

Therma-Tech™ Thermal Management Compounds

Thermoplastic Solutions for Thermal
Management Applications

Product Description

Therma-Tech™ thermal management compounds have been engineered to combine the heat transfer and cooling capabilities of metals with the design freedom, weight reduction, and cost advantages of thermoplastics. These materials provide the benefits of proprietary conductive additive technologies and the performance of select engineered thermoplastic resins. Therma-Tech compounds have been shown to improve thermal conductivity by 50-100 times that of conventional plastics and can be used in a wide range of thermal management applications.



Value Solution

Therma-Tech compounds optimize performance under extreme conditions

Used in the manufacture of the primary case and enclosure of a military computer, Therma-Tech compounds withstood the most demanding tactical environments, including repeated knocks and drops, electromagnetic issues, and temperature extremes. The excellent electrical, thermal and high-strength properties of Therma-Tech compounds were the most critical factors to its success. Additionally, the ability to conduct heat at nearly 100 times greater than traditional plastics enabled engineers to design a system that improved cooling performance, increased operating efficiency and reduced costs.

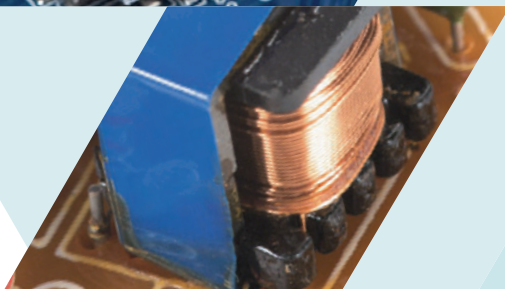
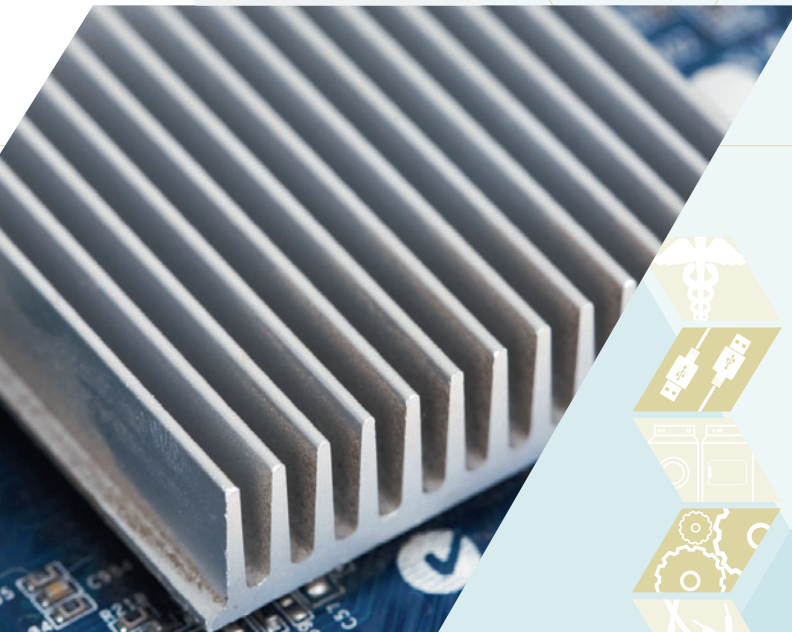
Key Characteristics

The primary features and benefits of Therma-Tech compounds are:

- **Thermal Conductivity**, up to 50-100 times the level of conventional plastics
- **Low Coefficient of Thermal Expansion**, providing excellent dimensional stability
- **Corrosion Resistance**, withstanding oxidization for long-term use and benefit

Additional features include:

- Lower cost compared to machined components
- Design flexibility and processing ease for more complex shapes
- Durable and lightweight
- Part consolidation and reduced assembly costs





Markets and End-Use Applications

Therma-Tech™ compounds are an excellent choice for applications in a full range of markets, including:

Electrical/Electronic

Heat sinks, housings/enclosures, connectors, cold plates, heat pipes, integrated circuits, substrates, resistors, gaskets, cell phones, bezels, bobbins

Industrial

Heat exchangers, radiant heating, piping, tubing, HVAC components, military computers and equipment, sensors

Transportation

Under-hood electrical components, hybrid/electric vehicles, sensors/modules, fuel cells, radiator components

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