that require a minimum amount of pressure on components. The viscoelastic nature of the material also gives excellent low-stress vibration dampening and shock absorbing characteristics. Gap Pad VO Ultra Soft is an electrically isolating material, which allows its use in applications requiring isolation between heat sinks and high-voltage, bare-leaded devices.

Note: Resultant thickness is defined as the final gap thickness of the application.



TYPICAL PROPERTIES OF GAP PAD VO ULTRA SOFT			
PROPERTY	IMPERIAL VALUE	METRIC VALUE	TEST METHOD
Color	Mauve/Pink	Mauve/Pink	Visual
Reinforcement Carrier	Fiberglass	Fiberglass	—
Thickness (inch) / (mm)	0.020 to 0.250	0.508 to 6.350	ASTM D374
Inherent Surface Tack (1 sided)	1	1	—
Density (Bulk Rubber) (g/cc)	1.6	1.6	ASTM D792
Heat Capacity (J/g-K)	1.0	1.0	ASTM E1269
Hardness (Bulk Rubber) (Shore 00) (1)	5	5	ASTM D2240
Young's Modulus (psi) / (kPa) (2)	8	55	ASTM D575
Continuous Use Temp (°F) / (°C)	-76 to 392	-60 to 200	—
ELECTRICAL			
Dielectric Breakdown Voltage (Vac)	6000	6000	ASTM D149
Dielectric Constant (1 Mhz)	5.5	5.5	ASTM D150
Volume Resistivity (Ohm-meter)	10 ¹¹	10 ¹¹	ASTM D257
Flame Rating	V-0	V-0	U.L. 94
THERMAL			
Thermal Conductivity (W/m-K)	1.0	1.0	ASTM D5470
THERMAL PERFORMANCE vs. STRAIN			
		Deflection (% strain)	10 20 30
Thermal Impedance (°C-in²/W) 0.040" (3)		1.97	1.87 1.68
1) Thirty second delay value Shore 00 hardness scale. 2) Young's Modulus, calculated using 0.01 in/min. step rate of strain with a sample size of 0.79 inch². 3) The ASTM D5470 test fixture was used. 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.			

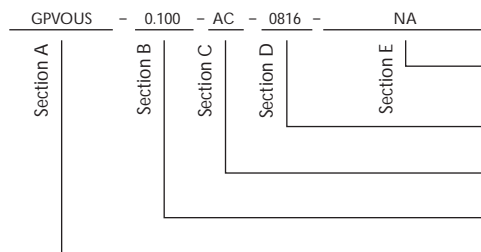
Typical Applications Include:

- Telecommunications
- Computer and peripherals
- Power conversion
- Between heat-generating semiconductors or magnetic components and a heat sink
- Area where heat needs to be transferred to a frame, chassis, or other type of heat spreader

Configurations Available:

- Sheet form and die-cut parts

Building a Part Number



Standard Options

◀ example

NA = Selected standard option. If not selecting a standard option, insert company name, drawing number, and revision level.

0816 = Standard sheet size 8" x 16", or 00 = custom configuration

AC = Adhesive on Sil-Pad® side, natural tack on one side 00 = No pressure sensitive adhesive, natural tack on one side

Standard thicknesses available: 0.020", 0.040", 0.060", 0.080", 0.100", 0.125", 0.160", 0.200", 0.250"

GPVOUS = Gap Pad VO Ultra Soft Material

Note: To build a part number, visit our website at www.bergquistcompany.com.

Gap Pad® VO Ultimate

Ultra Conformability, Robust, Improved Thermal Conductivity, Gap Filling Material

Features and Benefits

- Thermal conductivity: 1.3 W/m-K
- Ultra conformability
- Gel-like modulus
- Excellent rebound
- Decreased strain
- Remarkable handling
- Electrically isolating

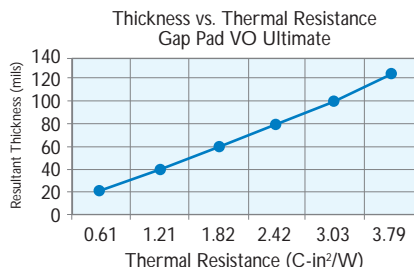


Gap Pad® VO Ultimate is a robust, highly compliant product that is ideal for both small and large gap designs. The fiberglass carrier on one side of the material allows ease of rework, excellent handling characteristics and puncture resistance. Additionally the fiberglass carrier has a slight inherent tack, minimizing any shifting during assembly.

The conformable and elastic nature of Gap Pad® VO Ultimate allows excellent interfacing and wet-out characteristics, even to surfaces with a high degree of roughness or uneven topography.

The construction of Gap Pad® VO Ultimate; one side has high inherent tack, while the other side has minimal tack. This combination is useful for manual and automated processes.

Note: Resultant thickness is defined as the final gap thickness of the application.



TYPICAL PROPERTIES OF GAP PAD VO ULTIMATE

PROPERTY	IMPERIAL VALUE	METRIC VALUE	TEST METHOD	
Color	Gray/Black	Gray/Black	Visual	
Reinforcement Carrier	Fiberglass	Fiberglass	—	
Thickness (inch) / (mm)	0.020 to 0.125	0.508 to 3.175	ASTM D374	
Inherent Surface Tack (1 side)	1	1	—	
Density (Bulk Rubber) (g/cc)	1.8	1.8	ASTM D792	
Heat Capacity (J/g-K)	1.0	1.0	ASTM E1269	
Hardness (Bulk Rubber) (Shore 00) (1)	30	30	ASTM D2240	
Young's Modulus (psi) / (kPa) (2)	13	90	ASTM D575	
Continuous Use Temp (°F) / (°C)	-76 to 392	-60 to 200	—	
ELECTRICAL				
Dielectric Breakdown Voltage (Vac)	6000	6000	ASTM D149	
Dielectric Constant (1 Mhz)	5.0	5.0	ASTM D150	
Volume Resistivity (Ohm-meter)	10 ⁹	10 ⁹	ASTM D257	
Flame Rating	V-O	V-O	U.L. 94	
THERMAL				
Thermal Conductivity (W/m-K)	1.3	1.3	ASTM D5470	
THERMAL PERFORMANCE vs. STRAIN				
	Deflection (% strain)	10	20	30
	Thermal Impedance (°C-in²/W) 0.040" (3)	1.60	1.55	1.46

1) Thirty second delay value Shore 00 hardness scale. 2)Young's Modulus, calculated using 0.01 in/min. step rate of strain with a sample size of 0.79 inch². 3) The ASTM D5470 test fixture was used.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.

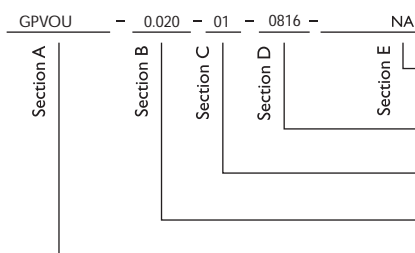
Typical Applications:

- Various IC packages
- Thermally enhanced BGA packages
- Between any heat-generating semiconductor and a heat sink
- Computers and peripherals
- Telecommunications
- Power conversion
- Automotive
- LED lighting packages

Configurations Available:

- Sheet form and die-cut parts

Building a Part Number



Standard Options

◀ example

NA = Selected standard option. If not selecting a standard option, insert company name, drawing number, and revision level.

0816 = Standard sheet size 8" x 16", or 00 = custom configuration

01 = Natural tack, one side

Standard thickness available: 0.020", 0.040", 0.060" 0.080", 0.100", 0.125"

GPVOU = Gap Pad VO Ultimate Material

Note: To build a part number, visit our website at www.bergquistcompany.com.

Gap Pad® 1000SF

Thermally Conductive, Silicone-Free Gap Filling Material

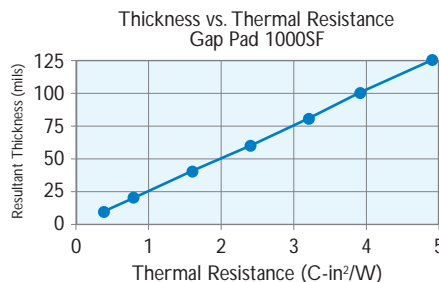
Features and Benefits

- Thermal conductivity: 0.9 W/m-K
- No silicone outgassing
- No silicone extraction
- Reduced tack on one side to aid in application assembly
- Electrically isolating



The new Gap Pad 1000SF is a thermally conductive, electrically insulating, silicone-free polymer specially designed for silicone-sensitive applications. The material is ideal for applications with high standoff and flatness tolerances. Gap Pad 1000SF is reinforced for easy material handling and added durability during assembly. The material is available with a protective liner on both sides of the material. The topside has reduced tack for ease of handling.

Note: Resultant thickness is defined as the final gap thickness of the application.



TYPICAL PROPERTIES OF GAP PAD 1000SF

PROPERTY	IMPERIAL VALUE	METRIC VALUE	TEST METHOD
Color	Green	Green	Visual
Reinforcement Carrier	Fiberglass	Fiberglass	—
Thickness (inch) / (mm)	0.010 to 0.125	0.254 to 3.175	ASTM D374
Inherent Surface Tack (1- or 2-sided)	2	2	—
Density (g/cc)	2.0	2.0	ASTM D792
Heat Capacity (J/g-K)	1.1	1.1	ASTM E1269
Hardness, Bulk Rubber (Shore 00) (1)	40	40	ASTM D2240
Young's Modulus (psi) / (kPa) (2)	34	234	ASTM D575
Continuous Use Temp (°F) / (°C)	-76 to 257	-60 to 125	—
ELECTRICAL			
Dielectric Breakdown Voltage (Vac)	>6000	>6000	ASTM D149
Dielectric Constant (1000 Hz)	5.0	5.0	ASTM D150
Volume Resistivity (Ohm-meter)	10 ¹⁰	10 ¹⁰	ASTM D257
Flame Rating	V-1	V-1	U.L. 94
THERMAL			
Thermal Conductivity (W/m-K)	0.9	0.9	ASTM D5470

1) Thirty second delay value Shore 00 hardness scale.
2) Young's Modulus, calculated using 0.01 in/min. step rate of strain with a sample size of 0.79 inch². For more information on Gap Pad modulus, refer to Bergquist Application Note #116.

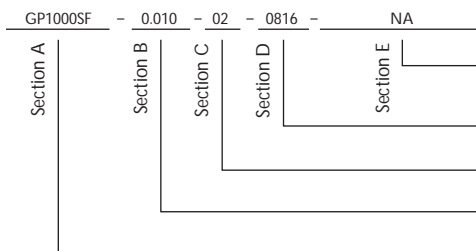
Typical Applications Include:

- Digital disk drives / CD-ROM
- Automotive modules
- Fiber optics modules

Configurations Available:

- Sheet form
- Die-cut parts

Building a Part Number



Note: To build a part number, visit our website at www.bergquistcompany.com.

Standard Options

◀ example

NA = Selected standard option. If not selecting a standard option, insert company name, drawing number, and revision level.

0806: = Standard sheet size 8" x 16", or 00 = custom configuration

02 = Natural tack, both sides

Standard thicknesses available: 0.010", 0.015", 0.020", 0.040", 0.060", 0.080", 0.100", 0.125"

GP1000SF = Gap Pad 1000SF Material

Gap Pad® HC1000

"Gel-Like" Modulus Gap Filling Material

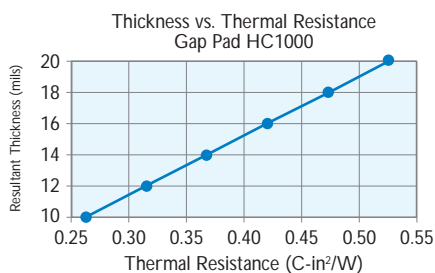
Features and Benefits

- Thermal conductivity: 1.0 W/m-K
- Highly conformable, low hardness
- "Gel-like" modulus
- Fiberglass reinforced for puncture, shear and tear resistance



Gap Pad HC 1000 is an extremely conformable, low-modulus polymer that acts as a thermal interface and electrical insulator between electronic components and heat sinks. The "gel-like" modulus allows this material to fill air gaps to enhance the thermal performance of electronic systems. Gap Pad HC1000 is offered with removable protective liners on both sides of the material.

Note: Resultant thickness is defined as the final gap thickness of the application.



TYPICAL PROPERTIES OF GAP PAD HC1000

PROPERTY	IMPERIAL VALUE	METRIC VALUE	TEST METHOD	
Color	Gray	Gray	Visual	
Reinforcement Carrier	Fiberglass	Fiberglass	—	
Thickness (inch) / (mm)	0.010 to 0.020	0.254 to 0.508	ASTM D374	
Inherent Surface Tack (1 side)	2	2	—	
Density (Bulk Rubber) (g/cc)	1.6	1.6	ASTM D792	
Heat Capacity (J/g-K)	1.0	1.0	ASTM E1269	
Hardness (Bulk Rubber) (Shore 00) (1)	25	25	ASTM D2240	
Young's Modulus (psi) / (kPa) (2)	40	275	ASTM D575	
Continuous Use Temp (°F) / (°C)	-76 to 392	-60 to 200	—	
ELECTRICAL				
Dielectric Breakdown Voltage (Vac)	>5000	>5000	ASTM D149	
Dielectric Constant (1 Mhz)	5.5	5.5	ASTM D150	
Volume Resistivity (Ohm-meter)	10 ¹¹	10 ¹¹	ASTM D257	
Flame Rating	V-O	V-O	U.L. 94	
THERMAL				
Thermal Conductivity (W/m-K)	1.0	1.0	ASTM D5470	
THERMAL PERFORMANCE vs. STRAIN				
	Deflection (% strain)	10	20	30
	Thermal Impedance (°C-in²/W) 0.020" (3)	1.30	1.00	0.96

1) Thirty second delay value Shore 00 hardness scale. 2)Young's Modulus, calculated using 0.01 in/min. step rate of strain with a sample size of 0.79 inch². 3) The ASTM D5470 test fixture was used. 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.

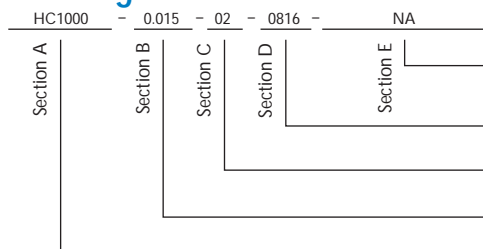
Typical Applications Include:

- Computer and peripherals
- Telecommunications
- Heat interfaces to frames, chassis, or other heat spreading devices
- RDRAM™ memory modules / chip scale packages
- CDROM / DVD cooling
- Areas where irregular surfaces need to make a thermal interface to a heat sink
- DDR SDRAM memory modules
- FBDIMM modules

Configurations Available:

- Sheet form, die-cut parts, and roll form (converted or unconverted)

Building a Part Number



Standard Options

example

NA = Selected standard option. If not selecting a standard option, insert company name, drawing number, and revision level.

0816 = Standard sheet size 8" x 16", or
00 = custom configuration

02 = Natural tack, both sides

Standard thicknesses available: 0.010", 0.015", 0.020"

HC1000 = High Compliance 1000 Material

Note: To build a part number, visit our website at www.bergquistcompany.com.

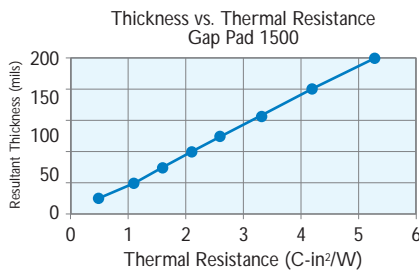
Features and Benefits

- Thermal conductivity: 1.5 W/m-K
- Un-reinforced construction for additional compliancy
- Conformable, low hardness
- Electrically isolating



Gap Pad 1500 has an ideal filler blend that gives it a low-modulus characteristic that maintains optimal thermal performance yet still allows for easy handling. The natural tack on both sides of the material allows for good compliance to adjacent surfaces of components, minimizing interfacial resistance.

Note: Resultant thickness is defined as the final gap thickness of the application.



TYPICAL PROPERTIES OF GAP PAD 1500				
PROPERTY	IMPERIAL VALUE	METRIC VALUE	TEST METHOD	
Color	Black	Black	Visual	
Reinforcement Carrier	—	—	—	
Thickness (inch) / (mm)	0.020 to 0.200	0.508 to 5.080	ASTM D374	
Inherent Surface Tack (1 sided)	2	2	—	
Density (Bulk Rubber) (g/cc)	2.1	2.1	ASTM D792	
Heat Capacity (J/g-K)	1.0	1.0	ASTM E1269	
Hardness (Bulk Rubber) (Shore 00) (1)	40	40	ASTM D2240	
Young's Modulus (psi) / (kPa) (2)	45	310	ASTM D575	
Continuous Use Temp (°F) / (°C)	-76 to 392	-60 to 200	—	
ELECTRICAL				
Dielectric Breakdown Voltage (Vac)	>6000	>6000	ASTM D149	
Dielectric Constant (1 Mhz)	5.5	5.5	ASTM D150	
Volume Resistivity (Ohm-meter)	10 ¹¹	10 ¹¹	ASTM D257	
Flame Rating	V-O	V-O	U.L. 94	
THERMAL				
Thermal Conductivity (W/m-K)	1.5	1.5	ASTM D5470	
THERMAL PERFORMANCE vs. STRAIN				
Deflection (% strain)		10	20	30
Thermal Impedance (°C-in²/W) 0.040" (3)		1.62	1.50	1.33
1) Thirty second delay value Shore 00 hardness scale. 2)Young's Modulus, calculated using 0.01 in/min. step rate of strain with a sample size of 0.79 inch². 3) The ASTM D5470 test fixture was used. 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.				

1) Thirty second delay value Shore 00 hardness scale. 2) Young's Modulus, calculated using 0.01 in/min. step rate of strain with a sample size of 0.79 inch². 3) The ASTM D5470 test fixture was used. 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.

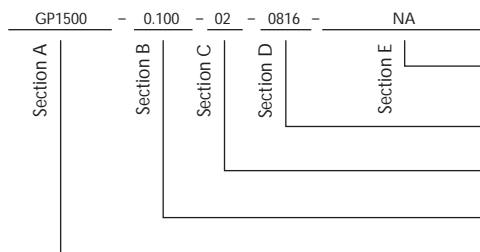
Typical Applications Include:

- Telecommunications
- Computer and peripherals
- Power conversion
- RDRAM™ memory modules / chip scale packages
- Areas where heat needs to be transferred to a frame chassis or other type of heat spreader

Configurations Available:

- Sheet form and die-cut parts

Building a Part Number



Standard Options

◀ example

NA = Selected standard option. If not selecting a standard option, insert company name, drawing number, and revision level.

0816 = Standard sheet size 8" x 16", or 00 = custom configuration

02 = Natural tack, both sides

Standard thicknesses available: 0.020", 0.040", 0.060", 0.080", 0.100", 0.125", 0.160", 0.200"

GP1500 = Gap Pad 1500 Material

Note: To build a part number, visit our website at www.bergquistcompany.com.

Gap Pad® 1500R

Thermally Conductive, Reinforced Gap Filling Material

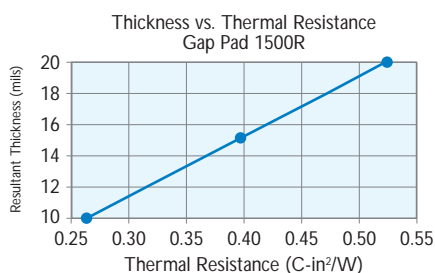
Features and Benefits

- Thermal conductivity: 1.5 W/m-K
- Fiberglass reinforced for puncture, shear and tear resistance
- Easy release construction
- Electrically isolating



Gap Pad 1500R has the same highly conformable, low-modulus polymer as the standard Gap Pad 1500. The fiberglass reinforcement allows for easy material handling and enhances puncture, shear and tear resistance. The natural tack on both sides of the material allows for good compliance to mating surfaces of components, further reducing thermal resistance.

Note: Resultant thickness is defined as the final gap thickness of the application.



TYPICAL PROPERTIES OF GAP PAD 1500R

PROPERTY	IMPERIAL VALUE	METRIC VALUE	TEST METHOD	
Color	Black	Black	Visual	
Reinforcement Carrier	Fiberglass	Fiberglass	—	
Thickness (inch) / (mm)	0.010 to 0.020	0.254 to 0.508	ASTM D374	
Inherent Surface Tack (1 side)	2	2	—	
Density (Bulk Rubber) (g/cc)	2.1	2.1	ASTM D792	
Heat Capacity (J/g-K)	1.3	1.3	ASTM E1269	
Hardness (Bulk Rubber) (Shore 00) (1)	40	40	ASTM D2240	
Young's Modulus (psi) / (kPa) (2)	45	310	ASTM D575	
Continuous Use Temp (°F) / (°C)	-76 to 392	-60 to 200	—	
ELECTRICAL				
Dielectric Breakdown Voltage (Vac)	>6000	>6000	ASTM D149	
Dielectric Constant (1 Mhz)	6.0	6.0	ASTM D150	
Volume Resistivity (Ohm-meter)	10 ¹¹	10 ¹¹	ASTM D257	
Flame Rating	V-O	V-O	U.L. 94	
THERMAL				
Thermal Conductivity (W/m-K)	1.5	1.5	ASTM D5470	
THERMAL PERFORMANCE vs. STRAIN				
	Deflection (% strain)	10	20	30
	Thermal Impedance (°C-in²/W) 0.020" (3)	1.07	0.88	0.82

1) Thirty second delay value Shore 00 hardness scale. 2)Young's Modulus, calculated using 0.01 in/min. step rate of strain with a sample size of 0.79 inch². 3) The ASTM D5470 test fixture was used.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.

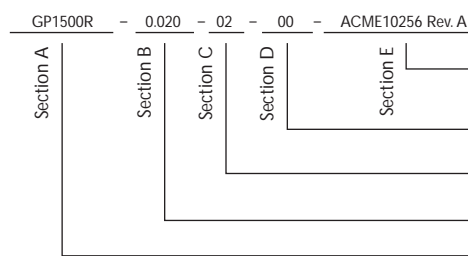
Typical Applications Include:

- Telecommunications
- Computer and peripherals
- Power conversion
- RDRAM™ memory modules / chip scale packages
- Areas where heat needs to be transferred to a frame chassis or other type of heat spreader

Configurations Available:

- Sheet form, die-cut parts, and roll form (converted or unconverted)

Building a Part Number



Standard Options

◀ example

NA = Selected standard option. If not selecting a standard option, insert company name, drawing number, and revision level.

0816 = Standard sheet size 8" x 16", or
00 = custom configuration

02 = Natural tack, both sides

Standard thicknesses available: 0.010", 0.015", 0.020"

GP1500R = Gap Pad 1500R Material

Note: To build a part number, visit our website at www.bergquistcompany.com.

Gap Pad® 1500S30

Highly Conformable, Thermally Conductive, Reinforced "S-Class" Gap Filling Material

Features and Benefits

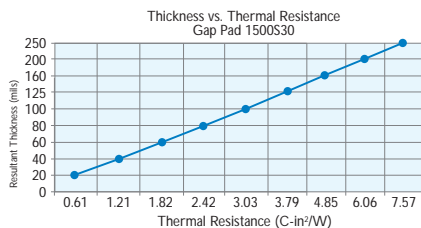
- Thermal conductivity: 1.3 W/m-K
- Highly conformable / low hardness
- Decreased strain on fragile components
- Fiberglass reinforced for puncture, shear and tear resistance
- Quick rebound to original shape



Gap Pad 1500S30 is a highly compliant Gap Pad material that is ideal for fragile component leads. The material is fiberglass reinforced for improved puncture resistance and handling characteristics. Gap Pad 1500S30 maintains a conformable, yet elastic nature that provides excellent interfacing and wet-out characteristics, even to surfaces with high roughness or uneven topography.

Gap Pad 1500S30 features an inherent tack on both sides of the material, eliminating the need for thermally impeding adhesive layers.

Note: Resultant thickness is defined as the final gap thickness of the application.



TYPICAL PROPERTIES OF GAP PAD 1500S30

PROPERTY	IMPERIAL VALUE	METRIC VALUE	TEST METHOD	
Color	Light Pink	Light Pink	Visual	
Reinforcement Carrier	Fiberglass	Fiberglass	ASTM D374	
Thickness (inch) / (mm)	0.020 to 0.250	0.508 to 6.350	ASTM D374	
Inherent Surface Tack (1 side)	2	2	—	
Density (Bulk Rubber) (g/cc)	1.8	1.8	ASTM D792	
Heat Capacity (J/g-K)	1.0	1.0	ASTM E1269	
Hardness (Bulk Rubber) (Shore 00) (1)	30	30	ASTM D2240	
Young's Modulus (psi) / (kPa) (2)	16	110	ASTM D575	
Continuous Use Temp (°F) / (°C)	-76 to 392	-60 to 200	—	
ELECTRICAL				
Dielectric Breakdown Voltage (Vac)	>6000	>6000	ASTM D149	
Dielectric Constant (1 Mhz)	5.0	5.0	ASTM D150	
Volume Resistivity (Ohm-meter)	10 ¹¹	10 ¹¹	ASTM D257	
Flame Rating	V-O	V-O	U.L. 94	
THERMAL				
Thermal Conductivity (W/m-K)	1.3	1.3	ASTM D5470	
THERMAL PERFORMANCE vs. STRAIN				
	Deflection (% strain)	10	20	30
	Thermal Impedance (°C-in²/W) 0.040" (3)	1.69	1.41	1.26

1) Thirty second delay value Shore 00 hardness scale. 2)Young's Modulus, calculated using 0.01 in/min. step rate of strain with a sample size of 0.79 inch². 3) The ASTM D5470 test fixture was used. 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.

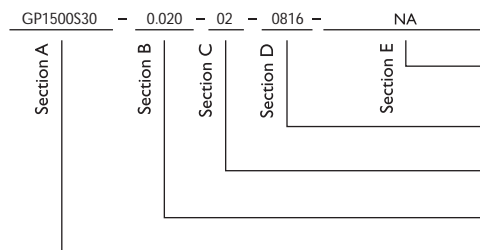
Typical Applications:

- Any heat-generating component and a heat sink
- Computers and peripherals
- Telecommunications
- Between any heat-generating semiconductor and a heat sink
- Shielding devices

Configurations Available:

- Sheet form and die-cut parts

Building a Part Number



Standard Options

example

NA = Selected standard option. If not selecting a standard option, insert company name, drawing number, and revision level.

0816 = Standard sheet size 8" x 16", or
00 = custom configuration

02 = Natural tack, both sides

Standard thickness available: 0.020", 0.040", 0.060",
0.080", 0.100", 0.125", 0.160", 0.200", 0.250"

GP1500S30 = Gap Pad 1500S30 Material

Note: To build a part number, visit our website at www.bergquistcompany.com.

Gap Pad® A2000

High Performance, Thermally Conductive Gap Filling Material

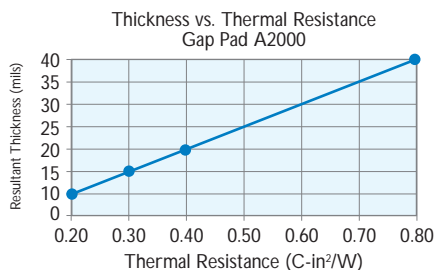
Features and Benefits

- Thermal conductivity: 2.0 W/m-K
- Fiberglass reinforced for puncture, shear and tear resistance
- Electrically isolating



Gap Pad A2000 acts as a thermal interface and electrical insulator between electronic components and heat sinks. In the thickness range of 10 to 40 mil, Gap Pad A2000 is supplied with natural tack on both sides, allowing for excellent compliance to the adjacent surfaces of components. The 40 mil material thickness is supplied with lower tack on one side, allowing for burn-in processes and easy rework.

Note: Resultant thickness is defined as the final gap thickness of the application.



TYPICAL PROPERTIES OF GAP PAD A2000

PROPERTY	IMPERIAL VALUE	METRIC VALUE	TEST METHOD	
Color	Gray	Gray	Visual	
Reinforcement Carrier	Fiberglass	Fiberglass	—	
Thickness (inch) / (mm)	0.010 to 0.040	0.254 to 1.016	ASTM D374	
Inherent Surface Tack (1 side)	2	2	—	
Density (Bulk Rubber) (g/cc)	2.9	2.9	ASTM D792	
Heat Capacity (J/g-K)	1.0	1.0	ASTM E1269	
Hardness (Bulk Rubber) (Shore 00) (1)	80	80	ASTM D2240	
Young's Modulus (psi) / (kPa) (2)	55	379	ASTM D575	
Continuous Use Temp (°F) / (°C)	-76 to 392	-60 to 200	—	
ELECTRICAL				
Dielectric Breakdown Voltage (Vac)	>4000	>4000	ASTM D149	
Dielectric Constant (1 Mhz)	6.0	6.0	ASTM D150	
Volume Resistivity (Ohm-meter)	10 ¹¹	10 ¹¹	ASTM D257	
Flame Rating	V-O	V-O	U.L. 94	
THERMAL				
Thermal Conductivity (W/m-K)	2.0	2.0	ASTM D5470	
THERMAL PERFORMANCE vs. STRAIN				
	Deflection (% strain)	10	20	30
	Thermal Impedance (°C-in²/W) 0.040" (3)	1.04	1.00	0.95

1) Thirty second delay value Shore 00 hardness scale. 2)Young's Modulus, calculated using 0.01 in/min. step rate of strain with a sample size of 0.79 inch². 3) The ASTM D5470 test fixture was used. 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.

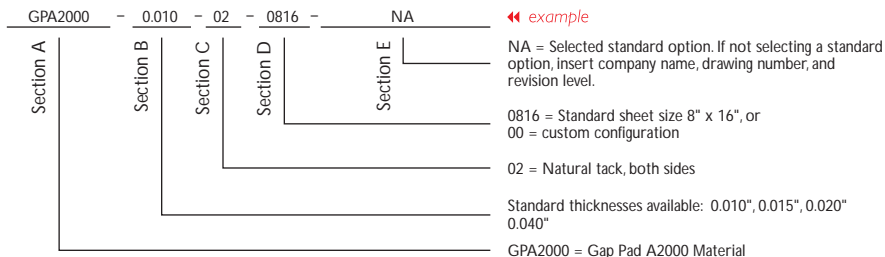
Typical Applications Include:

- Computer and peripherals; between CPU and heat spreader
- Telecommunications
- Heat pipe assemblies
- RDRAM™ memory modules
- CDROM / DVD cooling
- Areas where heat needs to be transferred to a frame chassis or other type of heat spreader
- DDR SDRAM memory modules

Configurations Available:

- Sheet form, die-cut parts and roll form (converted or unconverted)

Building a Part Number Standard Options



Note: To build a part number, visit our website at www.bergquistcompany.com.

Gap Pad® 2000S40

Highly Conformable, Thermally Conductive, Reinforced "S-Class" Gap Filling Material

Features and Benefits

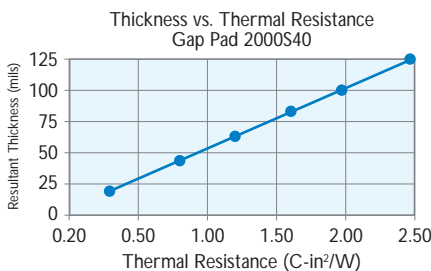
- Thermal conductivity: 2.0 W/m-K
- Low "S-Class" thermal resistance at very low pressures
- Highly conformable, low hardness
- Designed for low-stress applications
- Fiberglass reinforced for puncture, shear and tear resistance



Gap Pad 2000S40 is recommended for low-stress applications that require a mid to high thermally conductive interface material. The highly conformable nature of the material allows the pad to fill in air voids and air gaps between PC boards and heat sinks or metal chassis with stepped topography, rough surfaces and high stack-up tolerances.

Gap Pad 2000S40 is offered with inherent natural tack on both sides of the material allowing for stick-in-place characteristics during application assembly. The material is supplied with protective liners on both sides. The top side has reduced tack for ease of handling.

Note: Resultant thickness is defined as the final gap thickness of the application.



TYPICAL PROPERTIES OF GAP PAD 2000S40

PROPERTY	IMPERIAL VALUE	METRIC VALUE	TEST METHOD	
Color	Gray	Gray	Visual	
Reinforcement Carrier	Fiberglass	Fiberglass	—	
Thickness (inch) / (mm)	0.020 to 0.125	0.508 to 3.175	ASTM D374	
Inherent Surface Tack (1 side)	2	2	—	
Density (Bulk Rubber) (g/cc)	2.9	2.9	ASTM D792	
Heat Capacity (J/g-K)	0.6	0.6	ASTM E1269	
Hardness (Bulk Rubber) (Shore 00) (1)	30	30	ASTM D2240	
Young's Modulus (psi) / (kPa) (2)	45	310	ASTM D575	
Continuous Use Temp (°F) / (°C)	-76 to 392	-60 to 200	—	
ELECTRICAL				
Dielectric Breakdown Voltage (Vac)	>5000	>5000	ASTM D149	
Dielectric Constant (1 Mhz)	6.0	6.0	ASTM D150	
Volume Resistivity (Ohm-meter)	10 ¹¹	10 ¹¹	ASTM D257	
Flame Rating	V-O	V-O	U.L. 94	
THERMAL				
Thermal Conductivity (W/m-K)	2.0	2.0	ASTM D5470	
THERMAL PERFORMANCE vs. STRAIN				
	Deflection (% strain)	10	20	30
	Thermal Impedance (°C-in²/W) 0.040" (3)	0.97	0.89	0.80

1) Thirty second delay value Shore 00 hardness scale. 2)Young's Modulus, calculated using 0.01 in/min. step rate of strain with a sample size of 0.79 inch². 3) The ASTM D5470 test fixture was used. 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.

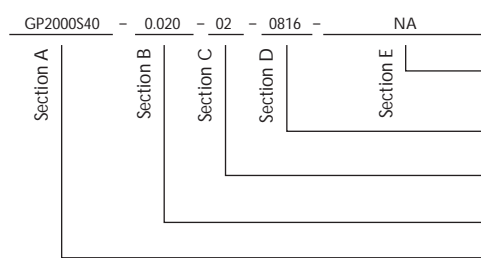
Typical Applications Include:

- Power electronics DC/DC; 1/4, 1/2, full bricks, etc.
- Mass storage devices
- Graphics card/processor/ASIC
- Wireline/wireless communications hardware
- Automotive engine/transmission controls

Configurations Available:

- Sheet form and die-cut parts

Building a Part Number



Standard Options

◀ example

NA = Selected standard option. If not selecting a standard option, insert company name, drawing number, and revision level.

0816 = Standard sheet size 8" x 16", or 00 = custom configuration

02 = Natural tack, both sides

Standard thicknesses available: 0.020", 0.040", 0.060", 0.080", 0.100", 0.125"

GP2000S40 = Gap Pad 2000S40 Material

Note: To build a part number, visit our website at www.bergquistcompany.com.

Gap Pad® 2200SF

Thermally Conductive, Silicone-Free Gap Filling Material

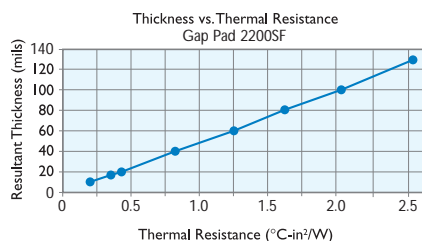
Features and Benefits

- Thermal conductivity: 2.0 W/m-K
- Silicone-free formulation
- Medium compliance with easy handling
- Electrically isolating



Gap Pad 2200SF is a thermally conductive, electrically isolating, silicone-free polymer specially designed for silicone-sensitive applications. The material is ideal for applications with uneven topologies and high stackup tolerances. Gap Pad 2200SF is reinforced for easy material handling and added durability during assembly. The material is available with a protective liner on both sides. Gap Pad 2200SF is supplied with reduced tack on one side allowing for burn-in processes and easy rework.

Note: Resultant thickness is defined as the final gap thickness of the application.



TYPICAL PROPERTIES OF GAP PAD 2200SF

PROPERTY	IMPERIAL VALUE	METRIC VALUE	TEST METHOD
Color	Green	Green	Visual
Reinforcement Carrier	Fiberglass	Fiberglass	—
Thickness (inch) / (mm)	0.010 to 0.125	0.254 to 3.175	ASTM D374
Inherent Surface Tack (1 or 2 sided)	2	2	—
Density (g/cc)	2.8	2.8	ASTM D792
Heat Capacity (J/g-K)	1.0	1.0	ASTM E1269
Hardness, Bulk Rubber (Shore 00) (1)	70	70	ASTM D2240
Young's Modulus (psi) / (kPa) (2)	33	228	ASTM D575
Continuous Use Temp (°F) / (°C)	-76 to 257	-60 to 125	—
ELECTRICAL			
Dielectric Breakdown Voltage (Vac)	>5000	>5000	ASTM D149
Dielectric Constant (1000 Hz)	6.0	6.0	ASTM D150
Volume Resistivity (Ohm-meter)	10 ⁸	10 ⁸	ASTM D257
Flame Rating	V-O	V-O	U.L. 94
THERMAL			
Thermal Conductivity (W/m-K)	2.0	2.0	ASTM D5470

1) Thirty second delay value Shore 00 hardness scale.
2) Young's Modulus, calculated using 0.01 in/min. step rate of strain with a sample size of 0.79 inch². For more information on Gap Pad modulus, refer to Bergquist Application Note #116.

Typical Applications:

- Digital disk drives
- Proximity near electrical contacts (e.g. DC brush motors, connectors, relays)
- Fiber optics modules

Configurations Available:

- Sheet form
- Die-cut parts
- Standard sheet size is 8" x 16"

Building a Part Number Standard Options

GP2200SF	-	0.010	-	02	-	0816	-	NA
Section A		Section B		Section C		Section D		Section E

NA = Selected standard option. If not selecting a standard option, insert company name, drawing number, and revision level.

0816 = Standard sheet size 8" x 16", or 00 = custom configuration

02 = Natural tack, both sides

Standard thicknesses available: 0.010", 0.015", 0.020", 0.040", 0.060", 0.080", 0.100", 0.125"

GP2200SF = Gap Pad 2200SF Material

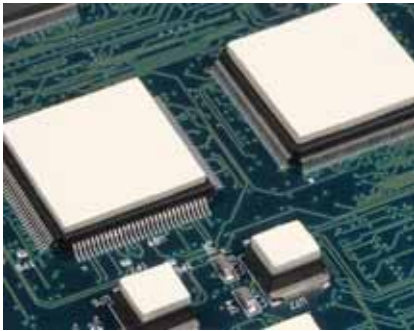
Note: To build a part number, visit our website at www.bergquistcompany.com.

Gap Pad® 2500S20

Highly Conformable, Thermally Conductive, Reinforced "S-Class" Gap Filling Material

Features and Benefits

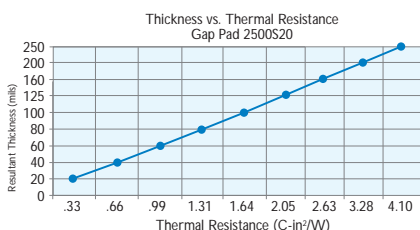
- Thermal conductivity: 2.4 W/m-K
- Low "S-Class" thermal resistance at ultra-low pressures
- Ultra conformable, "gel-like" modulus
- Designed for low-stress applications
- Fiberglass reinforced for puncture, shear and tear resistance



Gap Pad 2500S20 is a thermally conductive, reinforced material rated at a thermal conductivity of 2.4 W/m-K. The material is a filled-polymer material yielding extremely soft, elastic characteristics. The material is reinforced to provide easy handling, converting, added electrical isolation and tear resistance. Gap Pad 2500S20 is well suited for low-pressure applications that typically use fixed standoff or clip mounting. The material maintains a conformable, yet elastic nature that allows for excellent interfacing and wet-out characteristics, even to surfaces with high roughness and/or topography.

Gap Pad 2500S20 is offered with inherent natural tack on both sides of the material allowing for stick-in-place characteristics during application assembly. The material is supplied with protective liners on both sides. The top side has reduced tack for ease of handling.

Note: Resultant thickness is defined as the final gap thickness of the application.



TYPICAL PROPERTIES OF GAP PAD 2500S20

PROPERTY	IMPERIAL VALUE	METRIC VALUE	TEST METHOD	
Color	Light Yellow	Light Yellow	Visual	
Reinforcement Carrier	Fiberglass	Fiberglass	—	
Thickness (inch) / (mm)	0.010 to 0.250	0.254 to 6.350	ASTM D374	
Inherent Surface Tack (1 side)	2	2	—	
Density (Bulk Rubber) (g/cc)	3.1	3.1	ASTM D792	
Heat Capacity (J/g-K)	1.0	1.0	ASTM E1269	
Hardness (Bulk Rubber) (Shore 00) (1)	20	20	ASTM D2240	
Young's Modulus (psi) / (kPa) (2)	5	35	ASTM D575	
Continuous Use Temp (°F) / (°C)	-76 to 392	-60 to 200	—	
ELECTRICAL				
Dielectric Breakdown Voltage (Vac)	>3000	>3000	ASTM D149	
Dielectric Constant (1 Mhz)	6.6	6.6	ASTM D150	
Volume Resistivity (Ohm-meter)	10 ¹¹	10 ¹¹	ASTM D257	
Flame Rating	V-O	V-O	U.L. 94	
THERMAL				
Thermal Conductivity (W/m-K)	2.4	2.4	ASTM D5470	
THERMAL PERFORMANCE vs. STRAIN				
Deflection (% strain)		10	20	30
Thermal Impedance (°C-in²/W) 0.040" (3)		0.75	0.68	0.61

1) Thirty second delay value Shore 00 hardness scale. 2)Young's Modulus, calculated using 0.01 in/min. step rate of strain with a sample size of 0.79 inch². 3) The ASTM D5470 test fixture was used. 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.

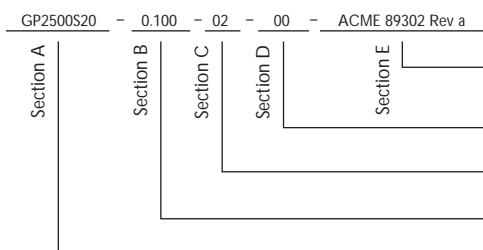
Typical Applications

- Between processors and heat sinks
- Between graphics chips and heat sinks
- DVD and CDROM electronics cooling
- Areas where heat needs to be transferred to a frame, chassis or other type of heat spreader

Configurations Available:

- Sheet form and die-cut parts

Building a Part Number



Standard Options

◀ example

NA = Selected standard option. If not selecting a standard option, insert company name, drawing number, and revision level.

0816 = Standard sheet size 8" x 16", or
00 = custom configuration

02 = Natural tack, both sides

Standard thicknesses available: 0.010", 0.015", 0.020",
0.040", 0.060", 0.080", 0.100", 0.125", 0.160", 0.200", 0.250"

GP2500S20 = Gap Pad 2500S20 Material

Note: To build a part number, visit our website at www.bergquistcompany.com.

Gap Pad® 2500

Thermally Conductive, Un-Reinforced Gap Filling Material

Features and Benefits

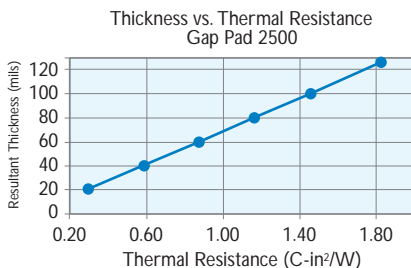
- Thermal conductivity: 2.7 W/m-K
- High thermal performance, cost-effective solution
- Un-reinforced construction for additional compliancy
- Medium compliancy and conformability



Gap Pad 2500 is a thermally conductive, electrically insulating, un-reinforced gap filling material. Gap Pad 2500 is a filled-polymer material yielding an elastic polymer that allows for easy handling and conforming without the need for reinforcement. These properties also allow for good wet-out and interfacing characteristics to surfaces with roughness and/or topography. All these characteristics make this material ideal for applications using either clip or screw-mounted assemblies.

Gap Pad 2500 is offered with inherent natural tack on both sides of the material allowing for stick-in-place characteristics during application assembly. The material is supplied with protective liners on both sides.

Note: Resultant thickness is defined as the final gap thickness of the application.



TYPICAL PROPERTIES OF GAP PAD 2500			
PROPERTY	IMPERIAL VALUE	METRIC VALUE	TEST METHOD
Color	Light Brown	Light Brown	Visual
Reinforcement Carrier	—	—	—
Thickness (Inch) / (mm)	0.020 to 0.125	0.508 to 3.175	ASTM D374
Inherent Surface Tack (1 side)	2	2	—
Density (Bulk Rubber) (g/cc)	3.1	3.1	ASTM D792
Heat Capacity (J/g-K)	1.0	1.0	ASTM E1269
Hardness (Bulk Rubber) (Shore 00) (1)	80	80	ASTM D2240
Young's Modulus (psi) / (kPa) (2)	113	779	ASTM D575
Continuous Use Temp (°F) / (°C)	-76 to 392	-60 to 200	—
ELECTRICAL			
Dielectric Breakdown Voltage (Vac)	>6000	>6000	ASTM D149
Dielectric Constant (1 Mhz)	6.8	6.8	ASTM D150
Volume Resistivity (Ohm-meter)	10 ¹¹	10 ¹¹	ASTM D257
Flame Rating	V-O	V-O	U.L. 94
THERMAL			
Thermal Conductivity (W/m-K)	2.7	2.7	ASTM D5470
THERMAL PERFORMANCE vs. STRAIN			
		Deflection (% strain)	10 20 30
Thermal Impedance (°C-in²/W) 0.040" (3)		0.74	0.62 0.61
1) Thirty second delay value Shore 00 hardness scale. 2) Young's Modulus, calculated using 0.01 in/min. step rate of strain with a sample size of 0.79 inch². 3) The ASTM D5470 test fixture was used. 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.			

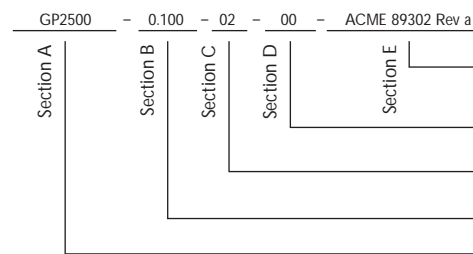
Typical Applications Include:

- Multiple heat-generating components to a common heat sink
- Graphics chips to heat sinks
- Processors to heat sinks
- Mass storage drives
- Wireline / wireless communications hardware

Configurations Available:

- Sheet form and die-cut parts

Building a Part Number



Note: To build a part number, visit our website at www.bergquistcompany.com.

Standard Options

◀ example

NA = Selected standard option. If not selecting a standard option, insert company name, drawing number, and revision level.

0816 = Standard sheet size 8" x 16", or
00 = custom configuration

02 = Natural tack, both sides

Standard thicknesses available: 0.020", 0.040", 0.060",
0.080", 0.100", 0.125"

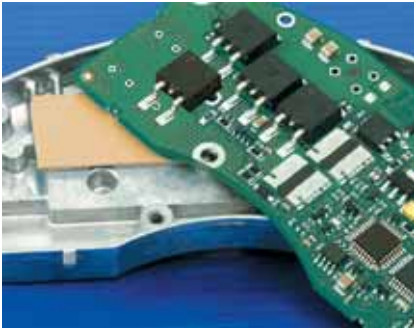
GP2500 = Gap Pad 2500 Material

Gap Pad® A3000

Thermally Conductive, Reinforced Gap Filling Material

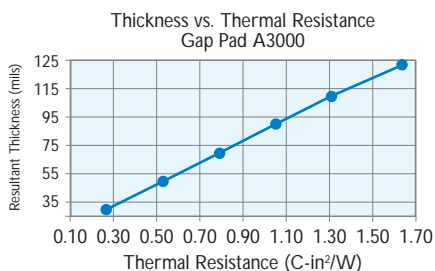
Features and Benefits

- Thermal conductivity: 2.6 W/m-K
- Fiberglass reinforced for puncture, shear and tear resistance
- Reduced tack on one side to aid in application assembly
- Electrically isolating



Gap Pad A3000 is a thermally conductive, filled-polymer laminate, supplied on a reinforcing mesh for added electrical isolation, easy material handling and enhanced puncture, shear and tear resistance. Gap Pad A3000 has a reinforcement layer on the dark gold side of the material that assists in burn-in and rework processes while the light gold and soft side of the material allows for added compliance.

Note: Resultant thickness is defined as the final gap thickness of the application.



TYPICAL PROPERTIES OF GAP PAD A3000				
PROPERTY	IMPERIAL VALUE	METRIC VALUE	TEST METHOD	
Color	Gold	Gold	Visual	
Reinforcement Carrier	Fiberglass	Fiberglass	—	
Thickness (inch) / (mm)	0.015 to 0.125	0.381 to 3.175	ASTM D374	
Inherent Surface Tack (1 side)	1	1	—	
Density (Bulk Rubber) (g/cc)	3.2	3.2	ASTM D792	
Heat Capacity (J/g-K)	1.0	1.0	ASTM E1269	
Hardness (Bulk Rubber) (Shore 00) (1)	80	80	ASTM D2240	
Young's Modulus (psi) / (kPa) (2)	50	344	ASTM D575	
Continuous Use Temp (°F) / (°C)	-76 to 392	-60 to 200	—	
ELECTRICAL				
Dielectric Breakdown Voltage (Vac)	>5000	>5000	ASTM D149	
Dielectric Constant (1 Mhz)	7.0	7.0	ASTM D150	
Volume Resistivity (Ohm-meter)	10 ¹⁰	10 ¹⁰	ASTM D257	
Flame Rating	V-O	V-O	U.L. 94	
THERMAL				
Thermal Conductivity (W/m-K)	2.6	2.6	ASTM D5470	
THERMAL PERFORMANCE vs. STRAIN				
Deflection (% strain)		10	20	30
Thermal Impedance (°C-in²/W) 0.040" (3)		0.78	0.73	0.68
1) Thirty second delay value Shore 00 hardness scale. 2)Young's Modulus, calculated using 0.01 in/min. step rate of strain with a sample size of 0.79 inch². 3) The ASTM D5470 test fixture was used. 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.				

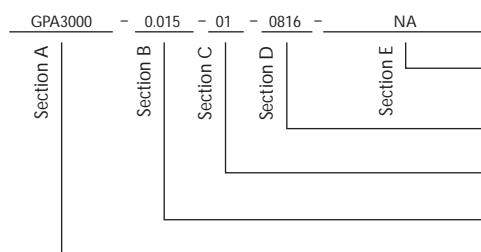
Typical Applications Include:

- Computer and peripherals
- Heat pipe assemblies
- CDROM / DVD cooling
- Area where heat needs to be transferred to a frame, chassis or other type of heat spreader
- Telecommunications
- RDRAM™ memory modules
- Between CPU and heat spreader

Configurations Available:

- Sheet form, die-cut parts and roll form (converted or unconverted)

Building a Part Number



Standard Options

◀ example

NA = Selected standard option. If not selecting a standard option, insert company name, drawing number, and revision level.

0816 = Standard sheet size 8" x 16", or
00 = custom configuration

01 = Natural tack, one side

Standard thicknesses available: 0.015", 0.020", 0.040",
0.060", 0.080", 0.100", 0.125"

GPA3000 = Gap Pad A3000 Material

Note: To build a part number, visit our website at www.bergquistcompany.com.

Gap Pad® 3000S30

Thermally Conductive, Reinforced, Soft "S-Class" Gap Filling Material

Features and Benefits

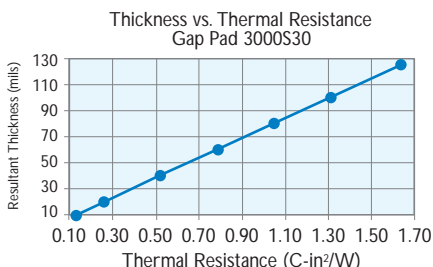
- Thermal conductivity: 3.0 W/m-K
- Low "S-Class" thermal resistance at very low pressures
- Highly conformable, "S-Class" softness
- Designed for low-stress applications
- Fiberglass reinforced for puncture, shear and tear resistance



Gap Pad 3000S30 is a soft gap filling material rated at a thermal conductivity of 3 W/m-K. The material offers exceptional thermal performance at low pressures due to an all-new 3 W/m-K filler package and low-modulus resin formulation. It is reinforced to enhance material handling, puncture, shear and tear resistance. It is well suited for high performance, low-stress applications that typically use fixed standoff or clip mounting. Gap Pad 3000S30 maintains a conformable yet elastic nature that allows for excellent interfacing and wet-out characteristics, even to surfaces with high roughness and/or topography.

Gap Pad 3000S30 is offered with natural inherent tack on both sides of the material, eliminating the need for thermally-impeding adhesive layers. The material's natural inherent tack allows for stick-in-place characteristics during assembly. Gap Pad 3000S30 is supplied with protective liners on both sides. The top side has reduced tack for ease of handling.

Note: Resultant thickness is defined as the final gap thickness of the application.



TYPICAL PROPERTIES OF GAP PAD 2500

PROPERTY	IMPERIAL VALUE	METRIC VALUE	TEST METHOD	
Color	Light Blue	Light Blue	Visual	
Reinforcement Carrier	Fiberglass	Fiberglass	—	
Thickness (inch) / (mm)	0.010 to 0.125	0.254 to 3.175	ASTM D374	
Inherent Surface Tack (1 side)	2	2	—	
Density (Bulk Rubber) (g/cc)	3.2	3.2	ASTM D792	
Heat Capacity (J/g-K)	1.0	1.0	ASTM E1269	
Hardness (Bulk Rubber) (Shore 00) (1)	30	30	ASTM D2240	
Young's Modulus (psi) / (kPa) (2)	26	180	ASTM D575	
Continuous Use Temp (°F) / (°C)	-76 to 392	-60 to 200	—	
ELECTRICAL				
Dielectric Breakdown Voltage (Vac)	>3000	>3000	ASTM D149	
Dielectric Constant (1 Mhz)	7.0	7.0	ASTM D150	
Volume Resistivity (Ohm-meter)	10 ⁹	10 ⁹	ASTM D257	
Flame Rating	V-O	V-O	U.L. 94	
THERMAL				
Thermal Conductivity (W/m-K)	3.0	3.0	ASTM D5470	
THERMAL PERFORMANCE vs. STRAIN				
	Deflection (% strain)	10	20	30
	Thermal Impedance (°C-in²/W) 0.040" (3)	0.66	0.60	0.54

1) Thirty second delay value Shore 00 hardness scale. 2)Young's Modulus, calculated using 0.01 in/min. step rate of strain with a sample size of 0.79 inch². 3) The ASTM D5470 test fixture was used. 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.

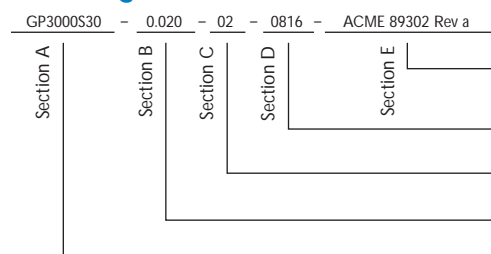
Typical Applications:

- Processors
- Server S-RAMs
- Mass storage drives
- Wireline / wireless communications hardware
- Notebook computers
- BGA packages
- Power conversion

Configurations Available:

- Sheet form and die-cut parts available

Building a Part Number



Standard Options

example

NA = Selected standard option. If not selecting a standard option, insert company name, drawing number, and revision level.

0816 = Standard sheet size 8" x 16", or
00 = custom configuration

02 = Natural tack, both sides

Standard thicknesses available: 0.010", 0.015", 0.020",
0.040", 0.060", 0.080", 0.100", 0.125"

GP3000S30 = Gap Pad 3000S30 Material

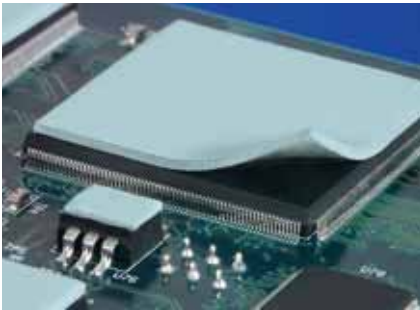
Note: To build a part number, visit our website at www.bergquistcompany.com.

Gap Pad® 5000S35

High thermal conductivity plus "S-Class" softness and conformability

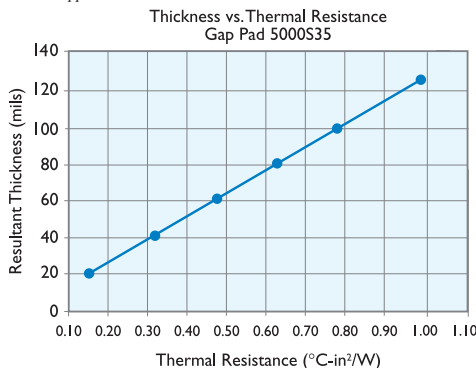
Features and Benefits

- High thermal conductivity: 5 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



Gap Pad 5000S35 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. Gap Pad 5000S35 is ideal for high-performance applications at low mounting pressures.

Note: Resultant thickness is defined as the final gap thickness of the application.



TYPICAL PROPERTIES OF GAP PAD A3000

PROPERTY	IMPERIAL VALUE	METRIC VALUE	TEST METHOD	
Color	Light Green	Light Green	Visual	
Reinforcement Carrier	Fiberglass	Fiberglass	—	
Thickness (inch) / (mm)	0.020 to 0.125	0.508 to 3.175	ASTM D374	
Inherent Surface Tack (1 side)	2	2	—	
Density (Bulk Rubber) (g/cc)	3.6	3.6	ASTM D792	
Heat Capacity (J/g-K)	1.0	1.0	ASTM E1269	
Hardness (Bulk Rubber) (Shore 00) (1)	35	35	ASTM D2240	
Young's Modulus (psi) / (kPa) (2)	17.5	121	ASTM D575	
Continuous Use Temp (°F) / (°C)	-76 to 392	-60 to 200	—	
ELECTRICAL				
Dielectric Breakdown Voltage (Vac)	>5000	>5000	ASTM D149	
Dielectric Constant (1 Mhz)	7.5	7.5	ASTM D150	
Volume Resistivity (Ohm-meter)	10 ⁹	10 ⁹	ASTM D257	
Flame Rating	V-O	V-O	U.L. 94	
THERMAL				
Thermal Conductivity (W/m-K)	5.0	5.0	ASTM D5470	
THERMAL PERFORMANCE vs. STRAIN				
	Deflection (% strain)	10	20	30
	Thermal Impedance (°C-in²/W) 0.040" (3)	0.41	0.34	0.30
1) Thirty second delay value Shore 00 hardness scale. 2)Young's Modulus, calculated using 0.01 in/min. step rate of strain with a sample size of 0.79 inch². 3) The ASTM D5470 test fixture was used. 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.				

1) Thirty second delay value Shore 00 hardness scale. 2) Young's Modulus, calculated using 0.01 in/min. step rate of strain with a sample size of 0.79 inch. 3) The ASTM D5470 test fixture was used. 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.

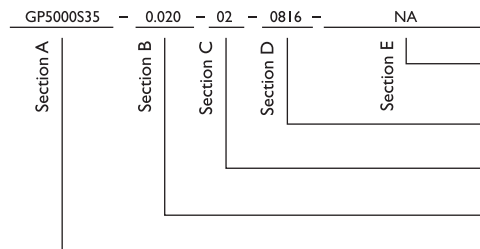
Typical Applications

- CDROM / DVD ROM
- Voltage Regulator Modules (VRMs) and POLs
- Thermally-enhanced BGAs
- Memory packages / modules
- PC Board to chassis
- ASICs and DSPs

Configurations Available:

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

Building a Part Number



Standard Options

◀ example

NA = Selected standard option. If not selecting a standard option, insert company name, drawing number, and revision level.

0816 = Standard sheet size 8" x 16", or 00 = custom configuration

02 = Natural tack, both sides

Standard thicknesses available: 0.020", 0.040", 0.060", 0.080", 0.100", 0.125"

GP5000S35 = Gap Pad 5000S35 Material

Note: To build a part number, visit our website at www.bergquistcompany.com.