Carbon Fiber Composites In Aerospace Market to Reach $4.03 Billion by 2029 with 8.4% CAGR

The Business Research Company's Carbon Fiber Composites In Aerospace Global Market Report 2025 – Market Size, Trends, And Forecast 2025-2034

The Business Research Company

LONDON, GREATER LONDON, UNITED KINGDOM, August 19, 2025 /EINPresswire.com/ -- What Is The Estimated Industry Size Of Carbon Fiber Composites In Aerospace Market?

In recent times, the aerospace market for carbon fiber composites has witnessed a substantial expansion. A projected growth from $2.68 billion in 2024 to $2.91 billion in 2025 with a compound annual growth rate (CAGR) of 8.7% indicates this. This upward trajectory in the historical phase is a result of the escalating demand for lightweight, fuel-efficient airplanes, heightened airplane production, increasing necessity to minimize airplane emissions, a surge in the utilization of carbon fiber composites, and augmented investments in R&D.

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The market size for carbon composites in the aerospace sector is predicted to witness significant expansion in the next few years, reaching $4.03 billion by 2029 with a compound annual growth rate (CAGR) of 8.5%. The forecasted growth period is primarily driven by an increasing demand for durable and corrosion-resistant components in aerospace, a heightened focus on boosting aircraft performance, emerging government policies advocating for eco-friendly aviation practices, an escalation in the production of unmanned aerial vehicles (UAVs) and spacecraft, and an increase in the production of narrow-body aircraft. Major trends projected during this growth period include the incorporation of carbon fiber composites into primary aircraft structures, technological advancements that enhance the properties of composite materials, progression in resin systems, advances in the design of lightweight materials, and progress in the field of multi-material and hybrid composite structures.

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What Are The Current Leading Growth Drivers For Carbon Fiber Composites In Aerospace Market?
The surge in demand for planes that are fuel-efficient is set to spur the expansion of carbon fiber composites in the aerospace sector. These are aircrafts crafted to consume less fuel for every passenger or every unit of distance covered, often achieved through efficient engines, improved aerodynamics, and lighter materials. Increased desire for fuel-efficient planes can be attributed to increasingly worrisome environmental issues, prompting airlines to aim for decreased carbon emissions while abiding by tougher international regulations. Utilizing carbon fiber composites in the aerospace industry substantially promotes fuel efficiency by minimizing the weight of the aircraft without compromising its strength and longevity, leading to reduced fuel use and emissions. For example, the Bureau of Transportation Statistics, a government agency in the U.S., reported in June 2022 that U.S airlines used up 1.35 billion gallons of fuel in April 2022, a jump of 29.3% from the 1.04 billion gallons used in April 2021. Consequently, the growing demand for fuel-efficient aircraft is propelling the use of carbon fiber composites in the aerospace industry.

Which Companies Are Currently Leading In The Carbon Fiber Composites In Aerospace Market?
Major players in the Carbon Fiber Composites In Aerospace Global Market Report 2025 include:
• Mitsubishi Chemical Group
• Toray Industries Inc.
• Solvay S.A.
• DuPont de Nemours Inc.
• Formosa Plastics Corporation
• TEIJIN LIMITED
• Hexcel Corporation
• SGL Carbon
• Zoltek Companies Inc.
• BGF Industries Inc.

What Are The Main Trends, Positively Impacting The Growth Of Carbon Fiber Composites In Aerospace Market?
Leading firms in the aerospace carbon fiber composites market are concentrating on the creation of innovative products like high-performance intermediate modulus (IM) carbon fibers, designed to improve strength and reduce weight. These high-performance IM carbon fibers are strong, lightweight materials with a balance in stiffness and tensile strength, tailored for aerospace applications to enhance durability and to decrease weight. For instance, in March 2024, Hexcel Corporation, an American aerospace and defense organization, launched the HexTow IM9 24K carbon fiber. This sophisticated composite material, which contains 24,000 filaments, exhibits a striking average tensile strength exceeding 6,300 MPa, a modulus of 298

GPa, and a strain of 1.9%, exceeding previous measures such as IM7. With a 12% increase in tensile strength and better productivity due to its larger tow size, the IM9 24K is developed for high-demand aerospace applications and efficient manufacturing processes.

How Is The Carbon Fiber Composites In Aerospace Market Segmented?
The carbon fiber composites in aerospace market covered in this report is segmented –
1) By Type Of Carbon Fiber Composite: Polymer Matrix Composites, Ceramic Matrix Composites, Metal Matrix Composites
2) By Manufacturing Process: Hand Lay-Up, Spray-Up, Resin Transfer Molding (RTM), Filament Winding
3) By Application: Aircraft Structures, Aerospace Components, Spacecraft
4) By End-User: Commercial Aviation, Military Aviation, Space Exploration, Unmanned Aerial Vehicles

Subsegments:
1) By Polymer Matrix Composites: Epoxy-Based Carbon Fiber Composites, Thermoplastic Carbon Fiber Composites, Phenolic-Based Carbon Fiber Composites, Polyester-Based Carbon Fiber Composites
2) By Ceramic Matrix Composites: Carbon Or Carbon Composites, Carbo Or Silicon Carbide Composites, Silicon Carbide Or Silicon Carbide Composites
3) By Metal Matrix Composites: Aluminum-Based Carbon Fiber Composites, Titanium-Based Carbon Fiber Composites, Magnesium-Based Carbon Fiber Composites

View the full carbon fiber composites in aerospace market report:
https://www.thebusinessresearchcompany.com/report/carbon-fiber-composites-in-aerospace-global-market-report

Which Is The Dominating Region For The Carbon Fiber Composites In Aerospace Market?
In the Carbon Fiber Composites In Aerospace Global Market Report 2025, North America is noted as the leading region for the year 2024. During the forecast period, however, the fastest-growing region is projected to be Asia-Pacific. The report provides coverage for various global regions including Asia-Pacific, Western Europe, Eastern Europe, North America, South America, Middle East, and Africa.

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