

Global Thermal Insulation Material Market Set for Robust Growth Amid Rising Energy Efficiency Demands

The U.S. thermal insulating materials market is set to grow at a 5.0% CAGR (2025–2035), driven by strict energy efficiency and sustainability standards.

NEWARK, DE, UNITED STATES, April 24, 2025 /EINPresswire.com/ -- The global thermal insulation

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Thermal insulation demand is surging globally, driven by energy efficiency goals, strict regulations, and innovations in sustainable materials across construction and industrial sectors."

Nikhil Kaitwade

material market is poised for robust growth, projected to reach USD 78,879.2 million in 2025 and expand at a steady CAGR of 5.6% to achieve a valuation of USD 136,019.7 million by 2035. This growth is driven by increasing demand for energy-efficient solutions across residential, commercial, and industrial sectors, coupled with stringent regulations aimed at reducing energy consumption and greenhouse gas emissions.

Thermal insulation materials, which are designed to reduce heat transfer between surfaces, play a crucial role in

enhancing energy efficiency. These materials are widely used in construction, HVAC systems, automotive manufacturing, and industrial processes. They help maintain temperature control, reduce energy consumption, and contribute to cost savings and environmental protection.

With increasing awareness around climate change and carbon footprints, there's a growing demand for eco-friendly thermal insulation solutions for green construction. These materials not only offer excellent thermal resistance but also reduce the environmental impact during production, application, and disposal.

Products like wood fiber insulation and stone wool insulation are made from renewable resources or recycled content, making them a favorite in green building projects. They are

breathable, non-toxic, and can help maintain indoor air quality—a crucial factor in residential and commercial spaces alike.

For homeowners, cost-effective thermal insulation options for residential homes are widely available and play a key role in reducing heating and cooling costs. Materials like fiberglass insulation, extruded polystyrene (XPS) foam, and spray polyurethane (PUR) foam are commonly used due to their affordability, ease of installation, and effectiveness.



In colder climates, insulation helps retain warmth during the winter months, while in hot regions, it keeps interiors cool. By regulating temperature, homeowners can rely less on mechanical heating and cooling systems, resulting in significant energy savings over time.

In commercial real estate, energy efficiency can dramatically affect operational costs. Thermal insulation materials for HVAC systems in commercial buildings not only improve temperature regulation but also enhance the performance and lifespan of heating and cooling units.

Materials like polyisocyanurate (PIR) foams are particularly effective due to their high thermal conductivity values, which means better insulation performance with thinner layers. Moreover, integrating these materials into ductwork, piping, and building envelopes supports noise reduction in buildings, creating more comfortable work environments.

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Beyond residential and commercial use, thermal insulation materials suitable for hightemperature industrial applications are gaining traction. Industries such as oil & gas, chemicals, and manufacturing often deal with extreme conditions. Here, insulation materials like ceramic fiber and aerogel blankets provide thermal resistance even at elevated temperatures.

These specialized materials help maintain equipment integrity, improve process efficiency, and protect workers. Their ability to withstand both heat and mechanical stress makes them indispensable in industrial settings.

The auto industry is also embracing energy efficiency through thermal insulation materials for automotive industry applications. Lightweight insulation helps reduce vehicle weight, contributing to better fuel economy and lower emissions. Components such as dashboards, door panels, and engine covers are now being fitted with materials like non-toxic thermal insulation to ensure both performance and safety.

As electric vehicles (EVs) continue to gain popularity, <u>thermal management</u> becomes even more critical—especially for battery systems. High-performance insulation ensures optimal battery performance and longevity, a major concern for EV manufacturers and consumers alike.

- · Owens Corning
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- Kingspan Group
- · Rockwool International
- BASF SE
- Huntsman Corporation
- Knauf Insulation
- Johns Manville
- · Dow Inc.
- Armacell International
- Recticel Group
- Aspen Aerogels
- URSA Insulation
- Xella Group
- GAF Materials Corporation

Regionally, Asia Pacific holds a dominant share of the thermal insulation material market, fueled

by rapid industrialization, infrastructure development, and supportive government policies. China and India, in particular, are witnessing exponential growth in urban housing and commercial real estate, thereby boosting demand for energy-efficient construction solutions.

In North America and Europe, stringent energy codes and the drive toward net-zero buildings are compelling developers to adopt high-performance insulation materials. Renovation of aging building stock and increasing awareness about climate change and carbon emissions are also playing a key role in market expansion.

Meanwhile, the Middle East and Africa are emerging as promising markets due to growing investments in energy infrastructure, urban development, and smart city initiatives. The region's harsh climatic conditions further necessitate the deployment of effective insulation solutions to combat heat and minimize energy use.

By Material Type:

In terms of Material Type: the industry is divided into Stone Wool, Fiber Glass, Plastic Foam, Others

By Temperature Range:

In terms of Temperature Range: the industry is divided into 160°C to -50°C, -49°C to 0°C, 1°C to 100°C, 101°C to 650°C

By Region:

The report covers key regions, including North America, Latin America, Western Europe, Eastern Europe, East Asia, South Asia, and the Middle East and Africa (MEA).

Building Thermal Insulation Market Outlook:

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