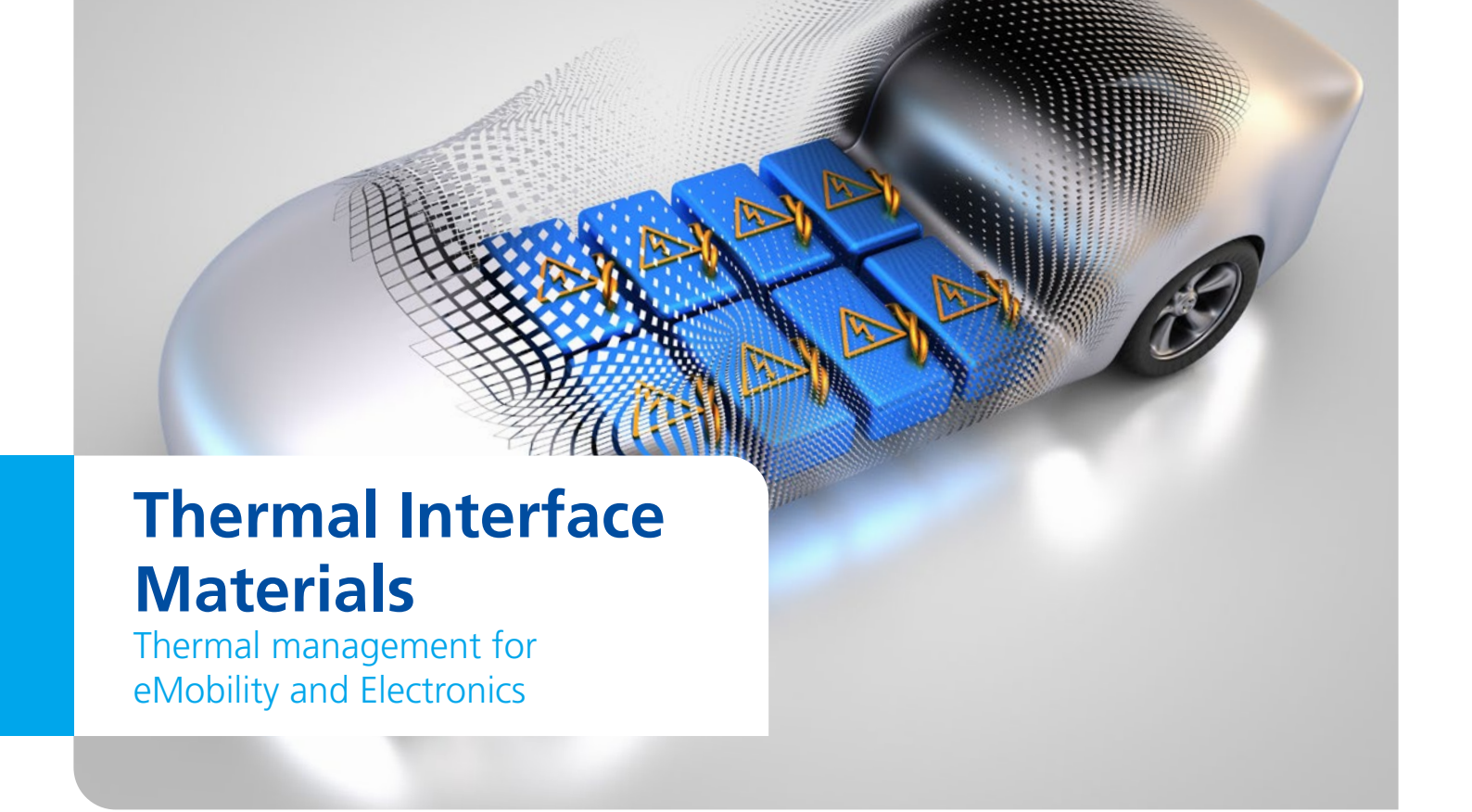




Thermal Interface Materials

Thermal management for
eMobility and Electronics

Thermal Interface Materials (TIMs) are commonly used in different Industries to help dissipate heat. As heat has a negative effect on lifetime and reliable performance of parts, heat management and thermal conductivity of materials become more important and a central part in the design and selection of materials.

In the **Electronic** industry miniaturization and higher power levels are key trends, with electronic parts becoming more densely populated with heat generating components. Usage of higher power levels also increase the heat generation. In the area of **EMobility** there's the trend to smaller, lighter **batteries**, higher power density and faster charging times. Excessive heat is generated during charging and discharging of the battery which needs to be managed. The **power electronic** components and **chargers** in the electric vehicle also rely on higher power density levels which leads to increased heat generation.

ELANTAS ELAN-tim® materials offer:

- **High thermal conductivity**
special filler combinations are used to achieve specific conductivity
- **Different Material Classes**
available for different application needs:
 - **Gap Filler** – Thixotropic materials that are easy to dispense and stay in place after application
 - **Casting & Potting Materials** – low viscosity materials that flow well, are self-levelling and void free
- **Different chemistries**
available
 - **Silicones** for applications where high heat resistance is mandatory. They are soft and flexible material that don't induce stress and protect against vibrations.
 - **Polyurethanes** for applications where water resistance and high reliability are needed. The materials are soft and offer protection against vibrations.
- **Flame retardant materials**
that comply with UL94 V-0

ELAN-tim® materials are used in the automotive industry especially in the area of EMobility for power electronics and batteries. They can also be used in the electronic industry where heat management is an important topic.

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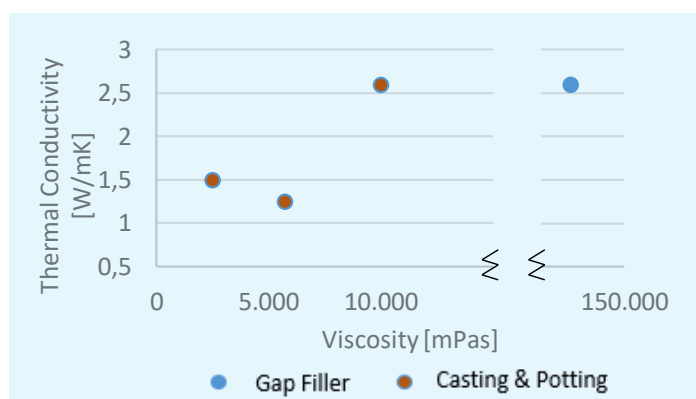
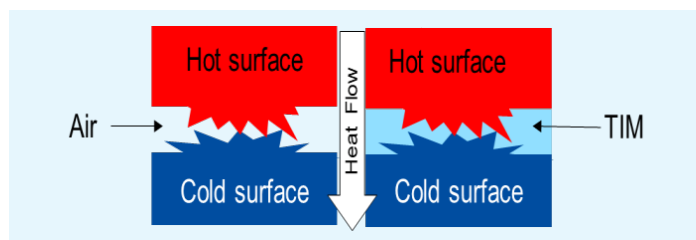
Thermal Interface Materials

Thermal management for eMobility and Electronics

The ELAN-tim® materials help to dissipate heat and manage the heat flow in the device. Being placed next to the heat generating component they effectively help to move the heat away from the component, preventing overheating and improving the lifetime and reliability of the device.

The Gap filler and Casting & Potting materials are optimized for their viscosity. Paste like thixotropic materials for Gap Filler and low viscous products for Casting & Potting applications. All ELAN-tim® materials are dispensable with standard mass production equipment.

For further information about our portfolio please contact us at info.elantas.europe@altana.com



Type / Chemistry	Product	Curing Conditions	Typical Temp Range [°C]	Density [g/ml]	Mixed Viscosity [mPas]	Shore Hardness	Thermal Conductivity [W/mK]	UL94	Availability
Gap Filler / Silicone	ELAN-tim® FS 26OP0012 / 0023	12-24h@RT / 4h@60°C	-50 to 200°C	3.0	Thixo- tropic paste	00 60	2.6	V-0*	US Europe Asia
Casting & Potting / Silicone	ELAN-tim® CS 15AV0032 / 0043	12-24h@RT / 1h@120°C	-50 to 200°C	2.7	2 500	A 50	1.5	V-0*	Europe Asia
Casting & Potting / Silicone	ELAN-tim® CS 26AV0012 / 0023	12-24h@RT / 1h@120°C	-50 to 200°C	3.0	10 000	A 60	2.6	V-0*	Europe Asia
Casting & Potting / Polyurethane	ELAN-tim® CU 13AV0052 / 0063	24h@RT / 1h@80°C	-40 to 130°C	1.74	5 700	A 90	1.25	V-0*	Europe Asia
Casting & Potting / Polyurethane	ELAN-tim® CU 16DV0072 / 0083	10h@RT / 1h@80°C	-40 to 130°C	2.13	9 200	D 33	1.6	V-0*	Europe Asia

* Internal testing, UL certification pending

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