

# Global Thermal Interface Materials Market is Expected to reach USD 8.04 Bn by 2031, with an Expanding at 11.2% CAGR

*Emphasis on Thermal Management Across Various Applications is Boosting the Growth of Global Thermal Interface Materials Market; says TNR*

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/EINPresswire.com/ -- Global Thermal Interface Materials Market Introduction



Thermal Interface Materials (TIMs) are substances or compounds used to enhance the thermal conductivity between two surfaces in contact. Their primary purpose is to improve the transfer of heat between components, such as a semiconductor device (like a CPU or GPU) and a heat sink, by filling in the microscopic gaps and imperfections that hinder efficient heat transfer. TIMs play a crucial role in preventing overheating and optimizing the performance and lifespan of electronic devices.

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Global Thermal Interface Materials Market Snapshot

Market Value in 2022 USD 3.58 Billion  
Market Value Forecast 2031 USD 8.04 Billion  
Growth Rate 11.2%  
Historical Data 2015-2021  
Base Year 2022  
Forecast Data 2023-2031

**Driver** Ongoing research and innovation are leading to the development of new and improved TIM formulations with higher thermal conductivity.

**Challenges** Advancements in alternative cooling technologies can hamper the growth of the market.

**Opportunities** The growth of emerging technologies such as 5G, IoT, electric vehicles, and

renewable energy systems presents significant opportunities for TIMs to play a vital role in efficient thermal management.

### Global Thermal Interface Materials Market Trends

In recent years, overheating is becoming an increasingly difficult problem with the advent of high frequency and high integration devices such as 5G technology. To solve this severe issue, high-performance thermal interface materials (TIMs) with great heat dissipation capability are highly in demand. Thus to cater this issue, thermal interface materials are frequently utilized in electronic packaging to improve heat conduction between heat source and heat sink interfaces.

With the growth of data centers, AI, and supercomputing, there's a growing demand for thermal interface materials market that can handle the heat generated by high-performance processors and server components. Thermal management is a critical aspect for data centers; most data centers rely on air-conditioned rooms and massive heat sinks for individual components. However, this may not be possible in many circumstances in the future, particularly with smaller edge computing facilities. Another important development for data centers is increased power density. Managing the heat created by this rise is a key concern. This is yet another important driver of improved performance and longer lifetime thermal interface materials, a trend that will only grow in prominence in the upcoming years.

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### Key Industry Insights & Findings: Global Thermal Interface Materials Market

- Thermal grease had the highest share in the global thermal interface materials market. It's a viscous substance that fills in gaps and air pockets between surfaces. It typically contains a combination of thermally conductive particles suspended in a matrix. Silicone-based and metal-based thermal pastes are common options. Thermal grease for example, liquid metal TIMs or other sophisticated materials may provide even higher thermal performance in high-performance applications like as intense overclocking or specialized industrial purposes. Thermal paste, on the other hand, is a popular and successful solution for the majority of consumer electronics and computer applications due to its combination of performance, convenience of use, and pricing.
- Electronics industry segment had the highest share in the global thermal interface materials market in 2022. The ever-increasing performance and functionality of electronic systems are pushing the requirements for device heat dissipation to new levels. Thermal interface materials (TIMs) research and development have been advanced in recent years to package individual devices (particularly those operating in high-power mode). The electronics sector is experimenting with new technologies such as 5G, IoT devices, and improved car electronics. Because these technologies frequently require excellent temperature management to maintain stability and endurance, TIMs are in high demand because they assist thermal management.
- The shift towards electric and hybrid vehicles has led to the development of high-capacity battery systems. Efficient thermal management is crucial to maintain battery performance, safety, and longevity. TIMs are used to enhance heat dissipation from battery cells and manage

temperature variations. Furthermore ADAS technologies such as LiDAR, radar, and cameras require electronic components that generate heat and thus using TIMs helps maintain the accuracy and reliability of these systems by preventing overheating. As the automotive industry continues to evolve, the use of thermal interface materials is expected to remain integral to ensuring efficient thermal management in vehicles of all types leading to the rise in thermal interface materials market.

- The use of thermal interface materials in Asia has been on the rise as home to some of the world's largest electronics manufacturing hubs, including countries like China, Japan, South Korea, and Taiwan. These countries produce a significant portion of the world's electronic devices, ranging from consumer electronics to industrial equipment. As these industries expand, the need for efficient thermal management using TIMs becomes more pronounced. As Asian countries continue to drive innovation and technological progress the thermal interface materials market will experience unprecedented growth during the forecast period.

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#### Key Developments in the Global Thermal Interface Materials Market

In December 2022, Arieca Inc., a manufacturer of thermal interface materials based on liquid metals for high-performance computing and high-power semiconductor devices, announced a production partnership with Nissan Chemical Corporation to exclusively manufacture Arieca's TIM in Asia. This collaboration provides Arieca's clients with dependable and world-class manufacturing at Nissan Chemical's Sodegaura factory for the most demanding applications.

#### Global Thermal Interface Materials Market Segmentation

##### Global Thermal Interface Materials Market –Type Outlook

- Thermal Tapes
- Thermal Pads
- Thermal Putty
- Greases
- Gels
- Thermal Adhesives
- Dielectric Pads
- Gap Fillers
- Phase Change Materials
- Others

##### Global Thermal Interface Materials Market –Distribution Channel Outlook

- Direct
- Indirect

##### Global Thermal Interface Materials Market – End User Industry Outlook

- Automotive
- Electronics
- Gaming and Entertainment
- Aerospace

- Industrial
- Healthcare
- IT and Telecommunication
- Defense
- Others

#### Global Thermal Interface Materials Market - Regional Outlook

- North America (U.S., Canada, Mexico, Rest of North America)
- Europe (France, The UK, Spain, Germany, Italy, Nordic Countries (Denmark, Finland, Iceland, Sweden, Norway), Benelux Union (Belgium, The Netherlands, Luxembourg), Rest of Europe)
- Asia Pacific (China, Japan, India, New Zealand, Australia, South Korea, Southeast Asia (Indonesia, Thailand, Malaysia, Singapore, Rest of Southeast Asia), Rest of Asia Pacific)
- Middle East & Africa (Saudi Arabia, UAE, Egypt, Kuwait, South Africa, Rest of Middle East & Africa)
- Latin America (Brazil, Argentina, Rest of Latin America)

#### List of Key Players in the Global Thermal Interface Materials Market

- Arieca Inc
- Boyd
- DuPont
- Henkel Corporation.
- Honeywell International Inc
- Indium Corporation
- Infineon Technologies AG
- Laird Technologies, Inc.
- Linseis GmbH
- Nordson Corporation
- PARKER HANNIFIN CORP
- Prostech.
- Robert McKeown Company, Inc.
- Saint-Gobain
- Semikron Danfoss
- Shin-Etsu Chemical Co., Ltd
- STOCKWELL ELASTOMERICS, INC.
- SUR-SEAL
- T-Global Technology
- Other market participants

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