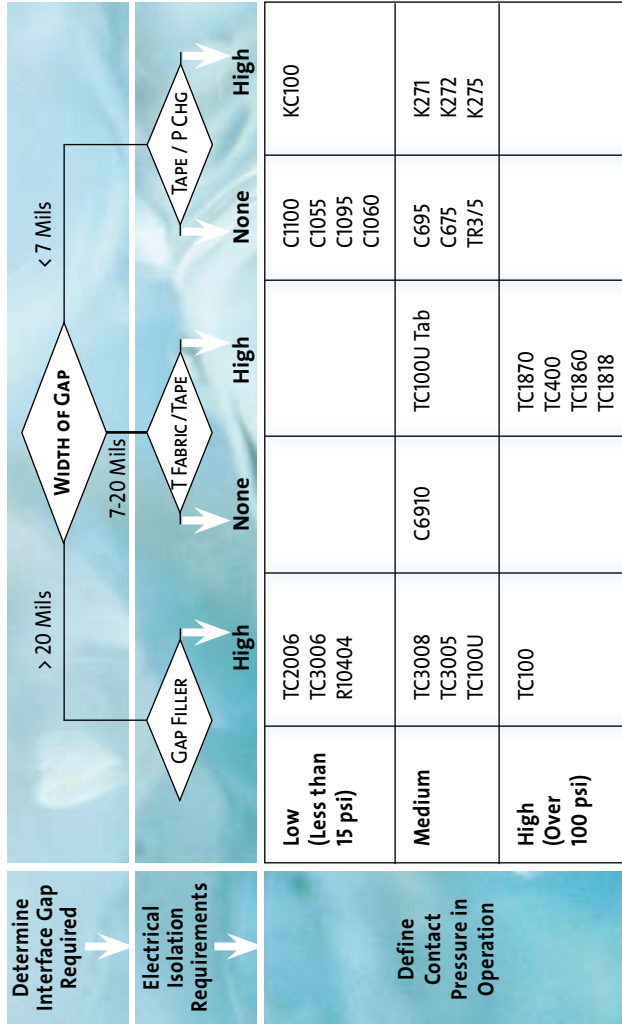


PRODUCT SELECTOR GUIDE



Saint-Gobain Performance Plastics Corporation

717 Plantation Street
 Worcester, MA 01605
 Tel: (888) 225-2717
 Fax: (508) 852-3759

www.fff.saint-gobain.com

14 McCaffrey Street
 Hoosick Falls, NY 12090
 Tel: (800) 962-2666
 Fax: (800) 526-8479

THERMAL TAPES

Thermally Conductive Tapes have thermally conductive pressure-sensitive adhesives applied to substrates that can either be electrically isolating/thermally conductive or only thermally conductive. They are used to join heat sinks to computer processors in place of mechanical fasteners, enhance the performance of heat sinks by laterally spreading heat, or electrically isolate components of a power supply while still providing an excellent thermal conduction path.

Product Name	Carrier	Thickness (mils)	Adhesion (oz/in)	Dielectric Strength (Volts total)	Thermal Conductivity (W/m K) ASTM E1530	Thermal Impedance (°C in²/W) ASTM E1530	Comments
K271	MT	4.5	30/60 ¹	7000	0.6	0.4	One side adhesive, one side silicone on Kapton
K272	Kapton	6.0	NONE	7000	0.9	0.3	Two side silicone on Kapton
K275		5.0	30/60 ¹	6500	0.4	0.49	Two side adhesive on Kapton
C675	Al Foil	6.0	30/60 ¹	Non-insulating	2.0	0.1	Bonding tape to mpu for heat sinks
C695	Graphite	6.0	3-5 ²	Non-insulating	2.0	0.12	Very high conductivity, good for heat spread
C6910	Paper	11.0	3-5 ²	Non-insulating	2.6	0.15	Thicker version of C695
TR3	PET	3.0	30	Non-insulating	0.4	0.3	Thermally conductive transfer adhesive – 3 mils
TR5	Carrier	5.0	60	Non-insulating	0.4	0.5	Thermally conductive transfer adhesive – 5 mils

¹ After thermoset
² Material delamination

PHASE CHANGE

Phase Change Materials change from a solid to a liquid-like material at microprocessor temperatures, significantly enhancing thermal performance in computer applications. *ThermaCool* phase change products provide high performance heat transfer without the manufacturing or assembly problems associated with messy thermal greases. These phase change materials provide excellent thermal coupling between computer microprocessors and heat sinks, ensuring high system performance in a cost-effective format.

Product Name	Reinforcing Carrier	Thickness (mils)	Phase Change Temperature (°C)	Thermal Conductivity (W/m K) ASTM D5470	Thermal Impedance (°C in²/W) ASTM D5470	Comments
C1055	None	3.0	45	1.0	0.04	High performance phase change
C1060	Fiberglass	3.5	45	0.7	0.1	Reinforced version of C1055
C1095	Polymer Film	2.5	>50	0.6	0.13	No stick phase change for easy disassembly
C1100	None	3.5 & 5.0	37	1.0	0.03	Grease like performance, easy to use
C1100F	Aluminum Foil	3.5 & 6.0	40	1.0	0.05	No stick version of C1100

Thermal Management PRODUCT PORTFOLIO

GAP FILLER

TC2006 — Economical, soft gap filler suitable for medium thermal performance and large component offsets

TC3006 — Extremely soft and compliant gap filler designed for largest component offsets required in new circuit design

TC3008 — High performance, soft gap filler designed for higher thermal performance while still maintaining low compression force

R10404 — Conductive silicone sponge

TC100 — Very tough, medium performance

TC100U — Uncured silicone that cures in place

THERMAL FABRICS

TF400 Series — 1.0 W/mK silicone coated fabric

TF1818 — 18 mil silicone coated fabric

TF 1870 Series — 1.3 W/mK silicone coated fabric

TF1860 Series — 0.8 W/mK silicone coated fabric

THERMAL TAPES

K271 — One side silicone, one side thermal acrylic adhesive on MT Kapton

K272 — Two side thermal silicone on MT Kapton

K275 — Two side thermal acrylic adhesive on MT Kapton

C675 — Two side thermal acrylic adhesive on aluminum foil

C695 & C6910 — 5 and 10 mil carbon paper with thermal and electrically conductive adhesive

TR3 & TR5 — 3 and 5 mil thermally conductive transfer adhesives

PHASE CHANGE

C1055 — Medium performance phase change

C1060 — Medium performance phase change with scrim reinforcement

C1095 — Phase change material with one side polymer film for no-stick applications

C100 & C100F — High performance product for general use as grease replacement, foil on one side for no stick

GAP FILLERS

Gap Fillers are thermally conductive, compliant ceramic-filled silicone polymer sheets used to provide thermal solutions when interface gaps are greater than 20 mils. Gap Fillers can be used to span air gaps, enhancing thermal performance of computer memory modules, telecommunication equipment and other electronic devices. The *ThermaCool* Gap Filler family includes products in a variety of thicknesses and a range of hardnesses to effectively close gaps while providing the thermal transfer needed in demanding electronic applications.

Product Name	Standard Thickness (mils)	Surfaces*	Flame Rating	Hardness (Shore A or 00)	Thermal Conductivity (W/m K) ASTM E1530	Comments
TC2006	20-250	Neat, 1-6	V0	35/00	1.6	Economical, soft gap filler
TC3006	20-250	Neat, 1-6	V0	< 35/00	1.1	Extremely soft and compliant
TC3008	20-250	Neat, 1-6	V0	50/00	3.0	High performance, soft gap filler
R10404	1/32"-1/4"	Neat, 1-6	V1	15/A	0.3-0.6	Conductive sponge
TC100	25, 32, 62	Neat, 1-6	HB	65/A	1.3	Very tough gap filler, medium performance
TC100U	15, 32, 62	Neat, 1-6	HB	65 ¹ /A	1.3	Uncured material for bonding & gap filling

* After cure

1	BN – on one side no stick	3	Polyimide Film	5	MT Kapton
2	PET film	4	Fabric Scrim	6	Thermal Fabric

THERMAL FABRICS

Thermally Conductive Fabrics are fiberglass-reinforced ceramic-filled silicone polymer sheets used to provide thermal transfer and electrical isolation where interface gaps are less than 20 mils and high torque application is required. The fiberglass/ceramic-filled silicone compound construction provides excellent cut-thru resistance, high thermal transfer and effective electrical isolation. These materials are typically used in computer power supplies and amplifiers where the combination of cut-thru resistance and high thermal transfer provides a cost-effective solution.

Product Name	Color	Thickness (mils)	Flame Rating Vertical Burn UL94	Thermal Conductivity (W/m K) ASTM E1530	Thermal Impedance (°C in ² /W) ASTM E1530	Comments
TF1867	Gray	7	VTM-0	0.9	0.65	Lowest cost fabric
TF1869	Gray	9	VTM-1	0.9	0.70	
TF407	Gray	7	V0	0.9	0.31	Medium performance material
TF409	Gray	9	V0	0.9	0.39	
TF412	Gray	12	V0	0.9	0.48	
TF1818	Gray	18	V0	0.8	0.89	Very thick fabric for high puncture
TF1877	Green	7	V0	1.3	0.24	Higher thermal performance
TF1879	Green	9	V0	1.3	0.28	