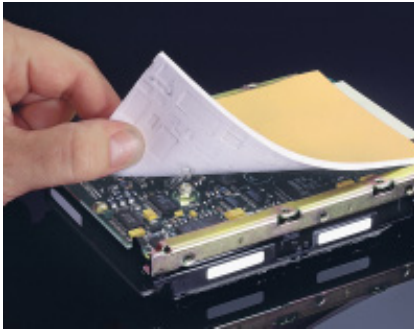


Conformable, Thermally Conductive Material for Filling Air Gaps

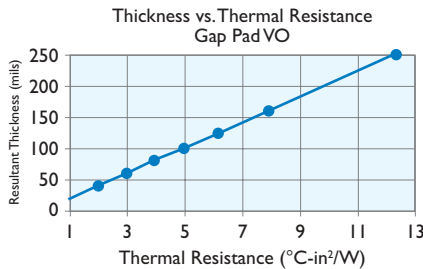
## Features and Benefits

- 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- or 2-sided)	I	I	—
Density (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 (1000 Hz)	5.5	5.5	ASTM D150
Volume Resistivity (Ohm-meter)	10 <sup>11</sup>	10 <sup>11</sup>	ASTM D257
Flame Rating	V-O	V-O	U.L. 94
THERMAL			
Thermal Conductivity (W/m-K)	0.8	0.8	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 inch<sup>2</sup>. For more information on Gap Pad modulus, refer to Bergquist Application Note #116.

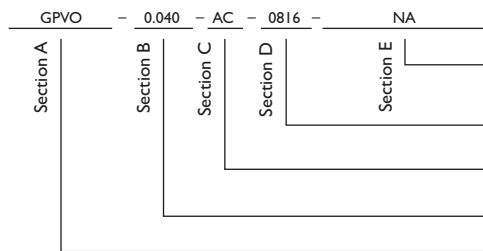
## Typical Applications Include:

- 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

◀ 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, one side  
00 = No pressure sensitive adhesive

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](http://www.bergquistcompany.com).

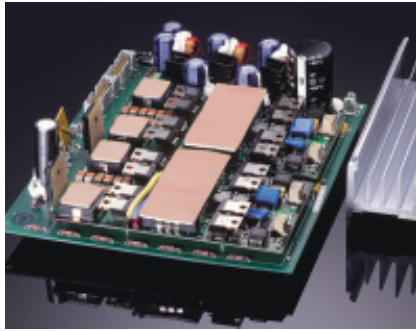
Gap Pad®: U.S. Patent 5,679,457 and others.

# Gap Pad VO Soft®

Highly Conformable, Thermally Conductive Material for Filling Air Gaps

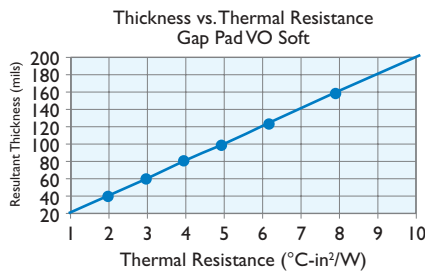
## Features and Benefits

- 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- or 2-sided)	I	I	—
Density (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	—
<b>ELECTRICAL</b>			
Dielectric Breakdown Voltage (Vac)	>6000	>6000	ASTM D149
Dielectric Constant (1000 Hz)	5.5	5.5	ASTM D150
Volume Resistivity (Ohm-meter)	10 <sup>11</sup>	10 <sup>11</sup>	ASTM D257
Flame Rating	V-O	V-O	U.L. 94
<b>THERMAL</b>			
Thermal Conductivity (W/m-K)	0.8	0.8	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 inch". For more information on Gap Pad modulus, refer to Bergquist Application Note #116.

## Typical Applications Include:

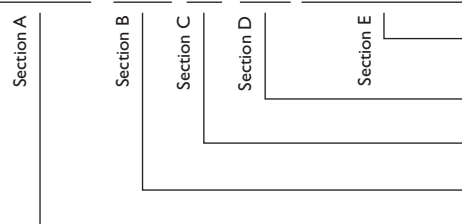
- Telecommunications
- Computer and peripherals
- Power conversion
- Between heat-generating semiconductors or magnetic components and a heat sink
- Area where heat needs to be transferred to a frame, chassis, or other type of heat spreader

## 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 = Pressure sensitive adhesive, one side  
00 = No pressure sensitive adhesive

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](http://www.bergquistcompany.com).

Gap Pad®: U.S. Patent 5,679,457 and others.

# Gap Pad® VO Ultra Soft

Ultra Conformable, Thermally Conductive Material for Filling Air Gaps

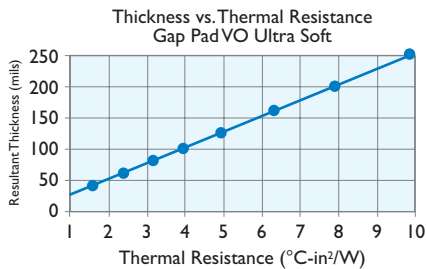
## Features and Benefits

- Thermal conductivity: 1.0 W/m-K
- Highly conformable, low hardness
- "Gel-like" modulus
- Designed for low-stress applications
- Puncture, shear and tear resistant



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	Sil-Pad	Sil-Pad	—
Thickness (inch) / (mm)	0.020 to 0.250	0.508 to 6.350	ASTM D374
Inherent Surface Tack (1- or 2-sided)	1	1	—
Density (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	—
<b>ELECTRICAL</b>			
Dielectric Breakdown Voltage (Vac)	>6000	>6000	ASTM D149
Dielectric Constant (1000 Hz)	5.5	5.5	ASTM D150
Volume Resistivity (Ohm-meter)	10 <sup>11</sup>	10 <sup>11</sup>	ASTM D257
Flame Rating	V-O	V-O	U.L. 94
<b>THERMAL</b>			
Thermal Conductivity (W/m-K)	1.0	1.0	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 inch<sup>2</sup>. For more information on Gap Pad modulus, refer to Bergquist Application Note #116.

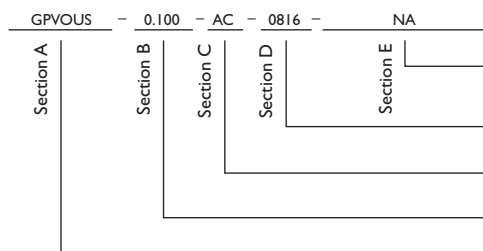
## Typical Applications Include:

- 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, one side  
00 = No adhesive

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](http://www.bergquistcompany.com).

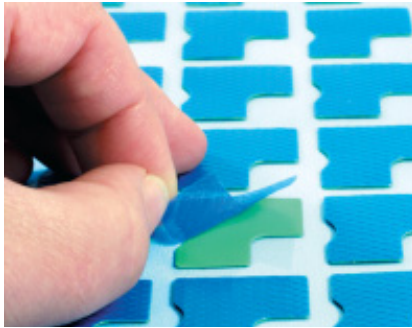
Gap Pad®: U.S. Patent 5,679,457 and others.

# Gap Pad® I000SF

Thermally Conductive, Silicone-Free Gap Filling Material

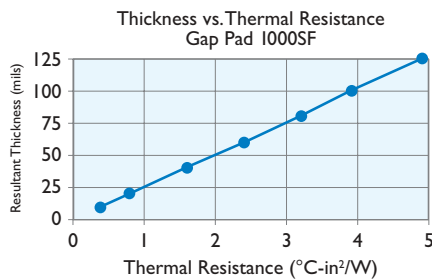
## Features and Benefits

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



The new Gap Pad I000SF 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 I000SF 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.

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



## TYPICAL PROPERTIES OF GAP PAD I000SF

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	—
<b>ELECTRICAL</b>			
Dielectric Breakdown Voltage (Vac)	>6000	>6000	ASTM D149
Dielectric Constant (1000 Hz)	5.0	5.0	ASTM D150
Volume Resistivity (Ohm-meter)	10 <sup>10</sup>	10 <sup>10</sup>	ASTM D257
Flame Rating	V-1	V-1	U.L. 94
<b>THERMAL</b>			
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 inch<sup>2</sup>. For more information on Gap Pad modulus, refer to Bergquist Application Note #116.

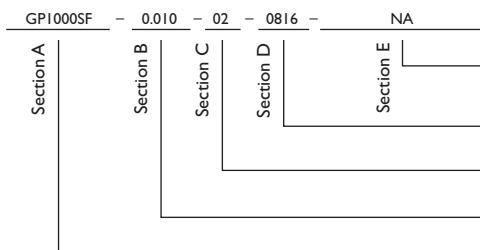
## Typical Applications Include:

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

## Configurations Available:

- Sheet form
- Die-cut parts

## Building a Part Number



## 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"

GP1000SF = Gap Pad I000SF Material

Note: To build a part number, visit our website at [www.bergquistcompany.com](http://www.bergquistcompany.com).

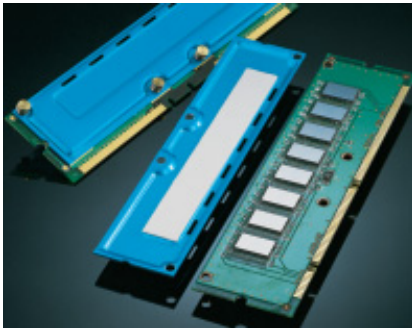
Gap Pad®: U.S. Patent 5,679,457 and others.

# Gap Pad® HCI000

“Gel-Like” Modulus Gap Filling Material

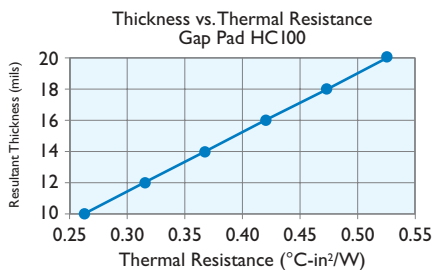
## Features and Benefits

- 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 HCI000 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 HCI000			
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- or 2-sided)	1	1	—
Density (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	—
<b>ELECTRICAL</b>			
Dielectric Breakdown Voltage (Vac)	>5000	>5000	ASTM D149
Dielectric Constant (1000 Hz)	5.5	5.5	ASTM D150
Volume Resistivity (Ohm-meter)	10 <sup>11</sup>	10 <sup>11</sup>	ASTM D257
Flame Rating	V-O	V-O	U.L. 94
<b>THERMAL</b>			
Thermal Conductivity (W/m-K)	1.0	1.0	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 inch<sup>2</sup> and 0.020 inches thick. For more information on Gap Pad modulus, refer to Bergquist Application Note #116.

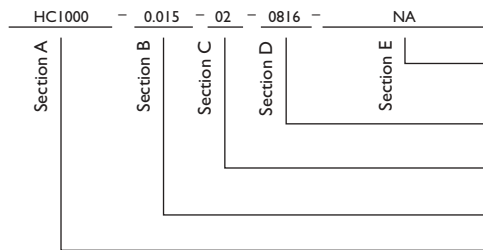
## Typical Applications Include:

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

HCI000 = High Compliance 1000 Material

Note: To build a part number, visit our website at [www.bergquistcompany.com](http://www.bergquistcompany.com).

Gap Pad®: U.S. Patent 5,679,457 and others.

# Gap Pad® I500

Thermally Conductive, Unreinforced Gap Filling Material

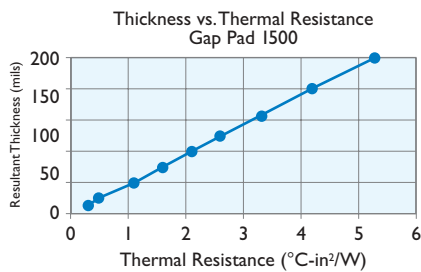
## Features and Benefits

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



Gap Pad I500 has an ideal filler blend that gives its 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 I500			
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- or 2-sided)	2	2	—
Density (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	—
<b>ELECTRICAL</b>			
Dielectric Breakdown Voltage (Vac)	>6000	>6000	ASTM D149
Dielectric Constant (1000 Hz)	5.5	5.5	ASTM D150
Volume Resistivity (Ohm-meter)	10 <sup>11</sup>	10 <sup>11</sup>	ASTM D257
Flame Rating	V-O	V-O	U.L. 94
<b>THERMAL</b>			
Thermal Conductivity (W/m-K)	1.5	1.5	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 inch". For more information on Gap Pad modulus, refer to Bergquist Application Note #116.

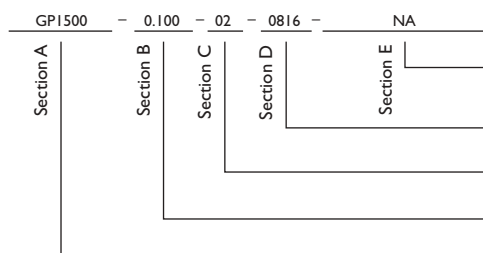
## Typical Applications Include:

- Telecommunications
- Computer and peripherals
- Power conversion
- RDRAM™ memory modules / chip scale packages
- 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

02 = Natural tack, both sides

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

GPI500 = Gap Pad 1500 Material

Note: To build a part number, visit our website at [www.bergquistcompany.com](http://www.bergquistcompany.com).

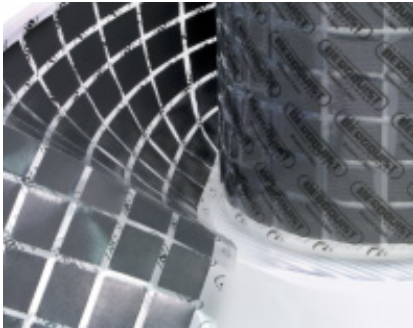
Gap Pad®: U.S. Patent 5,679,457 and others.

# Gap Pad® I500R

Thermally Conductive, Reinforced Gap Filling Material

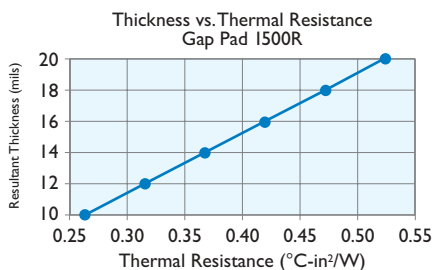
## Features and Benefits

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



Gap Pad I500R has the same highly conformable, low-modulus polymer as the standard Gap Pad I500. 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 I500R

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- or 2-sided)	2	2	—
Density (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	—
<b>ELECTRICAL</b>			
Dielectric Breakdown Voltage (Vac)	>6000	>6000	ASTM D149
Dielectric Constant (1000 Hz)	6.0	6.0	ASTM D150
Volume Resistivity (Ohm-meter)	10 <sup>11</sup>	10 <sup>11</sup>	ASTM D257
Flame Rating	V-O	V-O	U.L. 94
<b>THERMAL</b>			
Thermal Conductivity (W/m-K)	1.5	1.5	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 inch<sup>2</sup>. For more information on Gap Pad modulus, refer to Bergquist Application Note #116.

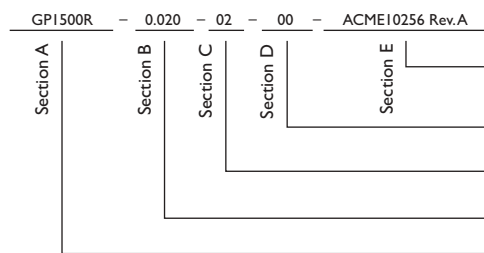
## Typical Applications Include:

- Telecommunications
- Computer and peripherals
- Power conversion
- RDRAM™ memory modules / chip scale packages
- Area 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"

GPI500R = Gap Pad I500R Material

Note: To build a part number, visit our website at [www.bergquistcompany.com](http://www.bergquistcompany.com).

Gap Pad®: U.S. Patent 5,679,457 and others.

# Gap Pad® A2000

High Performance, Thermally Conductive Gap Filling Material

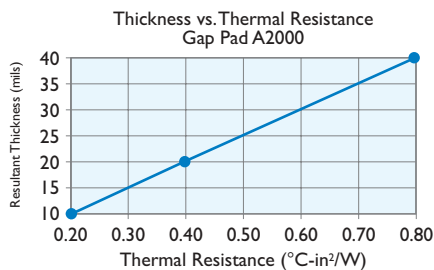
## Features and Benefits

- 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- or 2-sided)	2	2	—
Density (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	—
<b>ELECTRICAL</b>			
Dielectric Breakdown Voltage (Vac)	>5000	>5000	ASTM D149
Dielectric Constant (1000 Hz)	6.0	6.0	ASTM D150
Volume Resistivity (Ohm-meter)	10 <sup>11</sup>	10 <sup>11</sup>	ASTM D257
Flame Rating	V-O	V-O	U.L. 94
<b>THERMAL</b>			
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 inch<sup>2</sup>. For more information on Gap Pad modulus, refer to Bergquist Application Note #116.

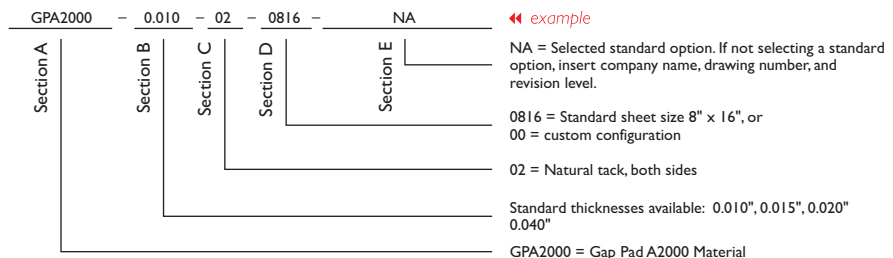
## Typical Applications Include:

- Computer and peripherals; between CPU and heat spreader
- Telecommunications
- Heat pipe assemblies
- RDRAM™ memory modules
- CDROM / DVD cooling
- Area 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](http://www.bergquistcompany.com).

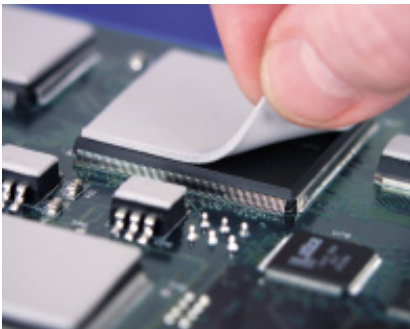
Gap Pad®: U.S. Patent 5,679,457 and others.

# Gap Pad® 2000S40

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

## Features and Benefits

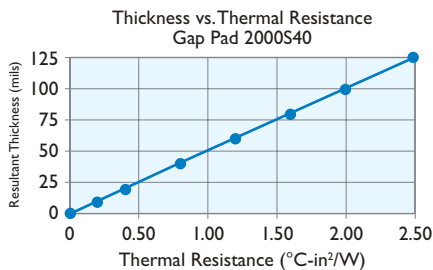
- Thermal conductivity: 2.0 W/m-K
- Low “S-Class” thermal resistance at very low pressures
- Highly conformable, low hardness
- Designed for low-stress applications
- Fiberglass reinforced for puncture, shear and tear resistance



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 electrically isolating, thus well suited for applications requiring electrical isolation between heat sinks and high-voltage, bare-leaded devices. Gap Pad 2000S40 is a filled, thermally conductive polymer reinforced with a fiberglass carrier on one side, allowing for easy material handling and enhanced puncture, shear and tear resistance.

*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- or 2-sided)	2	2	—
Density (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)	25	25	ASTM D2240
Young's Modulus (psi) / (kPa) (2)	45	310	ASTM D575
Continuous Use Temp (°F) / (°C)	-76 to 392	-60 to 200	—
<b>ELECTRICAL</b>			
Dielectric Breakdown Voltage (Vac)	>5000	>5000	ASTM D149
Dielectric Constant (1000 Hz)	6.0	6.0	ASTM D150
Volume Resistivity (Ohm-meter)	10 <sup>11</sup>	10 <sup>11</sup>	ASTM D257
Flame Rating	V-O	V-O	U.L. 94
<b>THERMAL</b>			
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 inch<sup>2</sup>. For more information on Gap Pad modulus, refer to Bergquist Application Note #116.

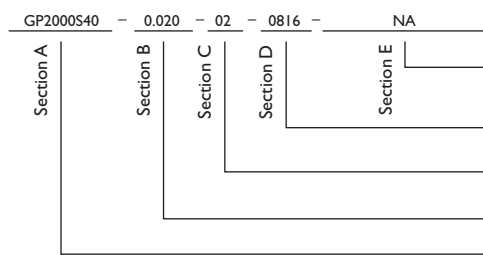
## Typical Applications Include:

- Power electronics DC/DC, 1/4, 1/2, full bricks, etc.
- Mass storage devices
- Graphics card/processor
- 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](http://www.bergquistcompany.com).

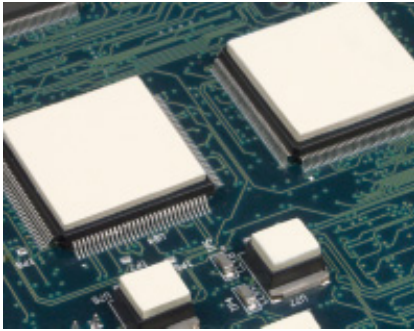
Gap Pad®: U.S. Patent 5,679,457 and others.

# Gap Pad® 2500S20

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

## Features and Benefits

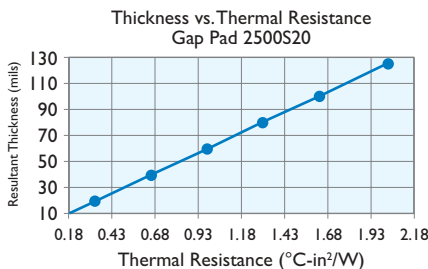
- Thermal conductivity: 2.4 W/m-K
- Low “S-Class” thermal resistance at ultra-low pressures
- Ultra conformable, “gel-like” modulus
- Designed for low-stress applications
- Fiberglass reinforced for puncture, shear and tear resistance



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.

*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 0.125	0.254 to 3.175	ASTM D374
Inherent Surface Tack (1- or 2-sided)	2	2	—
Density (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	—
<b>ELECTRICAL</b>			
Dielectric Breakdown Voltage (Vac)	>3000	>3000	ASTM D149
Dielectric Constant (1000 Hz)	6.6	6.6	ASTM D150
Volume Resistivity (Ohm-meter)	10 <sup>11</sup>	10 <sup>11</sup>	ASTM D257
Flame Rating	V-O	V-O	U.L. 94
<b>THERMAL</b>			
Thermal Conductivity (W/m-K)	2.4	2.4	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 inch". For more information on Gap Pad modulus, refer to Bergquist Application Note #116.

## Typical Applications

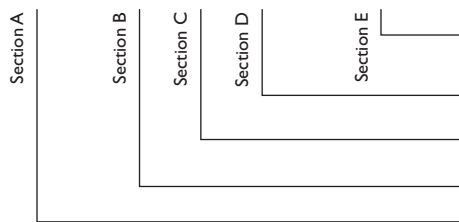
- Between processors and heat sinks
- Between graphics chips and heat sinks
- Hard drive, DVD, and CDROM electronics cooling
- Area where heat needs to be transferred to a frame, chassis, or other type of heat spreader.

## Configurations Available:

- Sheet form and die-cut parts

## Building a Part Number

GP2500S20 - 0.100 - 02 - 00 - ACME 89302 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

02 = Natural tack, both sides

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

GP2500S20 = Gap Pad 2500S20 Material

Note: To build a part number, visit our website at [www.bergquistcompany.com](http://www.bergquistcompany.com).

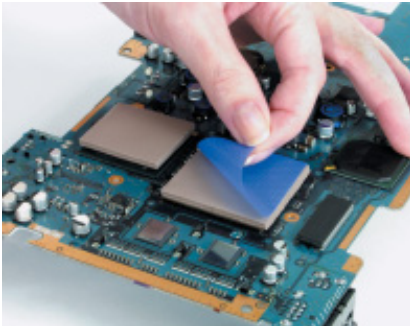
Gap Pad®: U.S. Patent 5,679,457 and others.

# Gap Pad® 2500

Thermally Conductive, Unreinforced Gap Filling Material

## Features and Benefits

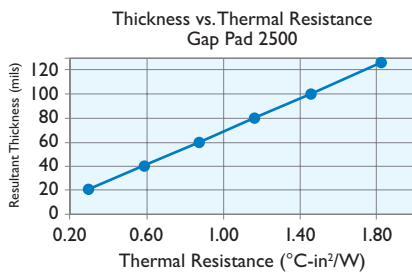
- Thermal conductivity: 2.7 W/m-K
- High thermal performance, cost-effective solution
- Unreinforced construction for additional compliancy
- Medium compliancy and conformability



Gap Pad 2500 is a thermally conductive, electrically insulating, unreinforced gap filling material. Gap Pad 2500 is a filled-polymer material yielding an elastic polymer that allows for easy handling and converting 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- or 2-sided)	2	2	—
Density (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	—
<b>ELECTRICAL</b>			
Dielectric Breakdown Voltage (Vac)	>6000	>6000	ASTM D149
Dielectric Constant (1000 Hz)	6.8	6.8	ASTM D150
Volume Resistivity (Ohm-meter)	10 <sup>11</sup>	10 <sup>11</sup>	ASTM D257
Flame Rating	V-O	V-O	U.L. 94
<b>THERMAL</b>			
Thermal Conductivity (W/m-K)	2.7	2.7	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 inch<sup>2</sup>. For more information on Gap Pad modulus, refer to Bergquist Application Note #116.

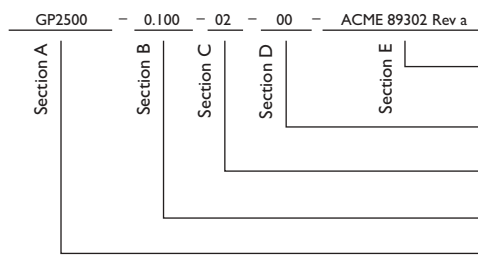
## Typical Applications Include:

- 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



## 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

Note: To build a part number, visit our website at [www.bergquistcompany.com](http://www.bergquistcompany.com).

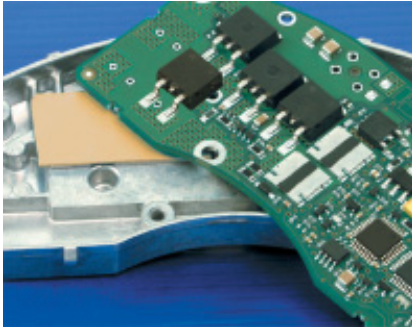
Gap Pad®: U.S. Patent 5,679,457 and others.

# Gap Pad® A3000

Thermally Conductive, Reinforced Gap Filling Material

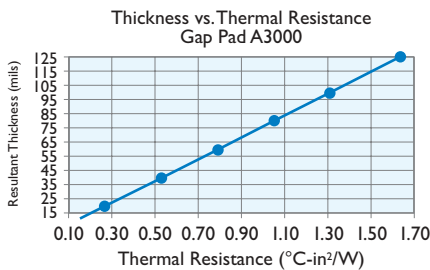
## Features and Benefits

- Thermal conductivity: 3.0 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- or 2-sided)	1	1	—
Density (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	—
<b>ELECTRICAL</b>			
Dielectric Breakdown Voltage (Vac)	>5000	>5000	ASTM D149
Dielectric Constant (1000 Hz)	7.0	7.0	ASTM D150
Volume Resistivity (Ohm-meter)	10 <sup>10</sup>	10 <sup>10</sup>	ASTM D257
Flame Rating	V-O	V-O	U.L. 94
<b>THERMAL</b>			
Thermal Conductivity (W/m-K)	3.0	3.0	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 inch". For more information on Gap Pad modulus, refer to Bergquist Application Note #116.

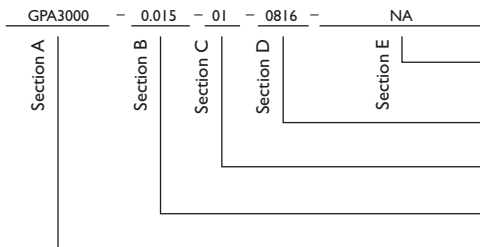
## Typical Applications Include:

- 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](http://www.bergquistcompany.com).

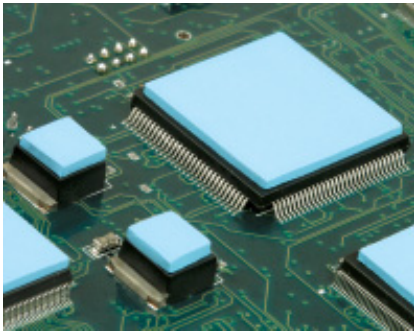
Gap Pad®: U.S. Patent 5,679,457 and others.

# Gap Pad® 3000S30

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

## Features and Benefits

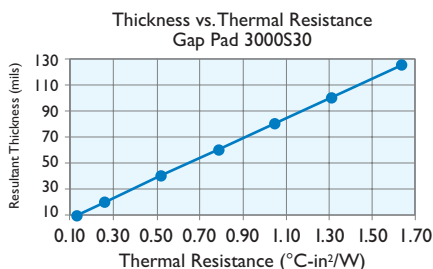
- Thermal conductivity: 3.0 W/m-K
- Low "S-Class" thermal resistance at very low pressures
- Highly conformable, "S-Class" softness
- Designed for low-stress applications
- Fiberglass reinforced for puncture, shear and tear resistance



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.

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



## TYPICAL PROPERTIES OF GAP PAD 3000S30

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- or 2-sided)	2	2	—
Density (g/cc)	3.2	3.2	ASTM D792
Heat Capacity (J/g-K)	1.0	1.0	ASTM E1269
Hardness 40-125 mil (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	—
<b>ELECTRICAL</b>			
Dielectric Breakdown Voltage (Vac)	>3000	>3000	ASTM D149
Dielectric Constant (1000 Hz)	7.0	7.0	ASTM D150
Volume Resistivity (Ohm-meter)	10 <sup>9</sup>	10 <sup>9</sup>	ASTM D257
Flame Rating	V-O	V-O	U.L. 94
<b>THERMAL</b>			
Thermal Conductivity (W/m-K)	3.0	3.0	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 inch<sup>2</sup>. For more information on Gap Pad modulus, refer to Bergquist Application Note #116.

## Typical Applications:

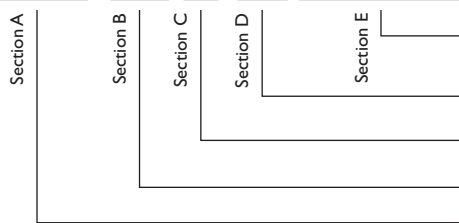
- Processors
- Server S-RAMs
- Mass storage drives
- Wireline/wireless communications hardware
- Notebook computers
- BGA packages
- Power conversion

## Configurations Available:

- Sheet form and die-cut parts available

## Building a Part Number

GP3000S30 - 0.020 - 02 - 0816 - ACME 89302 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

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](http://www.bergquistcompany.com).

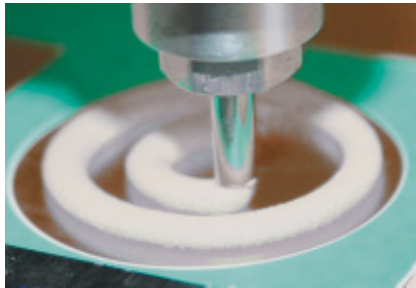
Gap Pad®: U.S. Patent 5,679,457 and others.

# Gap Filler 1000 (Two-Part)

Thermally Conductive, Liquid Gap Filling Material

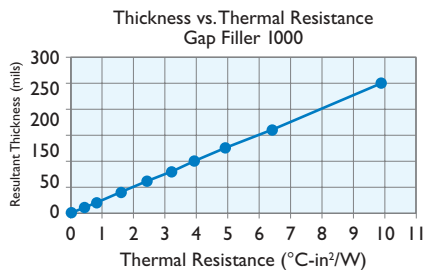
## Features and Benefits

- Thermal conductivity: 1.0 W/m-K
- Ultra-conforming, designed for fragile and low-stress applications
- Ambient and accelerated cure schedules
- 100% solids – no cure by-products
- Excellent low and high temperature mechanical and chemical stability



Gap Filler 1000 is a thermally conductive, liquid gap filling material. It is supplied as a two-component, room or elevated temperature curing system. The material is formulated to provide a balance of cured material properties highlighted by "gel-like" modulus and good compression set (memory). The result is a soft, thermally conductive, form-in-place elastomer ideal for coupling "hot" electronic components mounted on PC boards with an adjacent metal case or heat sink. Before cure, Gap Filler 1000 flows under pressure like a grease. After cure, it does not pump from the interface as a result of thermal cycling. Unlike thermal grease, the cured product is dry to the touch. Unlike cured gap filling materials, the liquid approach offers infinite thickness with little or no stress during displacement and eliminates the need for specific pad thickness and die-cut shapes for individual applications. Gap Filler 1000 is intended for use in thermal interface applications when a strong structural bond is not required.

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



## TYPICAL PROPERTIES OF GAP FILLER 1000

PROPERTY	IMPERIAL VALUE	METRIC VALUE	TEST METHOD
Color / Part A	Gray	Gray	Visual
Color / Part B	White	White	Visual
Viscosity as Mixed (cps) (1)	100,000	100,000	ASTM D2196
Density (g/cc)	1.6	1.6	ASTM D792
Mix Ratio	1:1	1:1	—
Shelf Life @ 25°C (months)	6	6	—
<b>PROPERTY AS CURED</b>			
Color	Gray	Gray	Visual
Hardness (Shore 00) (2)	30	30	ASTM D2240
Heat Capacity (J/g-K)	1.0	1.0	ASTM E1269
Continuous Use Temp (°F) / (°C)	-76 to 347	-60 to 175	—
<b>ELECTRICAL AS CURED</b>			
Dielectric Strength (V/mil)	500	500	ASTM D149
Dielectric Constant (1000 Hz)	5.0	5.0	ASTM D150
Volume Resistivity (Ohm-meter)	10 <sup>11</sup>	10 <sup>11</sup>	ASTM D257
Flame Rating	V-O	V-O	U.L. 94
<b>THERMAL AS CURED</b>			
Thermal Conductivity (W/m-K)	1.0	1.0	ASTM D5470
<b>CURE SCHEDULE</b>			
Pot Life @ 25°C (min) (3)	15	15	—
Cure @ 25°C (min) (4)	60 - 120	60 - 120	—
Cure @ 100°C (min) (4)	5	5	—

1) Brookfield RV, Heli-Path, Spindle TF @ 20 rpm, 25°C.  
 2) Thirty second delay value Shore 00 hardness scale.  
 3) Time for viscosity to double.  
 4) Cure schedule (rheometer - time to read 90% cure)

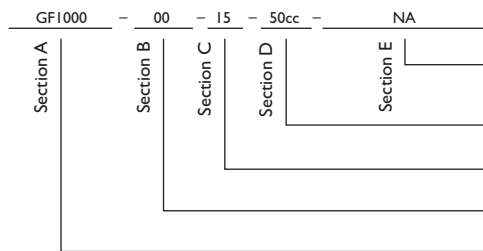
## Typical Applications Include:

- Automotive electronics
- Computer and peripherals
- Between any heat-generating semiconductor and a heat sink
- Telecommunications
- Thermally conductive vibration dampening

## Configurations Available:

- For smaller quantity packaging, please contact Bergquist Sales.

## 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.

Cartridges: 50cc = 50.0cc, 400cc = 400.0cc  
 Kits: 1200cc = 1200.0cc, or 10G = 10 gallon

Pot Life: 15 = 15 minutes

00 = No spacer beads  
 07 = 0.007" spacer beads

GF1000 = Gap Filler 1000 Material

Note: To build a part number, visit our website at [www.bergquistcompany.com](http://www.bergquistcompany.com).

Gap Pad®: U.S. Patent 5,679,457 and others.

# Gap Filler II00SF (Two-Part)

Thermally Conductive, Silicone-Free, Liquid Gap Filling Material

## Features and Benefits

- Thermal conductivity: 1.1 W/m-K
- No silicone outgassing or extraction
- Ultra-conforming, designed for fragile and low-stress applications
- Ambient and accelerated cure schedules
- 100% solids – no cure by-products

Gap Filler II00SF is the thermal solution for silicone-sensitive applications. The material is supplied as a two-part component curing at room or elevated temperatures. The material exhibits “gel-like” properties then cures to a soft, flexible elastomer, helping reduce thermal cycling stresses during operation and virtually eliminating stress during assembly of low-stress applications.

The two components are colored to assist as a mix indicator (1:1 by volume). The mixed system will cure at ambient temperature. Unlike cured thermal pad materials, the liquid approach offers infinite thickness variations with little or no stress during assembly displacement. Gap Filler II00SF, although exhibiting some natural tack characteristics, is not intended for use in thermal interface applications requiring a mechanical structural bond.

## Application

Gap Filler II00SF can be mixed and dispensed using dual-tube cartridge packs with static mixers and manual or pneumatic gun, or high volume mixing and dispensing equipment (application of heat may be used to reduce viscosity).

### TEMPERATURE DEPENDENCE OF VISCOSITY

The viscosity of the Gap Filler II00SF material is temperature dependent. The table below provides the multiplication factor to obtain viscosity at various temperatures. To obtain the viscosity at a given temperature, look up the multiplication factor at that temperature and multiply the corresponding viscosity at 25°C.

Temperature °C	Multiplication Factor	
	Part A	Part B
20	1.43	1.57
25	1.00	1.00
35	0.58	0.50
45	0.39	0.30
50	0.32	0.24

Example - Viscosity of Part A @ 45°:

Viscosity of Part A at 25°C is 450,000 cp. The multiplication factor for part A at 45°C is 0.39. Therefore:

$$(450,000) \times (0.39) = 175,500 \text{ cps}$$

## TYPICAL PROPERTIES OF GAP FILLER II00SF

PROPERTY	IMPERIAL VALUE	METRIC VALUE	TEST METHOD
Color / Part A	Yellow	Yellow	Visual
Color / Part B	Red	Red	Visual
Viscosity as Mixed (cps) (1)	450,000	450,000	ASTM D2196
Density (g/cc)	2.0	2.0	ASTM D792
Mix Ratio	1:1	1:1	—
Shelf Life @ 25°C (months)	6	6	—
<b>PROPERTY AS CURED</b>			
Color	Orange	Orange	Visual
Hardness (Shore 00) (2)	60	60	ASTM D2240
Heat Capacity (J/g-K)	0.9	0.9	ASTM E1269
Continuous Use Temp (°F) / (°C)	-76 to 257	-60 to 125	—
<b>ELECTRICAL AS CURED</b>			
Dielectric Strength (V/mil)	400	400	ASTM D149
Dielectric Constant (1000 Hz)	5.0	5.0	ASTM D150
Volume Resistivity (Ohm-meter)	10 <sup>10</sup>	10 <sup>10</sup>	ASTM D257
Flame Rating	V-O	V-O	U.L. 94
<b>THERMAL AS CURED</b>			
Thermal Conductivity (W/m-K)	1.1	1.1	ASTM D5470
<b>CURE SCHEDULE</b>			
Pot Life @ 25°C (min) (3)	10-15	10-15	—
Cure @ 25°C (hrs) (4)	4	4	—
Cure @ 100°C (min) (4)	45	45	—

1) Brookfield RV, Heli-Path, Spindle TF @ 2 rpm, 25°C.  
 2) Thirty second delay value Shore 00 hardness scale.  
 3) Time for viscosity to double.  
 4) Cure schedule (rheometer - time to read 90% cure)

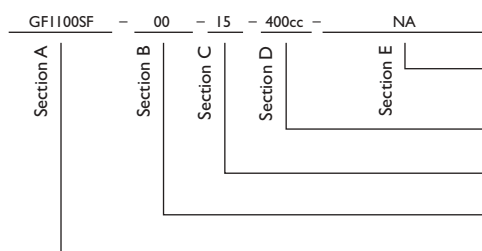
## Typical Applications Include:

- Silicone-sensitive optic components
- Silicone-sensitive electronics
- Filling various gaps between heat-generating devices to heat sinks and housings
- Mechanical switching relay
- Hard disk assemblies
- Dielectric for bare-leaded devices

## Configurations Available:

- Supplied in cartridge or kit 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.

Cartridges: 400cc = 400.0cc  
 Kits: 1200cc = 1200.0cc, or 10G = 10 gallon

Pot Life: 15 = 15 minutes

00 = No spacer beads  
 07 = 0.007" spacer beads

GF1100SF = Gap Filler II00SF Material

Note: To build a part number, visit our website at [www.bergquistcompany.com](http://www.bergquistcompany.com).

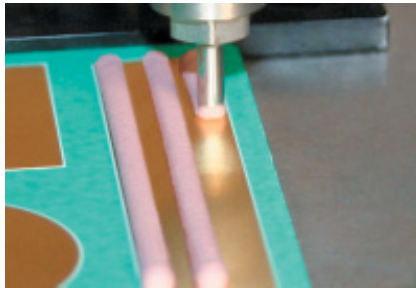
Gap Pad®: U.S. Patent 5,679,457 and others.

# Gap Filler 2000 (Two-Part)

High Thermally Conductive, Liquid Gap Filling Material

## Features and Benefits

- Thermal conductivity: 2.0 W/m-K
- Ultra-conforming, designed for fragile and low-stress applications
- Ambient and accelerated cure schedules
- 100% solids – no cure by-products
- Excellent low and high temperature mechanical and chemical stability

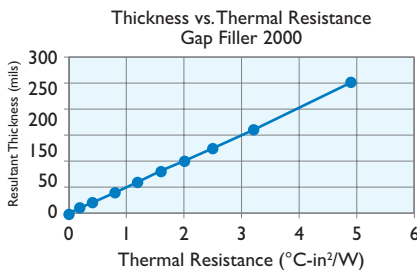


Gap Filler 2000 is a high performance, thermally conductive, liquid gap filling material supplied as a two-component, room or elevated temperature curing system. The material provides a balance of cured material properties and good compression set (memory). The result is a soft, form-in-place elastomer ideal for coupling “hot” electronic components mounted on PC boards with an adjacent metal case or heat sink. Before cure, it flows under pressure like grease. After cure, it won't pump from the interface as a result of thermal cycling and is dry to the touch.

Unlike cured Gap Filling materials, the liquid approach offers infinite thickness with little or no stress during displacement and assembly. It also eliminates the need for specific pad thickness and die-cut shapes for individual applications.

Gap Filler 2000 is intended for use in thermal interface applications when a strong structural bond is not required. Gap Filler 2000 is formulated for low-modulus, “gel-like” properties.

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



## TYPICAL PROPERTIES OF GAP FILLER 2000

PROPERTY	IMPERIAL VALUE	METRIC VALUE	TEST METHOD
Color / Part A	Pink	Pink	Visual
Color / Part B	White	White	Visual
Viscosity as Mixed (cps) (1)	300,000	300,000	ASTM D2196
Density (g/cc)	2.9	2.9	ASTM D792
Mix Ratio	1:1	1:1	—
Shelf Life @ 25°C (months)	6	6	—
<b>PROPERTY AS CURED</b>			
Color	Pink	Pink	Visual
Hardness (Shore 00) (2)	70	70	ASTM D2240
Heat Capacity (J/g-K)	1.0	1.0	ASTM E1269
Continuous Use Temp (°F) / (°C)	-76 to 392	-60 to 200	—
<b>ELECTRICAL AS CURED</b>			
Dielectric Strength (V/mil)	500	500	ASTM D149
Dielectric Constant (1000 Hz)	7.0	7.0	ASTM D150
Volume Resistivity (Ohm-meter)	10 <sup>11</sup>	10 <sup>11</sup>	ASTM D257
Flame Rating	V-O	V-O	U.L. 94
<b>THERMAL AS CURED</b>			
Thermal Conductivity (W/m-K)	2.0	2.0	ASTM D5470
<b>CURE SCHEDULE</b>			
Pot Life @ 25°C (min) (3)	15	15	—
Cure @ 25°C (min) (4)	60 - 120	60 - 120	—
Cure @ 100°C (min) (4)	5	5	—

1) Brookfield RV, Heli-Path, Spindle TF @ 20 rpm, 25°C.  
 2) Thirty second delay value Shore 00 hardness scale.  
 3) Time for viscosity to double.  
 4) Cure schedule (rheometer - time to read 90% cure)

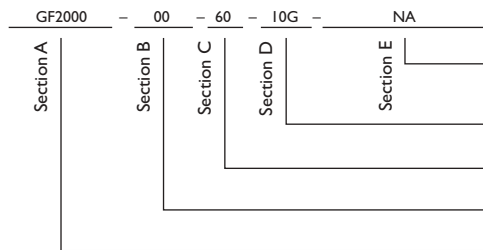
## Typical Applications Include:

- Automotive electronics
- Computer and peripherals
- Between any heat-generating semiconductor and a heat sink
- Telecommunications
- Thermally conductive vibration dampening

## Configurations Available:

- For smaller quantity packaging, please contact Bergquist Sales.

## 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.

Cartridges: 50cc = 50.0cc, 400cc = 400.0cc  
 Kits: 1200cc = 1200.0cc, or 10G = 10 gallon

Pot Life: 15 = 15 minutes, 60 = 60 minutes

00 = No spacer beads  
 07 = 0.007" spacer beads

GF2000 = Gap Filler 2000 Material

Note: To build a part number, visit our website at [www.bergquistcompany.com](http://www.bergquistcompany.com).

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