

Thermoplastic Composites Market Forecasts to 2034 – Global Analysis By Resin Type (Polypropylene, Polyamide, Polyetheretherketone, Polyphenylene Sulfide, Polyetherimide, Polycarbonate, and Other Resin Types), Fiber Type, Product Form, Manufacturing Process, End-Use Industry, and By Geography

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Abstracts

According to Statistics MRC, the Global Thermoplastic Composites Market is accounted for \$35.5 billion in 2026 and is expected to reach \$59.7 billion by 2034 growing at a CAGR of 6.7% during the forecast period. Thermoplastic composites are advanced materials combining reinforcing fibers with thermoplastic polymer matrices, offering advantages including recyclability, rapid processing, and high impact resistance. The market encompasses polypropylene, polyamide, polyetheretherketone, polyphenylene sulfide, polyetherimide, polycarbonate, and other resin systems with glass fiber, carbon fiber, aramid fiber, natural fiber, and other fiber reinforcements. Product forms include continuous fiber-reinforced thermoplastics, short fiber-reinforced thermoplastics, long fiber-reinforced thermoplastics, tapes, laminates, and other forms manufactured through injection molding, compression molding, automated tape placement, thermoforming, pultrusion, and additive manufacturing.

Market Dynamics:

Driver:

Growing demand for recyclable and sustainable composite materials

The increasing focus on sustainability and circular economy principles is a primary driver for the thermoplastic composites market. Unlike thermoset composites, thermoplastic composites can be melted and reshaped, enabling recycling and reuse. Automotive manufacturers are adopting thermoplastic composites for recyclable components. Growing regulatory pressure on waste reduction is driving demand for recyclable materials. As sustainability requirements intensify, thermoplastic composites capture growing market share across all major applications.

Restraint:

High processing temperatures and equipment costs

The significant processing temperatures required for thermoplastic composites and the associated equipment costs represent a major restraint for the market. Thermoplastic composites require high-temperature processing equipment, increasing capital investment. Tooling costs for high-temperature processes are substantial. Processing complexity may limit adoption among manufacturers unfamiliar with thermoplastic technologies. These cost and processing challenges may constrain market growth, particularly in cost-sensitive applications.

Opportunity:

Expansion of automated manufacturing and additive manufacturing

The growing adoption of automated manufacturing processes and additive manufacturing presents significant opportunities for thermoplastic composites market expansion. Automated tape placement and fiber placement enable high-volume production of complex parts. Additive manufacturing with thermoplastic composites enables customized geometries and reduced waste. The trend toward automation in aerospace and automotive manufacturing supports adoption. As manufacturing technologies advance, thermoplastic composites capture growing market share.

Threat:

Competition from thermoset composites and metals

Intense competition from thermoset composites and traditional metals poses significant threats to thermoplastic composites market growth. Thermoset composites offer established processing methods and lower material costs. Metals including aluminum and steel provide well-established design standards and recycling infrastructure. Thermoplastic composites face performance and cost competition. This competition

may limit market share, particularly in applications where thermosets or metals remain cost-effective.

Covid-19 Impact:

The COVID-19 pandemic had a mixed impact on the thermoplastic composites market. Aerospace and automotive production slowdowns reduced demand. However, the pandemic accelerated focus on recyclable and sustainable materials. Medical applications including PPE and equipment increased demand. Post-pandemic, aerospace and automotive production recovery and continued sustainability focus have supported market growth across all major applications.

The Polypropylene segment is expected to be the largest during the forecast period

The Polypropylene segment is expected to account for the largest market share during the forecast period, driven by its low cost, excellent chemical resistance, and widespread use in automotive, consumer goods, and industrial applications. Polypropylene is the most widely used thermoplastic matrix for glass fiber composites, offering an excellent balance of performance and cost. The segment benefits from established manufacturing infrastructure and high-volume production. Automotive applications including interior components and under-hood parts drive significant demand. As the most cost-effective thermoplastic matrix, polypropylene maintains the largest resin type segment share.

The Aerospace and Defense segment is expected to have the highest CAGR during the forecast period

Over the forecast period, the Aerospace and Defense segment is predicted to witness the highest growth rate, fueled by increasing adoption of thermoplastic composites in aircraft structures, growing demand for lightweight materials, and expanding defense modernization programs. Thermoplastic composites offer advantages including high impact resistance, rapid processing, and recyclability for aerospace applications. The segment benefits from aircraft production growth and defense investment. Automated manufacturing technologies enable high-volume aerospace production. As aerospace and defense demand grows, this end-use industry delivers the fastest segment growth.

Region with largest share:

During the forecast period, the North America region is expected to hold the largest market share, supported by strong aerospace and automotive industries, significant R&D investment, and presence of major thermoplastic composite manufacturers. The United States leads regional growth with substantial aerospace production and defense investment. Growing automotive lightweighting supports composite demand. Strong innovation ecosystem drives technology development. With technology leadership and strong industrial base, North America maintains its dominant market position.

Region with highest CAGR:

Over the forecast period, the Asia-Pacific region is anticipated to exhibit the highest CAGR, driven by expanding automotive production, growing aerospace manufacturing, and increasing investment in advanced materials across China, Japan, South Korea, and India. The region's large and growing manufacturing base creates substantial demand for thermoplastic composites. Government initiatives supporting lightweighting and advanced materials are accelerating. As industrial production and technology adoption expand, Asia Pacific delivers the fastest thermoplastic composites market growth globally.

Key players in the market

Some of the key players in Thermoplastic Composites Market include BASF SE, Celanese Corporation, Avient Corporation, Solvay S.A., SABIC, LANXESS AG, Victrex plc, Toray Industries, Inc., Teijin Limited, Mitsubishi Chemical Group Corporation, SGL Carbon SE, Covestro AG, Ensinger GmbH, RTP Company, and PlastiComp, Inc.

Key Developments:

In September 2026, Toray Industries showcased its continuous fiber-reinforced thermoplastic composite lines at CAMX 2026, presenting aircraft interior components made with Cetex TC1130 PESU and statistically validated Cetex TC1225 materials for aerospace databases.

In September 2026, Covestro AG partnered with automotive OEMs to engineer closed-loop recycling routes for polycarbonate-matrix continuous fiber composites used in exterior lighting and lightweight structural components.

In September 2026, Avient Corporation introduced simulation-ready material cards and enhanced Polystrand continuous fiber-reinforced thermoplastic composite tapes at

CAMX 2026 to speed up structural composite prototyping.

In July 2026, Teijin Limited developed a circular carbon fiber-reinforced composite material combining heat-activated self-healing properties with thermoplastic-like remolding flowability for compression molding and closed-loop recycling.

In August 2025, Victrex plc received multiple industry innovation awards for its VICTREX LMPAEK-based continuous thermoplastic unidirectional tape composite solutions, which lower processing temperatures and cycle times for automated fiber-placed aerospace primary structures.

Resin Types Covered:

Polypropylene

Polyamide

Polyetheretherketone

Polyphenylene Sulfide

Polyetherimide

Polycarbonate

Other Resin Types

Fiber Types Covered:

Glass Fiber

Carbon Fiber

Aramid Fiber

Natural Fiber

Other Fiber Types

Product Forms Covered:

Continuous Fiber-Reinforced Thermoplastics

Short Fiber-Reinforced Thermoplastics

Long Fiber-Reinforced Thermoplastics

Tapes

Laminates

Other Product Forms

Manufacturing Processes Covered:

Injection Molding

Compression Molding

Automated Tape Placement

Thermoforming

Pultrusion

Additive Manufacturing

Other Manufacturing Processes

End-Use Industries Covered:

Automotive and Transportation

Aerospace and Defense

Electrical and Electronics

Construction

Consumer Goods

Sports and Leisure

Industrial

Other End-Use Industries

Regions Covered:

North America

United States

Canada

Mexico

Europe

United Kingdom

Germany

France

Italy

Spain

Netherlands

Belgium

Sweden

Switzerland

Poland

Rest of Europe

Asia Pacific

China

Japan

India

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Australia

Indonesia

Thailand

Malaysia

Singapore

Vietnam

Rest of Asia Pacific

South America

Brazil

Argentina

Colombia

Chile

Peru

Rest of South America

Rest of the World (RoW)

Middle East

Saudi Arabia

United Arab Emirates

Qatar

Israel

Rest of Middle East

Africa

South Africa

Egypt

Morocco

Rest of 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 2023, 2024, 2025, 2026, 2027, 2028, 2030, 2032 and 2034

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

Free Customization Offerings:

All the customers of this report will be entitled to receive one of the following free customization options:

Company Profiling

Comprehensive profiling of additional market players (up to 3)

SWOT Analysis of key players (up to 3)

Regional Segmentation

Market estimations, Forecasts and CAGR of any prominent country as per the client's interest (Note: Depends on feasibility check)

Competitive Benchmarking

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