

GRAVIC GROUP

Thermal Interface Materials

Find a tailor-made solution to suit your needs



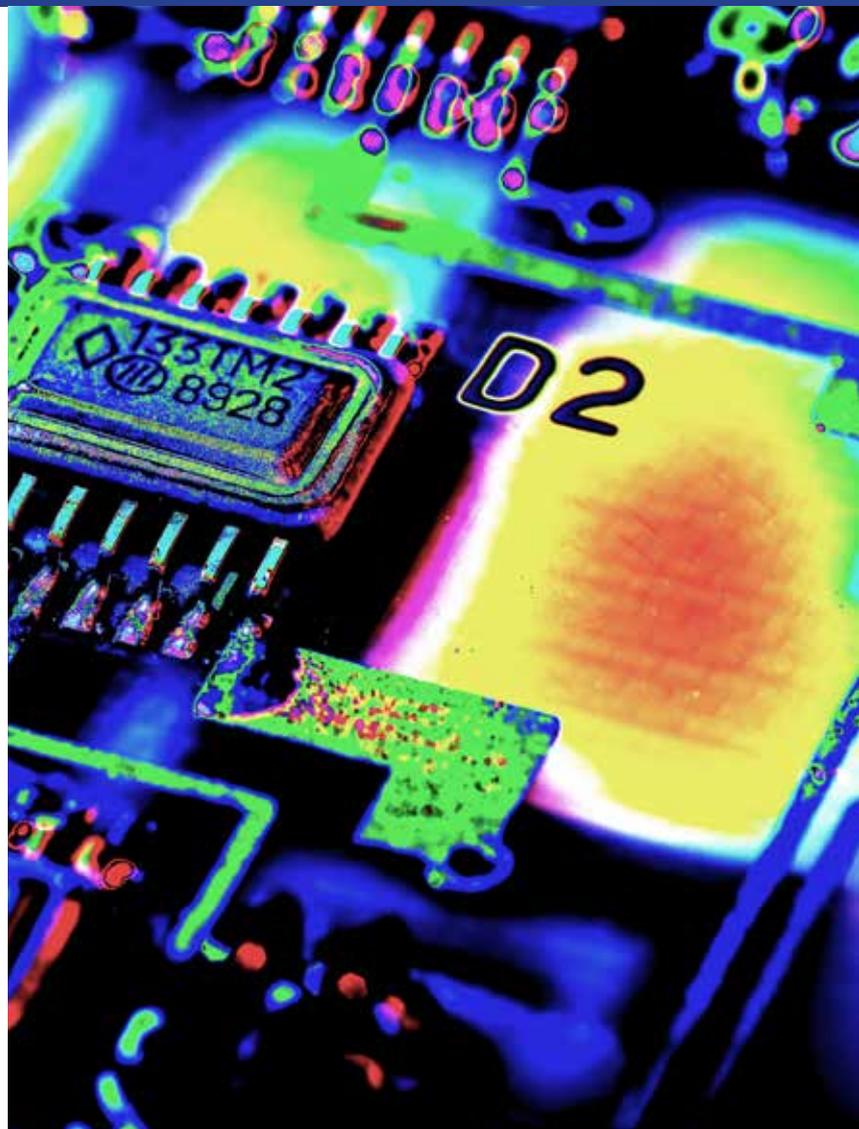
GRAVITHERM by Gravic Group



Thermal management

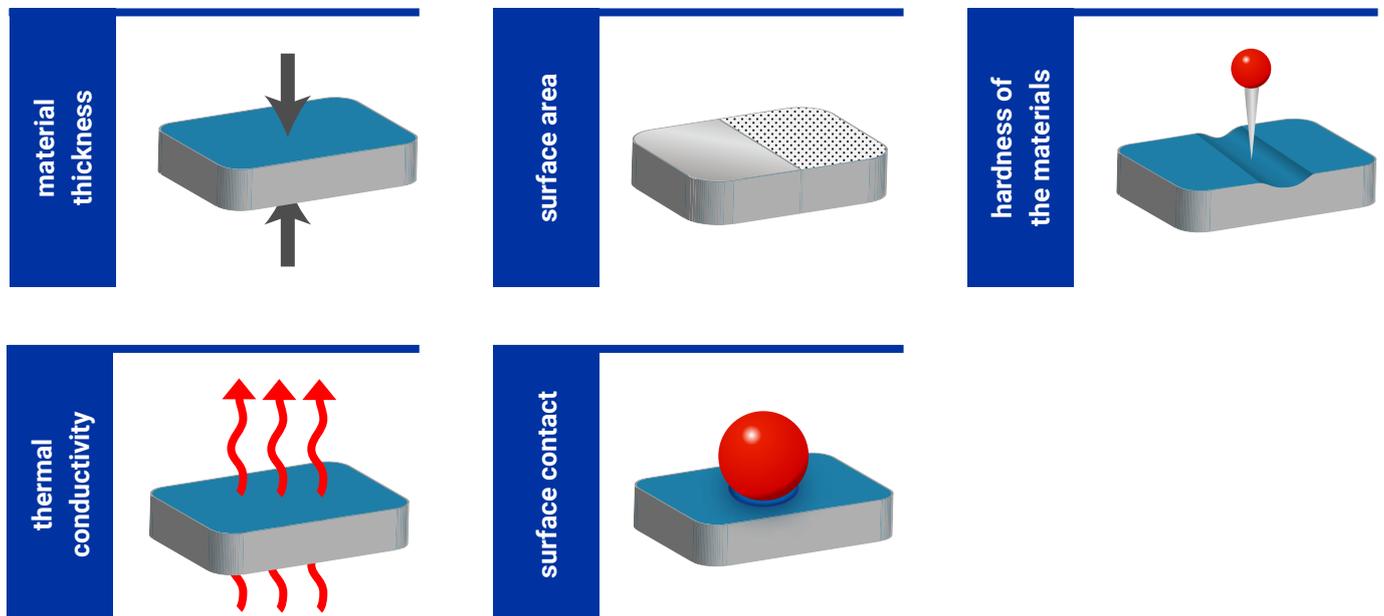
All manufacturers of electronic components and electrical equipment - like computers, mobile phones and automotive - require effective Thermal management to ensure they are able to dissipate heat produced by the electrical circuits.

GraviTherm has developed its own proven Thermal Management solutions to control and manage heat in electrical products as well as in a fast-developing industry such as E-mobility. Having tailor-made customised solution ensures products' lifetime, performance and durability. **GraviTherm** has cost effective and reliable solutions that are crucial to your success.



Thermal Interface Materials

Thermal Interface Materials (TIMs) reduce thermal resistance between surfaces to maximize thermal conduction. The thermal conductivity of a material is a measure of its ability to conduct heat, which depends on the following factors:



Product portfolio

THERMAL PAD

The most commonly used in all industries, also serves as an alternative for thermal gel/putty.

- Thermal conductivity - from 1 to 16 W/m.K
- Hardness - from 5 to 60 Shore 00
- Thickness, Softness, any colors and conductivities are available on demand.



SILICON FREE THERMAL PAD

Used when outgassing is an issue for electrical components.

- Thickness, softness, any colors and conductivities are available on demand.



PHASE CHANGE MATERIAL (PCM)

This material offers high conformability. It is used when the gap is very thin and a high dielectric strength is required.

THERMAL CONDUCTIVITY	MELTING TEMPERATURE	COLOR
3.0 W/m.K	45-60 °C	Light Grey
5.0 W/m.K	45-60 °C	Black



CONDUCTIVE TAPE

MATERIAL	THERMAL CONDUCTIVITY	DIELECTRIC PROPERTIES	PULLING FORCE
Polyester 140 - 240 µm	0.14 W/m.K	250 GΩ	39 N/cm ²
Aluminium 50 - 200 µm	1.6 W/m.K	Not applicable	1.5 Kg / 25 mm
Fiberglass 100 - 150 µm	1.5 W/m.K	3.5 - 8 Kv / mm	1.4 g / inch



NATURAL GRAPHITE

PLAIN THERMAL CONDUCTIVITY	Z-AXIS THERMAL CONDUCTIVITY	ELECTRICAL RESISTANCE Z-AXIS
420.0 W/m.K	5.5 W/m.K	310 $\mu\Omega$ -m
600.0 W/m.K	5.5 W/m.K	360 $\mu\Omega$ -m

Possibility for higher thermal conductivity up to 1700 W.m/K with synthetic graphite.

THERMAL GEL (Silicone/Non-Silicone)

- Thermal conductivity : 1.0~10.0 W/(m·K). For thicknesses 0.08-5 mm.
- Ultra low stress, compression under 5 Psi reaches more than 80%
- **No curing, Reworkable, No additives, low VOC**



AUTOMOTIVE GRADE THERMAL ADHESIVE (Modified Epoxy)

- Thermal conductivity: 0.2 - 3.0 W/(m·K)
- **Two-component modified epoxy, service life > 25 years**
- Bonding strength \geq 8.0 Mpa

TWO-COMPONENT THERMAL GAP FILLER (Silicone)

- Thermal conductivity: 1.2 ~ 6.5 W/(m·K)
- **Low stress, Reworkable, can be cured**
- 1 μ m particle size of the powder, filling rate is 20% higher than the peer



OTHER AVAILABLE MATERIALS

Thermal Grease



Thermal Insulating Film

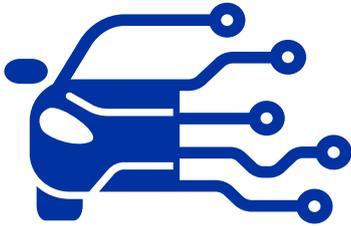


Carbon Fiber Thermal Pad

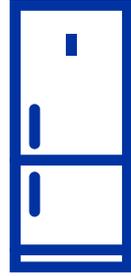


Thermal Management Applications

Gravic Group is equipped with a full range of coating, die-cut and laminating technologies to produce the most effective Thermal Management products in the following fields:



Automotive and power management



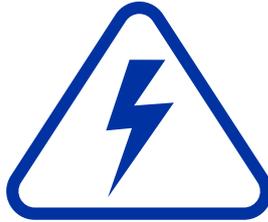
White goods



Personal computers and telephones



Home appliances



Industrial and high voltage equipments



Medical equipments



WHY CHOOSE GRAVIC?



+50 years Experience



250 + Team of experts



Sustainability and deep care about our environment



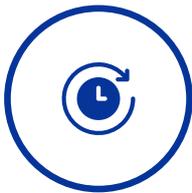
Competitive prices



Design partner



0 ppm automotive policy



24 h service



96% on-time delivery



Supply chain continuity

WHY CHOOSE GRAVIC'S TIM SOLUTIONS?



Customized sizes and physical properties



Fast prototypes



Materials in stock



Testing capabilities

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