

Carbon Fiber Reinforced Plastic (CFRP) - Market Share Analysis, Industry Trends & Statistics, Growth Forecasts (2025 - 2030)

Market Report | 2025-04-28 | 120 pages | Mordor Intelligence

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Report description:

The Carbon Fiber Reinforced Plastic Market is expected to register a CAGR of greater than 8% during the forecast period.

The market was negatively impacted due to COVID-19, as all the major industries that consume CFRP were put on a halt. All the industries, such as construction, automotive, aerospace, and others, shut their production plant due to the disruption caused by the COVID-19 pandemic, which reduced the demand for CFRP. However, with firms recovering, the investments are expected to grow and drive the demand for CFRP in the coming years.

Key Highlights

- Over the long term, the growing demand from the aerospace industry and a rising preference for fuel-efficient and lightweight vehicles are expected to drive market growth.
- However, the high cost of the CFRP and inadequate production capacity are expected to hinder the market's growth.
- Shifting focus on developing low-cost products and technologies will likely act as an opportunity in the future.
- Asia-Pacific dominated the market across the world, with the largest consumption from China and India.

Carbon Fiber Reinforced Plastics (CFRP) Market Trends

Increasing Demand from the Aerospace Industry

- CFRP is a composite material consisting of two parts: matrix and reinforcement. The matrix is a polymer resin, and the

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reinforcement is a carbon fiber, which provides high strength to the material.

- With the focus on performance improvement in the aerospace industry, CFRP material is being used as a replacement for metals and alloys, as it possesses a high strength-to-weight ratio and rigidity.
- Initially, CFRP was used in Boeing 787 and the Airbus A350, primarily driven by the weight savings of CFRP parts. The latest models in civil aviation, such as the Boeing Dreamliner and Airbus A350, are made of up to 52% CFRP.
- In June 2022, the total worldwide fleet size was 28,674, with 23,513 active and 5,161 grounded aircraft. The volume represents an expansion of 11% in operational aircraft fleet size compared to June 2021 and 91% compared to June 2020.
- According to the Boeing Commercial Market Outlook, the global fleet will increase by 80% and is expected to reach a market value of USD 7.2 trillion by 2041 for new airplane deliveries. According to Boeing forecasts, a total of 41,170 commercial airplanes will be delivered by the year 2041 globally.
- Owing to all the abovementioned factors, the market is expected to grow post-recovery during the forecast period.

Asia-Pacific to Dominate the Market

- Asia-Pacific accounted for the largest share of the global CFRP market, owing to widespread adoption in the industrial, aviation, and automotive sectors in countries like India, Japan, and China.
- China is a key contributor to global air traffic growth for the past few years. The average passenger growth rate is over 10% per year. This growth is primarily driven by rising passenger traffic due to higher spending power and better air connectivity. Thus, increasing passenger traffic is expected to boost the demand for aircraft.
- The Chinese automotive manufacturing industry is the largest in the world. However, the industry witnessed a slowdown in recent years, wherein production and sales declined. According to the China Association of Automobile Manufacturers (CAAM), automotive sales in China fell by 8.4% y-o-y to 2.56 million units in December 2022, whereas for the full year 2022, the sales grew to 26.86 million units.
- CFRP helps improve the bending and shear strength of damaged construction elements, so the material is extensively used in the construction industry. In 2021, the value of newly signed contracts in the construction industry was USD 18.66 billion, an increase of 2.5% year-on-year, and the growth rate narrowed by 7.1% points compared with the same period last year.
- In January 2022, China unveiled plans to develop its construction industry during the 14th Five-Year Plan (2021-2025), paving a pillar of the country's economy on a greener, smarter, and safer path. In August 2022, the Chinese government announced the investment of USD 1 trillion into different construction projects, including the construction of 1,629 km of high-speed rail from Sichuan province in the Southwest to the Tibetan capital Lhasa.
- The carbon fiber helps absorb large amounts of impact energy, increasing vehicle safety. CFRP includes huge applications in the manufacturing of automobiles. As a result, the demand for this material is expected to increase shortly.
- According to India Brand Equity Foundation, the Indian car market is expected to reach USD 54.84 billion by 2027 while registering a CAGR of over 9%. Indian automotive industry is targeting to increase the export of vehicles by five times by the year 2026. In 2022, total automobile exports from India stood at 5,617,246.
- Many Automakers are investing heavily in various segments of the industry. For instance, in November 2022, Maruti Suzuki India announced an investment of USD 865.12 million on various projects, including new facilities set-up and the introduction of new models.
- In turn, the abovementioned factors are projected to significantly impact the market in the coming years.

Carbon Fiber Reinforced Plastics (CFRP) Industry Overview

The carbon fiber reinforced plastic (CFRP) market is partly fragmented and is highly competitive among the major players. These major players include Solvay, Formosa M Co. Ltd, Nikkiso Co. Ltd, ALLRed & Associates Inc., and Rochling Group, among others.

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Additional Benefits:

- The market estimate (ME) sheet in Excel format
- 3 months of analyst support

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