

Thermal Interface Materials Market by Material (Silicone, Epoxy, Polymide), Type (Greases & Adhesives, Tapes & Films, Gap Fillers, Phase Change Materials), Application (Computers, Telecom, Consumer Durables) & Region - Global Forecast to 2029

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Abstracts

The global thermal interface materials market size is projected to grow from USD 3.56 billion in 2024 to USD 5.64 billion by 2029, at a CAGR of 9.7% during the forecast period.

The thermal interface materials market is growing due to increase in the use of thermal interface materials in computers and electric vehicles. It is being seen in this application in computer component parts because a lot of people all around the world are purchasing computers. The new trend of electric vehicles is also taking place slowly, which can induce growth for thermal interface materials which are used in various automotive parts.

The epoxy material of Thermal interface materials projected to be second largest growing segment in the global Thermal interface materials market during the forecast period

The epoxy type of material is used because it offers good thermal conductivity along with strong adhesion. Epoxy hardens after application which makes it impact resistant material. Therefore, we can see its use in printed circuit boards, electronics, semiconductors, and insulators. The thermal conductivity depends on curing agent and condition. Furthermore, the epoxy material can be customised based on application

depending on level of viscosity required. The material is resistant to cracking or degradation, making it a strong material.

By Type, Tapes & films segment to hold second fastest share during forecast period

Tapes and films are convenient to use because they can easily be applied especially in small spaces where heat dissipation is required. They come in pre-formed sheets or rolls which makes it easy to handle too. Besides thermal conductivity, it also provides electric insulation. They are also used in telecommunication infrastructure components. The problem of uneven surface is not seen in tapes and films like greases or adhesives, avoiding unevenness in heat transfer. Applying tapes and films is a mess-free process, eliminating the mess associated with liquid TIMs.

By Application, Telecom segment to hold second largest share during forecast period

Telecom industry uses global thermal interface materials in base stations, data routers, and antennas. Next, telecom equipment operates continuously, requiring durable thermal interface materials that maintain performance under prolonged thermal and mechanical stress. And modern technologies have developed high-power processing units which produce a lot of heat. Therefore, thermal interface materials are important for managing heat in these units. Using thermal interface materials also helps in increasing the overall life of the telecom product by proper heat dissipation.

By Region, North America to register the second largest and fastest growth rate during the forecast period

North America is the second largest and fastest region for thermal interface materials. This is due to the growing sectors of aerospace & defense, automotive, and energy & power in this region. There is also a demand seen from the medical devices industry especially in high-power equipment. The electric vehicles market is also seeing a growth in this region, developing the need for TIMs in battery packs, inverters, and motor controllers. The aerospace and defense sector is a major sector using thermal interface materials, and with the growth of this sector in the coming years, thermal interface materials can grow as well.

In-depth interviews have been conducted with chief executive officers (CEOs), Directors, and other executives from various key organizations operating in the thermal interface materials marketplace.

By Company Type – Tier 1 – 55 %, Tier 2 – 25% and Tier 3 – 20%

By Designation – Directors – 50%, Managers– 30%, Others – 20%

By Region – North America - 20%, Europe – 25%, APAC – 45%, RoW – 10%

Honeywell International Inc. (US), 3M (US), Henkel AG & Co. KGaA (Germany), Parker Hannifin Corporation (US), DOW (US), Laird Technologies Inc. (US), Momentive (US), Wakefield Thermal Inc. (US), Indium Corporation (US), and Zalma Tech Co. Ltd. (South Korea), Arieca Inc. (US), U-MAP Co., Ltd. (Japan), Boston Materials (US), Tenutec AB (Sweden), Calogy Solutions (Canada), NanoWired GmbH (Germany), TCPoly, Inc. (US), Semikron Danfoss (Germany), Redtec Industries Pte Ltd (Singapore), Timtronics (US), Schlegel Electronic Materials, Inc. (US), Thermal Grizzly (Germany), Universal Science (UK), Aremco Products Inc. (US), E-SONG EMC Co., Ltd. (South Korea) are some of the key players in the thermal interface materials market.

The study includes an in-depth competitive analysis of these key players in the thermal interface materials market, with their company profiles, recent developments, and key market strategies.

Research Coverage

This research report categorizes the thermal interface materials market by material (silicone, epoxy, polyimide), by type (greases & adhesives, tapes & films, gap fillers, phase change materials, metal based tims), by application (computers & data centers , automotive, telecommunications, industrial applications, healthcare and medical devices, consumer durables, other applications) and by region (Asia Pacific, North America, South America, Europe, Middle East & Africa). The scope of the report covers detailed information regarding the major factors, such as drivers, restraints, challenges, and opportunities, influencing the growth of the thermal interface materials market. A detailed analysis of the key industry players has been done to provide insights into their business overview, solutions, and services; key strategies; Contracts, partnerships, agreements. new product & service launches, mergers and acquisitions, and recent developments associated with the thermal interface materials market. Competitive analysis of upcoming startups in the thermal interface materials market ecosystem is covered in this report.

Reasons to buy the report

The report will help the market leaders/new entrants in this market with information on the closest approximations of the revenue numbers for the overall thermal interface materials market and the subsegments. This report will help stakeholders understand the competitive landscape and gain more insights to position their businesses better and to plan suitable go-to-market strategies. The report also helps stakeholders understand the pulse of the market and provides them with information on key market drivers, restraints, challenges, and opportunities.

The report provides insights on the following pointers:

Analysis of key drivers (Increasing demand for consumer electronics and growing LED market to drive demand for TIMs), restraints (physical properties limiting performance of thermal interface materials), opportunities (electrification in transportation industry high performance TIMs in the form of nanodiamonds) and challenges (finding optimum operating cost for end users and granule size and amount of thermal interface materials applied).

Product Development/Innovation: Detailed insights on upcoming technologies, research & development activities, and new product & service launches in the thermal interface materials market

Market Development: Comprehensive information about profitable markets – the report analyses the thermal interface materials market across varied regions.

Market Diversification: Exhaustive information about new products & services, untapped geographies, recent developments, and investments in the thermal interface materials market.

Competitive Assessment: In-depth assessment of market shares, growth strategies, and service offerings of leading players Honeywell International Inc. (US), 3M (US), Henkel AG & Co. KGaA (Germany), Parker Hannifin Corporation (US), DOW (US), Laird Technologies Inc. (US), Momentive (US), Wakefield Thermal Inc. (US), Indium Corporation (US), and Zalma Tech Co. Ltd. (South Korea) among others in the thermal interface materials market.

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