

# Battery Thermal Management Materials Market Size & Share Analysis - Growth Trends and Forecast (2026 - 2031)

> **\*\*Industry:\*\*** Battery Materials & Critical Minerals (Chemicals & Materials)  
> **\*\*Source:\*\*** [<https://www.mordorintelligence.com/industry-reports/battery-thermal-management-materials-market>](<https://www.mordorintelligence.com/industry-reports/battery-thermal-management-materials-market>)  
> **\*\*Scraped Date:\*\*** 2026-09-17

## Executive Market Summary

| Market Metric                        | Details          |
|--------------------------------------|------------------|
| :---                                 | :---             |
| <b>**Base Market Size**</b>          | USD 5.05 billion |
| <b>**Projected Forecast (2031)**</b> | USD 5.05 billion |
| <b>**Growth Rate (CAGR)**</b>        | 11.34 %          |
| <b>**Largest Market Region**</b>     | N/A              |
| <b>**Fastest-Growing Region**</b>    | N/A              |

## Market Visualizations & Infographics

![Major players in Battery Thermal Management Materials industry](images/chart\_2.png)

![Battery Thermal Management Materials Market Size](images/chart\_3.png)

![Battery Thermal Management Materials Market Share by Material Type, 2025](images/chart\_4.png)

![Battery Thermal Management Materials Market Share by Application, 2025](images/chart\_5.png)

![Battery Thermal Management Materials Market Growth Rate by Region](images/chart\_6.png)

![Battery Thermal Management Materials Market Concentration](images/chart\_7.png)

![Icon](images/chart\_8.png)

![footer background image](images/chart\_10.png)

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![GPTW](images/chart\_19.png)

## Comprehensive Research Analysis

### Overview Points List Flex 49 Share Feature End

|                           |                            |
|---------------------------|----------------------------|
| Market Overview           | Study Period   2021 - 2031 |
| Market Size (2026)        | USD 5.05 Billion           |
| Market Size (2031)        | USD 8.63 Billion           |
| Growth Rate (2026 - 2031) | 11.34 %                    |
| Fastest Growing Market    | Asia-Pacific               |
| Largest Market            | Asia-Pacific               |

Market Concentration | Medium |

Major Players\*Disclaimer: Major Players sorted in no particular order

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### ### Market Overview

**Battery Thermal Management Materials Market Analysis by Mordor Intelligence**  
The battery thermal management materials market size was valued at USD 4.56 billion in 2025 and is estimated to grow from USD 5.05 billion in 2026 to reach USD 8.63 billion by 2031, at a CAGR of 11.34% during the forecast period (2026-2031). The battery thermal management materials market is driven by increasing electric vehicle production, expanding battery manufacturing capacity, and the deployment of grid-connected energy storage systems. These trends increase the number and size of battery systems requiring heat control across battery applications. Higher cell energy density and faster charging speeds raise thermal performance requirements for battery packs, particularly for manufacturers using large prismatic cells and compact pack layouts. Safety regulations also increase the use of fire barriers, aerogels, and thermal interface materials in pack design, as materials must meet more stringent testing requirements. Cell-to-pack and cell-to-chassis designs simplify pack structures and favor suppliers that provide multiple qualified materials for a single battery program and support validation during design changes. However, these designs can reduce material loading per kilowatt-hour by eliminating module housings, creating downward pressure on the battery thermal management materials market.

**Key Report Takeaways\*** By material type, thermal interface materials held 37.45% of the battery thermal management materials market share in 2025, while phase change materials are forecast to grow at a 12.56% CAGR through 2031.

\* By application, electric vehicles accounted for 55.86% of the battery thermal management materials market size in 2025, while energy storage systems are forecast to grow at a 13.13% CAGR through 2031.

\* By geography, Asia-Pacific held 45.13% of revenue in 2025 and is forecast to expand at a 12.62% CAGR through 2031.

### ### Key Market Trends

**Market Trends and Insights**  
**Drivers Impact Analysis of Battery Thermal Management Materials Market**  
Drivers | (~) % Impact on CAGR Forecast | Geographic Relevance | Impact Timeline |

Rising Electric Vehicle Production and Battery Manufacturing Capacity | +3.2% | Global, with China, South Korea, and Japan as primary pull-through markets. North America and Europe are secondary. | Short term ( $\leq 2$  years) |

Higher Battery Energy Density and Faster Charging Requirements | +2.5% | Global, concentrated in high-voltage markets, including the European premium Electric Vehicle (EV) segment and China's fast-charge platform push. | Medium term (2-4 years) |

Thermal-Runaway Prevention and Battery-Safety Requirements | +2.0% | Global, with compliance-led demand in China and North America. | Short term ( $\leq 2$  years) |

Growth of Energy Storage Systems and Renewable-Power Integration | +2.1% | Asia-Pacific is central, followed by European and Middle Eastern grid-scale storage projects. | Medium term (2-4 years) |

Cell-to-Pack and Cell-to-Chassis Architectures Increasing Material Intensity | +1.2% | Asia-Pacific leads adoption, especially in China. North America and Europe are increasing their deployment. | Long term ( $\geq 4$  years) |

Source: Mordor Intelligence |

### ### Competitive Landscape

Competitive Landscape

The battery thermal management materials market is moderately consolidated, with Henkel, Dow, Shin-Etsu Chemical, Wacker Chemie, and 3M holding positions across several material categories. Their positions are supported by product portfolios, OEM qualification records, and application laboratories in major manufacturing regions. Regional suppliers also operate in the market, particularly in the Asia-Pacific region, where Chinese and South Korean companies offer formulations tailored to local customer requirements and lower qualification costs. Competition is based on thermal performance, processing reliability, safety testing, qualification history, local technical support, and the ability to supply compatible materials.

Major suppliers are expanding their portfolios beyond thermal interface materials to include gap fillers, structural adhesives, specialty tapes, potting products, and fire barriers. For OEMs, qualifying multiple materials from one supplier can be faster and more durable than approving each material from separate suppliers. Therefore, portfolio breadth can support supplier differentiation in the battery thermal management materials market. In July 2026, Henkel launched Bergquist Gap Filler TGF 6500LVO, with a thermal conductivity of 6.5 W/m·K for high-power automotive electronics. In February 2026, Henkel introduced digital e-mobility modeling and simulation capabilities through its Battery Test Center in Düsseldorf.

Wacker Chemie's specialty silicone production facilities in Japan and South Korea support local supply for Asian automotive customers and reduce exposure to long-distance supply chain risks. Suppliers are also developing materials that combine heat transfer, structural support, and fire containment in fewer layers. Products compatible with recycling processes remain relevant because cured materials and adhesive-bonded battery packs can complicate disassembly under end-of-life battery requirements. In 2024, Dow and Carbice presented a partnership to develop carbon nanotube-enhanced thermal interface materials for electric vehicles, industrial equipment, and semiconductors. LG Chem presented a dual-layer battery safety system at InterBattery 2026, combining thermoplastic barriers with Nexula aerogel insulation. This development indicates that battery chemistry companies are expanding into thermal protection materials. The battery thermal management materials market is likely to favor companies that combine materials expertise, local validation support, and product designs that address end-of-life requirements.

Battery Thermal Management Materials Industry Leaders\* Henkel AG & Co. KGaA

\* 3M

\* Dow

\* DuPont

\* PARKER HANNIFIN CORP

\* \*Disclaimer: Major Players sorted in no particular order

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### Component Component 3 Scope Of The Report Bottom

Global Battery Thermal Management Materials Market Report ScopeSpecialized substances absorb, transfer, or block heat in battery packs. They maintain battery temperatures within an operating range of 20°C to 40°C, helping mitigate overheating and fire risks and supporting battery service life.

The battery thermal management materials market is segmented by material type, application, and geography. By material type, the market is segmented into thermal interface materials, gap fillers and thermal pads, phase change materials, the

rmal conductive adhesives, potting and encapsulation materials, thermal insulation and fire-protection materials, and others. By application, the market is segmented into electric vehicles, energy storage systems, consumer electronics, industrial equipment, and others. The report also covers market size and forecasts for battery thermal management materials across 16 countries in major regions. The market sizes and forecasts are provided in terms of value (USD).

By Material Type  
Thermal Interface Materials |  
Gap Fillers and Thermal Pads |  
Phase Change Materials |  
Thermal Conductive Adhesives |  
Potting and Encapsulation Materials |  
Thermal Insulation and Fire-Protection Materials |  
Others |

### ### Segmentation Accordion Item

By Geography  
Asia-Pacific | China |  
| India |  
| Japan |  
| South Korea |  
| Rest of Asia-Pacific |  
North America | United States |  
| Canada |  
| Mexico |  
Europe | Germany |  
| United Kingdom |  
| France |  
| Italy |  
| Russia |  
| Rest of Europe |  
South America | Brazil |  
| Argentina |  
| Rest of South America |  
Middle East and Africa | Saudi Arabia |  
| South Africa |  
| Rest of Middle East and Africa |

### ## Frequently Asked Questions

#### #### What is current market size of Battery Thermal Management Materials Market?

The battery thermal management materials market size was valued at USD 4.56 billion in 2025 and is estimated to grow from USD 5.05 billion in 2026 to reach USD 8.63 billion by 2031, at a CAGR of 11.34% during the forecast period (2026-2031).

#### #### Which material category led revenue in 2025?

Thermal interface materials led with 37.45% of revenue in 2025 because they are used at cell-to-cooling-plate interfaces.

#### #### What is driving demand for battery thermal management materials?

Electric vehicle production, battery manufacturing capacity, faster charging, energy storage deployment, and battery-safety rules are increasing demand.

#### #### Why are energy storage systems important for thermal material suppliers?

Energy storage systems are projected to expand at a 13.13% CAGR and require durable materials for long operating cycles and enclosure-level thermal containment.