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Thermoset Composites Market Forecasts to 2032 – Global Analysis By Product (Laminates, Molded Components, Pultruded Profiles and Sheets & Panels), Resin Type, Reinforcement Type, Manufacturing Process, End User and By Geography

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Abstracts

According to Stratistics MRC, the Global Thermoset Composites Market is accounted for $50.7 billion in 2025 and is expected to reach $98.5 billion by 2032 growing at a CAGR of 9.93% during the forecast period. Thermoset composites are advanced materials composed of a thermosetting polymer matrix reinforced with fibers such as glass, carbon, or aramid. Unlike thermoplastics, thermoset polymers undergo irreversible chemical curing, forming a rigid three-dimensional network that provides exceptional mechanical strength, thermal stability, and chemical resistance. These composites are widely used in aerospace, automotive, construction, and electronics due to their lightweight nature and high performance under stress. Their structural integrity and durability make them ideal for applications requiring long-term reliability, dimensional stability, and resistance to high temperatures, corrosion, and wear.

According to a 2023 report by Composites World, the average production cost of aerospace-grade thermoset composites is 30–50% higher than conventional alternatives due to stringent material specifications

Market Dynamics:

Driver:

High performance and durability

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Superior mechanical strength, chemical resistance, and thermal stability are accelerating adoption in load-bearing and high-stress environments. Integration with aerospace, automotive, and energy systems is fostering long-term material reliability. Manufacturers are investing in lightweight, corrosion-resistant formats to meet evolving performance standards. Advancements in curing technologies and fiber-matrix optimization are propelling product innovation. These dynamics are expected to significantly boost the thermoset composites market.

Restraint:

Limited design flexibility

Inherent rigidity and irreversible curing processes are constraining adaptability in complex geometries and modular assemblies. Post-processing limitations and tooling requirements are degrading scalability across low-volume production. Manufacturers face challenges in balancing structural integrity with design freedom. Emerging alternatives with reworkable properties are gaining traction in design-intensive sectors. These limitations are expected to constrain the thermoset composites market.

Opportunity:

Growing demand in wind energy

Blade manufacturing, nacelle housings, and support structures are accelerating use of high-strength, fatigue-resistant materials. Integration with epoxy and polyester resin systems is fostering long-span durability and environmental resilience. Government-backed clean energy initiatives and offshore wind expansion are propelling market penetration. Manufacturers are optimizing composite formulations for weight reduction and lifecycle performance. These trends are expected to significantly boost the thermoset composites market.

Threat:

Competition from thermoplastics

Reprocessable formats with superior impact resistance and design flexibility are gaining preference in automotive and consumer goods. Advancements in thermoplastic molding and hybrid systems are degrading demand for irreversible composite structures. Sustainability mandates and circular economy goals are accelerating interest in

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recyclable alternatives. Manufacturers face pressure to innovate while maintaining cost and performance parity. Such constraints are expected to hinder the thermoset composites market.

Covid-19 Impact:

The Covid-19 pandemic disrupted supply chains and delayed industrial projects, impacting thermoset composite production and deployment. Shutdowns in aerospace, automotive, and construction sectors temporarily degraded demand across core applications. Logistics bottlenecks and workforce shortages constrained manufacturing and distribution. Post-pandemic recovery is accelerating due to renewed infrastructure spending and energy transition initiatives. Digital design platforms and localized sourcing strategies are fostering resilience in composite supply chains. These shifts are expected to propel the thermoset composites market.

The glass fiber reinforced composites (GFRP) segment is expected to be the largest during the forecast period

The glass fiber reinforced composites (GFRP) segment is expected to account for the largest market share during the forecast period due to high performance and durability driving demand across industrial and structural applications. Superior tensile strength, corrosion resistance, and cost-efficiency are accelerating adoption in automotive, marine, and construction sectors. Integration with polyester and epoxy matrices is fostering versatility across temperature and load conditions. Manufacturers are expanding use in panels, enclosures, and reinforcement systems. Lightweight properties and scalable production formats are boosting market penetration.

The resin transfer molding (RTM) segment is expected to have the highest CAGR during the forecast period

Over the forecast period, the resin transfer molding (RTM) segment is predicted to witness the highest growth rate drive demand for precision composite manufacturing. Closed-mold processing, fiber alignment control, and reduced waste are accelerating adoption in aerospace and automotive components. Integration with automation and multi-material layering is fostering scalability and design consistency. Manufacturers are investing in tooling innovation and cycle time optimization to meet industrial throughput needs. Demand for lightweight, structurally complex parts is propelling RTM innovation. This segment is expected to propel the thermoset composites market.

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Region with largest share:

During the forecast period, the Asia Pacific region is expected to hold the largest market share driven by infrastructure development and industrial expansion across key economies. China, India, Japan, and South Korea are accelerating adoption of thermoset composites in automotive, construction, and energy sectors. Local manufacturing capacity and cost-effective sourcing are fostering regional dominance. Government-backed initiatives in clean energy and transportation are propelling demand for durable composite materials. Strategic partnerships and technology transfers are expanding product portfolios.

Region with highest CAGR:

Over the forecast period, the North America region is anticipated to exhibit the highest CAGR due to advanced manufacturing and rising demand in aerospace and wind energy. United States and Canada are scaling adoption of thermoset composites in high-performance and lightweight applications. Regulatory support for fuel efficiency and renewable infrastructure is accelerating market penetration. Academic institutions and startups are fostering innovation in resin systems and fiber architectures. Public-private partnerships and defense investments are driving composite material development. These developments are expected to propel the North America thermoset composites market.

Key players in the market

Some of the key players in Thermoset Composites Market include Owens Corning, Hexcel Corporation, Toray Industries, Inc., Huntsman Corporation, BASF SE, Solvay S.A., SGL Carbon SE, Mitsubishi Chemical Group Corporation, 3M Company, DuPont de Nemours, Inc., Ashland Inc., AOC, LLC, Scott Bader Company Ltd., Reichhold LLC and Gurit Holding AG.

Key Developments:

In June 2025, Hexcel introduced HexPly® M51, a next-generation prepreg technology designed for automated and fast processing. This innovation aims to meet future high-rate parts production requirements in the aerospace industry.

In September 2024, Toray Advanced Composites announced the launch of the high-performance Toray Cetex® PESU thermoplastic composite material, designed for

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aerospace applications. This material offers enhanced performance attributes, including increased strength, higher stiffness, higher temperature stability, and lower moisture absorption.

In May 2024, Owens Corning completed the acquisition of Masonite International Corporation for approximately $3.9 billion, enhancing its position in building and construction materials. This move aligns with Owens Corning's strategy to expand its product offerings in the construction sector.

Products Covered:

- Laminates
- Molded Components
- Pultruded Profiles
- Sheets & Panels

Resin Types Covered:

- Epoxy
- Unsaturated Polyester (UP)
- Vinyl Ester
- Phenolic
- Other Resin Types

Reinforcement Types Covered:

- Glass Fiber Reinforced Composites (GFRP)
- Carbon Fiber Reinforced Composites (CFRP)

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Aramid Fiber Reinforced Composites (AFRP)

Natural Fiber Reinforced Composites

Hybrid Composites

Manufacturing Processes Covered:

Hand Lay-Up

Resin Transfer Molding (RTM)

Compression Molding

Filament Winding

Pultrusion

Injection Molding

End Users Covered:

Aerospace & Defense

Automotive & Transportation

Construction & Infrastructure

Electrical & Electronics

Marine

Wind Energy

Sports & Leisure

Medical & Industrial Equipment

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- Other End Users

Regions Covered:

- North America
  - US
  - Canada
  - Mexico
- Europe
  - Germany
  - UK
  - Italy
  - France
  - Spain
  - Rest of Europe
- Asia Pacific
  - Japan
  - China
  - India
  - Australia
  - New Zealand

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South Korea

Rest of Asia Pacific

South America

Argentina

Brazil

Chile

Rest of South America

Middle East & Africa

Saudi Arabia

UAE

Qatar

South Africa

Rest of Middle East & Africa

What our report offers:
- Market share assessments for the regional and country-level segments
- Strategic recommendations for the new entrants
- Covers Market data for the years 2024, 2025, 2026, 2028, and 2032
- Market Trends (Drivers, Constraints, Opportunities, Threats, Challenges, Investment Opportunities, and recommendations)
- Strategic recommendations in key business segments based on the market estimations
- Competitive landscaping mapping the key common trends
- Company profiling with detailed strategies, financials, and recent developments
- Supply chain trends mapping the latest technological advancements

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- Company Profiling
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- Regional Segmentation
  - Market estimations, Forecasts and CAGR of any prominent country as per the client's interest (Note: Depends on feasibility check)
- Competitive Benchmarking
  - Benchmarking of key players based on product portfolio, geographical presence, and strategic alliances

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Note: Tables for North America, Europe, APAC, South America, and Middle East & Africa Regions are also represented in the same manner as above.

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