

TF400 Series

Thermally Conductive Silicone Coated Fabric

Saint-Gobain Performance Plastics **ThermaCool® TF400 Series** thermally conductive, silicone coated fabrics offer high temperature capability and conformability in a low cost heat sink gasket. Fiberglass fabric supports the thermally conductive silicone rubber impregnation and adds dimensional stability and cut-through resistance. The thin cross-sections keep thermal resistance low and saves space while providing electrical isolation.

Physical Properties

Property	Test Method	TF407	TF409
Color	Visual	Gray	Gray
Thickness, (mil)	ASTM D374	7.0	9.0
Thermal Conductivity (W/mK)	ASTM E1530	0.9	0.9
Thermal Impedance ($^{\circ}\text{C in}^2/\text{W}$)	ASTM E1530	0.31	0.39
Elongation (%)	ASTM D412	<5	<5
Dielectric Strength (volts, AC)	ASTM D149	3500	4000
Volume Resistivity (ohm-cm)	ASTM D257	1×10^{14}	1×10^{14}
Break Strength (psi)	ASTM D412	100	100
Operating Temperature ($^{\circ}\text{F}$)		-80 to 400	-80 to 400
UL Listing Recognition	UL94	V-0	V-0

All properties are typical values and should not be used for writing specifications.

Recommended Uses

Series TF400 are thermally conductive coated fabric materials designed to provide a thermal path between a power device and a metallic heat sink. These materials also offer electrical isolation to protect the device from surges or short circuits. Typical end-uses include computer hardware automotive control systems, power supplies, defense electronics, electronic components in business machines and consumer electronics. Replaces rigid ceramic insulators with flexible fabric.

Availability

TF407 and TF409 are available in 36" wide continuous yard goods. Other thicknesses can be manufactured as custom products. Please consult Customer Support for minimum quantities, lead times and pricing.

TF400 can be supplied with a low tack silicone, or a solvent resistant acrylic pressure sensitive adhesive on one side. Pressure sensitive adhesive increases thermal resistance by $0.1^{\circ}\text{C in}^2/\text{w}$ per side.

Limited Warranty: For a period of 6 months from the date of first sale, Saint-Gobain Performance Plastics Corporation warrants this product(s) to be free from defects in manufacturing. Our only obligation will be to provide replacement product for any portion proving defective, or at our option, to refund the purchase price thereof. User assumes all other risks, if any, including the risk of injury, loss or damage, whether direct or consequential, arising out of the use, misuse, or inability to use this product(s). SAINT-GOBAIN PERFORMANCE PLASTICS DISCLAIMS ANY AND ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

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Features/Benefits

- Assembly time reduced by 70% or more over mica and grease method.
- Optional pressure sensitive adhesive available for added ease of fabrication.
- UL listing simplifies completed electronic system approval. (94-VO)
- Non-toxic for increased safety and reliability.
- Electrically isolates power sources from heat sink devices.
- Improved formulation provides competitive thermal and dielectric strength values.
- Formulated for high valve thermal performance.
- Mil Spec 49456A, Type 1 (Grade) is 3.

Applications

- Electronic Modules for Power Devices for Power Supplies
- Computers
- Telecommunication
- Automotive Electronics
- Electrical Insulation
- Military
- Medical

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