THERMACOOL®

TF1870 SERIES

Thermally Conductive Silicone-Coated Fabric

Saint-Gobain® ThermaCool® TF1870 Series are manufactured by **Saint-Gobain** Performance Plastics Corporation, Tape Solutions business, and come with thermally conductive, silicone-coated fabrics offering high temperature capability and conformability in a heat sink gasket. Fiberglass fabric supports the thermally conductive silicone rubber impregnation and adds dimensional stability and cut-through resistance. The thin cross-sections are intended to keep thermal resistance low and save space while providing electrical isolation.

The TF1870 Series is specially intended to provide the following features:

- Thermal conductivity rating of 1.3 W/mK (high thermal performance)
- 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 V-0)
- Non-toxic for increased safety and reliability
- Total performance range available from standard to high end
- Electrically isolates power sources from heat sink devices

Available Sizes

Standard thickness: 0.007 and 0.009 in. (0.18 and 0.22 mm)

Master roll size: 36 in. × 36 yd. (914 mm × 33 meters)



APPLICATIONS

- Telecommunications
- Automotive electronics
- Electrical insulation
- Electronic modules for power devices/supplies
- Military
- Computers
- Medical

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ThermaCool TF1870 Series — Properties

Performance tests are run using standard test procedures. The values presented are typical values and should not be used for specification purposes.

Property	Test Method	TF1877	TF1879
Color	Visual	Green	Green
Thickness: in (mm)	ASTM D374	0.007 (0.18)	0.009 (0.22)
Thermal Conductivity: W/mK	ASTM E1530	1.3	1.3
Thermal Impedance: °C in^2/W	ASTM D1530 @ 300 psi	0.23	0.29
Break Strength: psi	ASTM D412	100	100
Elongation: %	ASTM D412	<5	<5
Dielectric Strength: volts, total	ASTM D149	3000	3500
Volume Resistivity: ohm-cm	ASTM D257	$1x10^{14}$	$1x10^{14}$
Operating Temperature: °F	—	-80 to 400	-80 to 400
UL Listing Recognition	UL94	V-0	V-0

Options (subject to minimum order requirements)

Adhesive base: Low tack silicone pressure-sensitive adhesive and solvent-resistant acrylic pressure-sensitive adhesive on one side. (PSA increases thermal resistance by 0.05 C/W.)

Important Instructions

Because **Saint-Gobain** cannot anticipate or control every potential application, we strongly recommend testing of this product under individual application conditions prior to commercial use.

For PSA options, surfaces must be clean and free of oil, grease, moisture, dust and dirt. Isopropyl alcohol is good for cleaning the surface.

Recommended service temperature of base fabric is -80°F to 400°F (-62°C to 204°C).

Shelf Life

120 months from date of shipment for base material when stored in original packaging at temperatures up to 70°F (21°C), < 50% relative humidity, and away from direct sources of heat and direct sunlight. (See the applicable data sheets for pressure sensitive adhesive options).

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