

THERMACOOL.

ThermaCool® Thermal Interface Products



SAINT-GOBAIN

Gap Fillers

Saint-Gobain has launched a proprietary line of highly compliant gap fillers designed to meet the needs of smaller, high performance electronic circuitry. These new gap fillers provide an outstanding heat transfer interface across a range of component heights with minimal compression force.

- Available in a range of thicknesses from 20 mils to 280 mils
- Intrinsically tacky surfaces for excellent self-adhesion
- Available with various surfaces (no-stick, fabric) for specific application needs and a range of compliance and thermal conductivities to fit specific applications
- UL94 V-0 flame retardancy & RTI 150°C rating
- Available in Large 24" x 24" sheet sizes for improved die-cutting yield with custom sizes available

Product Features

TC2006

- Soft and compliant gap filler with good thermal performance
- Excellent balance between thermal conductivity (1.6 W/mK) and compression force

TC2007G

- Economical, highly compliant gap filler useful for many applications
- Thermal conductivity = 1.6 W/mK
- Fabric and high cohesion provides good die cut workability & ability to take higher load

TC3006

- Outstanding compression performance allows for 45-50% compression without exceeding 15psi on components
- Best in class blend of thermal conductivity (1.1 W/mK) and compression pressure
- Useful when extreme differences in component heights are found, requiring large compression ratios with very low component pressures


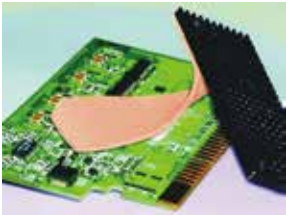
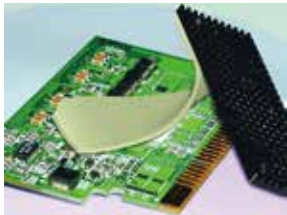

TC3008

- High performance gap filler with excellent thermal conductivity (3 W/mK) while maintaining exceptional compression latitude
- Provides best in class thermal performance where large component height differences are found

Gap Filler Selection Guide

ThermaCool TC Series Soft Ceramic-Filled Silicone Elastomers

Saint-Gobain ThermaCool TC Series is an economical, soft ceramic-filled silicone elastomer typically supplied with a PET release liner on both sides. The product is intrinsically tacky and has excellent compression performance over a wide range of stack up tolerances with minimal force applied to component parts. TC Series can be supplied with a fabric or film on one side for additional support during handling and assembly. With UL 94 V-0 & RTI 150°C certification, the product can be used in critical applications without flame concern.

	TC2006	TC2007G	TC3006	TC3008
Color				
Product Property/ Specialty	<ul style="list-style-type: none"> • General Type • Balanced softness & performance • Good compressibility • Sticky surface 	<ul style="list-style-type: none"> • High cohesion • Moderate compressibility • Sticky surface 	<ul style="list-style-type: none"> • Extremely soft • High compressibility • Sticky surface 	<ul style="list-style-type: none"> • High thermal conductivity • Moderate compressibility • Sticky surface
Thermal Conductivity*	1.6 W/mK	1.6 W/mK	1.1 W/mK	3.0 W/mK
100mil, 50% Deflection Force (psi)	36	67	15	36
Structure	PET release liner on both sides (Fabric supports 0.5mmT product as reinforcement)			
Thickness	0.5 - 7.0mm (Contact us for any customization request)			
Dimension	305mm x 305mm / 305mm x 610mm 610mm x 610mm (Contact us for any customization request)			
Certification	UL 94 V-0 Flame Resistance; RTI 150°C Rating; RoHS Certification			
Application	<ul style="list-style-type: none"> • LCD display • Power transformer • Power supplier • LED lighting • Automobile electronics • Electrical inverter 		<ul style="list-style-type: none"> • Notebook, Desktop, IPC • Telecommunication • Server storage • Memory module • Heat pipe thermal solution • Base station 	

* Test method: ASTM D5470



Features

- Highly compliant gap filler with excellent balance between thermal conductivity and softness
- Intrinsically tacky material, no adhesive required
- RoHS compliant; UL94 V-0 flame retardancy & RTI 150°C rating
- Multiple surfaces available (tacky, non-tacky, fabric reinforced)

Benefits

- Soft and compliant gap filler with good thermal performance
- Suitable to use in sensitive applications such as telecom and aerospace
- Able to tailor product to specific applications

TYPICAL PROPERTIES OF TC2006

PROPERTY	TC2006	TEST METHOD
Color	Light Purple	Visual
Total thickness, nominal (mm) (1)	0.5-7.0	ASTM D374
Density (g/cc)	1.83	ASTM D792
Hardness (Shore 00)	50	ASTM D2240
Continuous Use Temp (°F) / (°C)	-65°F to 392°F/ -54°C to 200°C	-
100mil, 50% Deflection Force (psi)	36	-

ELECTRICAL

Voltage Breakdown (VAC)	> 5000	ASTM D149
Volume resistivity (ohm-cm)	1.02 x 10 ¹¹	ASTM D257
Flame Rating	V-0	UL94

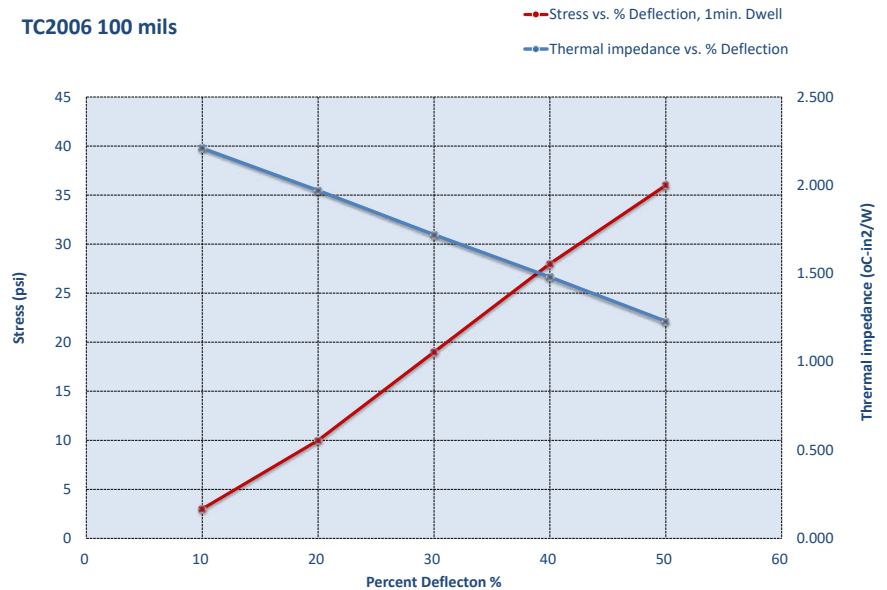
THERMAL

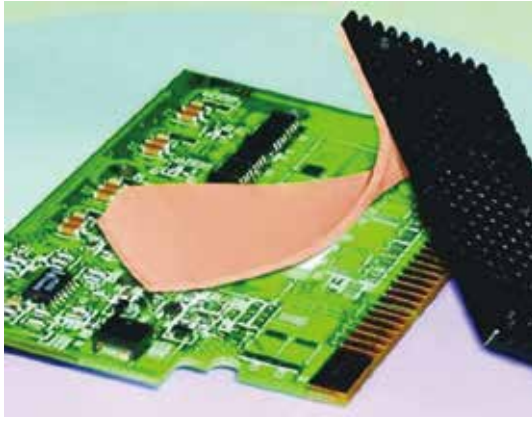
Thermal Impedance(°C-in ² /W) 100mil (2)	1.72	ASTM D5470
Thermal conductivity (W/m-K)	1.6	ASTM D5470

1)0.5 mm increments. 2)Deflection 30% strain

* All properties are typical values and should not be used for writing specifications. Data reflects non-supported option.

TC2006 100 mils





Features

- Economical gap filler suitable for a wide range of critical applications
- Intrinsically tacky material, no adhesive required
- RoHS compliant; UL94 V-0 flame retardancy & RTI 150°C rating
- Multiple surfaces available (tacky, non-tacky, fabric reinforced)

Benefits

- Cost effective gap filler solution for many applications
- Improved die cutting and part stability while handling
- High cohesion for higher load applications

TYPICAL PROPERTIES OF TC2007G

PROPERTY	TC2007G	TEST METHOD
Color	Light Orange	Visual
Total thickness, nominal (mm) (1)	0.5-7.0	ASTM D374
Density (g/cc)	1.85	ASTM D792
Hardness (Shore 00)	60	ASTM D2240
Continuous Use Temp (°F) / (°C)	-65°F to 392°F/ -54°C to 200°C	-
100mil, 50% Deflection Force (psi)	67	-

ELECTRICAL

Voltage Breakdown (VAC)	> 5000	ASTM D149
Volume resistivity (ohm-cm)	1.1×10^{10}	ASTM D257
Flame Rating	V-0	UL94

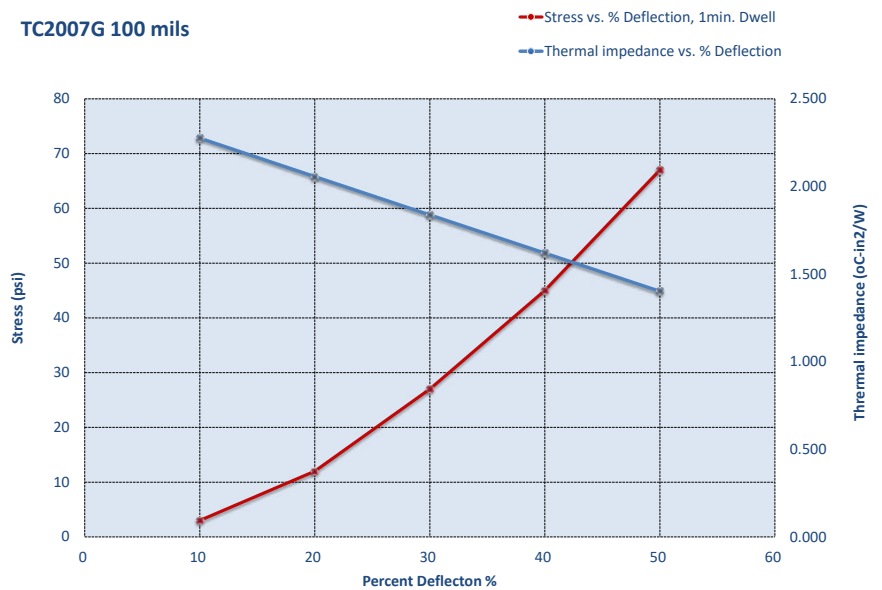
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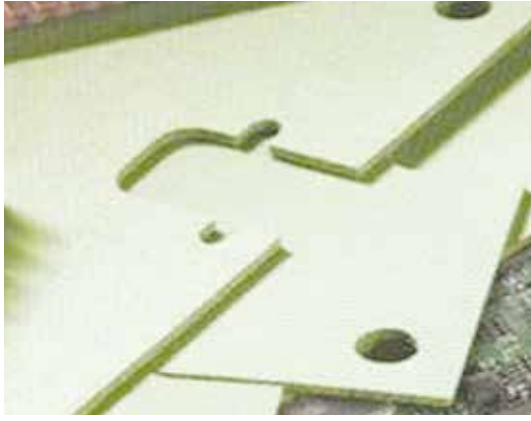
Thermal Impedance(°C-in ² /W) 100mil (2)	1.84	ASTM D5470
Thermal conductivity (W/m-K)	1.6	ASTM D5470

1)0.5 mm increments. 2)Deflection 30% strain

* All properties are typical values and should not be used for writing specifications. Data reflects non-supported option.

TC2007G 100 mils





Features

- Extremely soft gap filler with best in class compliance
- Intrinsically tacky material, no adhesive required
- RoHS compliant; UL94 V-0 flame retardancy & RTI 150°C rating
- Multiple surfaces available (tacky, non-tacky, fabric reinforced)

Benefits

- Able to compress to over 45% with 15psi compression force
- Suitable to use in sensitive applications such as telecom and aerospace
- Able to tailor product to specific applications

TYPICAL PROPERTIES OF TC3006

PROPERTY	TC3006	TEST METHOD
Color	Light Green	Visual
Total thickness, nominal (mm) (1)	0.5-7.0	ASTM D374
Density (g/cc)	1.78	ASTM D792
Hardness (Shore 00)	35	ASTM D2240
Continuous Use Temp (°F) / (°C)	-65°F to 392°F/ -54°C to 200°C	-
100mil, 50% Deflection Force (psi)	15	-

ELECTRICAL

Voltage Breakdown (VAC)	> 5000	ASTM D149
Volume resistivity (ohm-cm)	2.03 x 10 ¹⁰	ASTM D257
Flame Rating	V-0	UL94

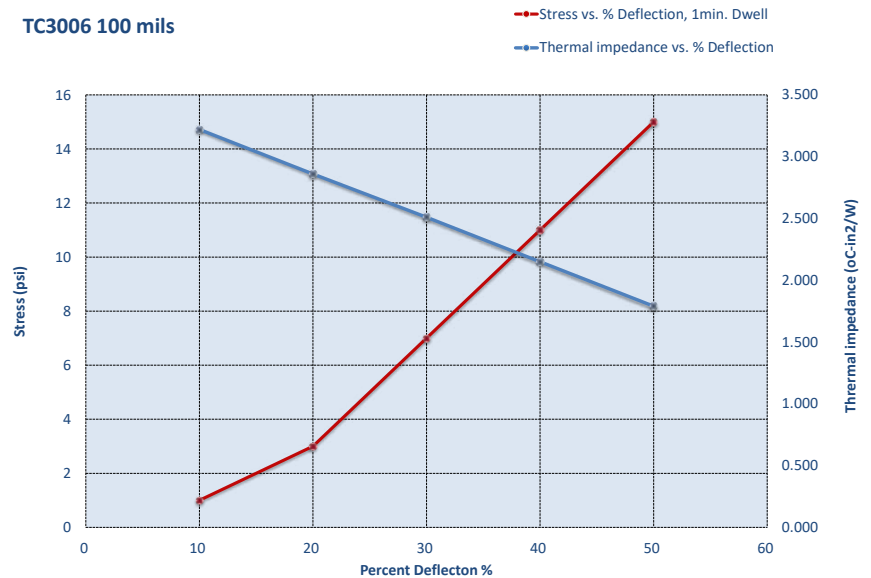
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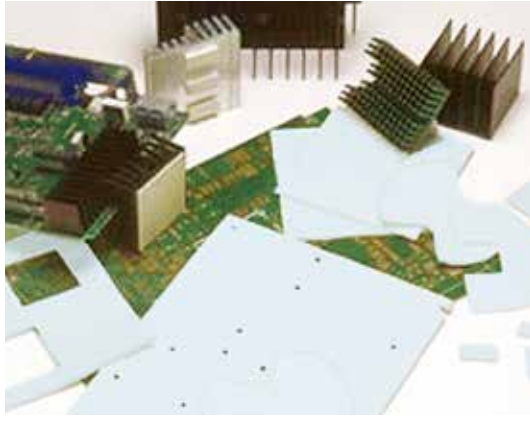
Thermal Impedance(°C-in ² /W) 100mil (2)	2.51	ASTM D5470
Thermal conductivity (W/m-K)	1.1	ASTM D5470

1)0.5 mm increments. 2)Deflection 30% strain

* All properties are typical values and should not be used for writing specifications. Data reflects non-supported option.

TC3006 100 mils





Features

- High performance gap filler with 3W/m-K conductivity and excellent compliance
- Intrinsically tacky material, no adhesive required
- RoHS compliant; UL94 V-0 flame retardancy & RTI 150°C rating
- Multiple surfaces available (tacky, non-tacky, fabric reinforced)

Benefits

- Useful for higher conductivity applications where compression is more than 10%
- Suitable to use in sensitive applications such as telecom and aerospace
- Able to tailor product to specific applications

TYPICAL PROPERTIES OF TC3008

PROPERTY	TC3008	TEST METHOD
Color	Light Blue	Visual
Total thickness, nominal (mm) (1)	0.5-7.0	ASTM D374
Density (g/cc)	2.85	ASTM D792
Hardness (Shore 00)	65	ASTM D2240
Continuous Use Temp (°F) / (°C)	-65°F to 392°F/ -54°C to 200°C	-
100mil, 50% Deflection Force (psi)	36	-

ELECTRICAL

Voltage Breakdown (VAC)	> 5000	ASTM D149
Volume resistivity (ohm-cm)	2.0×10^{14}	ASTM D257
Flame Rating	V-0	UL94

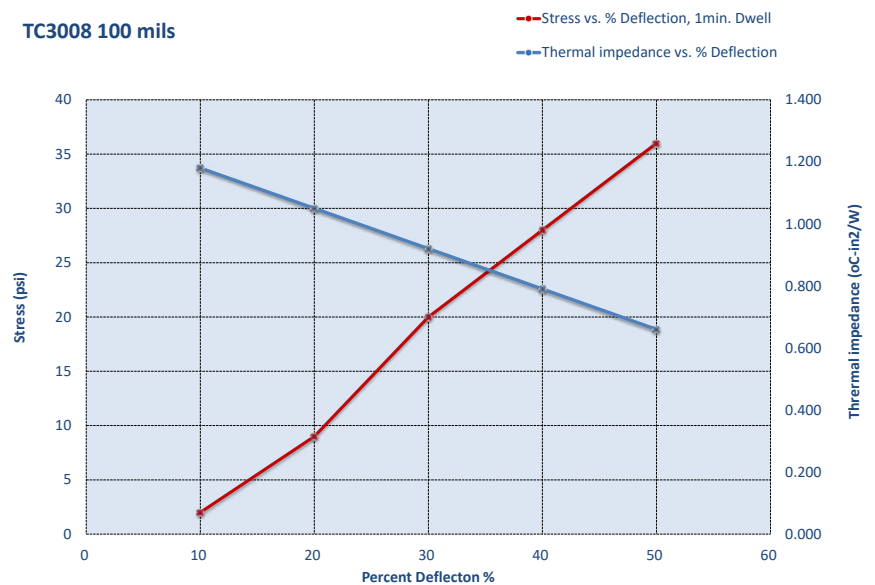
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Thermal Impedance(°C-in ² /W) 100mil (2)	0.92	ASTM D5470
Thermal conductivity (W/m-K)	3.0	ASTM D5470

1)0.5 mm increments. 2)Deflection 30% strain

* All properties are typical values and should not be used for writing specifications. Data reflects non-supported option.

TC3008 100 mils



Other ThermaCool Products

Thermally conductive gap fillers

- R10404: Thermally conductive closed cell sponge for gasketing, heat transfer and cushioning.
- TC100: Thermally conductive solid silicone rubber for filling air gaps under high load force.
- TC100U: Similar to TC100 but supplied in uncured configuration to fill gaps and bond dissimilar materials.

Thermally Conductive Tapes

- **KAPTON**® Tapes:
Thermally conductive and electrically isolating.
 - K271: One-side adhesive coated **Kapton**® MT tape
 - K275: Two-side adhesive coated **Kapton**® MT tape
- Thermally Conductive Transfer Adhesives
 - TR3: Thermally conductive acrylic adhesives.

Thermally Conductive Coated Fabrics

- TF1870 Series:
Similar to TF400 Series but improved thermal performance.
- TF1860 Series:
Lowest cost thermally conductive silicone coated fabric.
All products can be supplied acrylic adhesive on one side.



Saint-Gobain Tape Solutions

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For a full list of locations, please visit tapesolutions.saint-gobain.com/contact-us

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