

ThermaCool® TF1870 Series

Thermally Conductive Silicone Coated Fabric

ThermaCool® TF1870 Series are silicone coated fabrics offering high temperature capability and conformability in a low cost heat sink gasket. Fibreglass fabric supports the thermally conductive silicone rubber impregnation and adds dimensional stability and cut-through resistance. The thin cross-section keeps thermal resistance low and saves space while providing electrical isolation.

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 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

Typical Properties

Property	TF1877	TF1879	Test Method
Colour	Green	Green	—
Thickness mm (in.)	0.178 (0.007)	0.229 (0.009)	ASTM D374
Thermal Conductivity W/m ² ·K ⁻¹	0.9	0.9	ASTM E1530
Thermal Impedance @300 psi °C in. ² /W	0.55	0.60	ASTM E1530
Break Strength MPa (psi)	0.69 (100)	0.69 (100)	ASTM D412
Elongation %	<5	<5	ASTM D412
Volume Resistivity ohm-cm	1 x 10 ¹⁴	1 x 10 ¹⁴	ASTM D257
Dielectric Strength volts/mil	3500	3500	ASTM D149
Operating Temperature °C	-62 to +204	-62 to +204	—
UL Listing Recognition	V-0	V-0	UL94

Applications—TF1870 Series are thermally conductive coated fabric materials designed to provide a thermal path between a power device and a metallic heat sink. This material also offers electrical isolation to protect the device from surges or short circuits. Typical end-uses include computer hardware, automotive control systems, power supplies, defence electronics, electronic components in business machines and consumer electronics. TF1870 Series is also ideal for:

- Computers, telecommunications, automotive electronics
- Power devices and power supplies
- Telecommunications, military and medical applications
- Electrical insulation

Availability—TF1870 Series is available in 914mm wide continuous rolls. Also available with a low-tack silicone pressure sensitive adhesive, or a solvent-resistant acrylic pressure sensitive adhesive on one side.

Saint-Gobain Performance Plastics sales, fabrication and distribution facilities are situated at the following locations:

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