

The Global Market for Carbon Fiber and Carbon Fiber Reinforced Polymers (CFRP) 2023-2033

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Abstracts

Carbon fiber (CF) is used as a reinforcement material in composites. Carbon fiber reinforced polymers (CFRP) are mainly used in wind energy, automotive, aerospace (commercial and military aircraft, space launch vehicles), and pressure vessel industries for increased strength to weight and stiffness. Other markets are sports & leisure composites (skis and snowboards, bicycles and hockey sticks) and construction. The market for CF and CFRP will grow through to 2033, with recent increased demand in several markets and capacity expansions.

CF has the characteristics of common carbon materials such as:

high temperature resistance

friction resistance

electrical conductivity

heat conduction

corrosion resistance

It also has advantageous differences such as:

shape has significant anisotropy

soft

can be processed into various fabrics

has a small specific gravity and therefore has a high specific strength.

There are significant regulatory, economic and consumer motivations for manufacturers to adopt materials that reduce the weight of the product and maintain or increase its performance. For example, manufacturers are interested in producing aircraft and automobiles that are more fuel efficient, increasing the size of wind energy blades, and producing strong lightweight storage vessels for alternative transportation fuels. To this end, carbon fiber (CF) and carbon fiber reinforced polymers (CFRP) that provide lightweighting and strength enhancement potential, are primary candidate materials for meeting these goals.

Report contents include:

Figures for current carbon fiber and CFRP demand, production capacities and projected future demand to 2033, by metric tonnes, end user markets and regions.

Market and technical developments 2020-2023.

Assessment of developments in plant-based carbon fibers, low cost production, alternative precursors and processes, and 3D printing.

Markets covered include Aerospace, Sports & Leisure, Wind Energy, Automotive, Pressure Vessels, Construction & Infrastructure and Oil and Gas.

107 companies profiled including CF manufacturers, CFRP manufacturers and CF recyclers. Companies profiled include bCircular, Boston Materials, Carbon Conversions, Carbon Hexa, Continuous Composites, DowAksa, Formosa Plastics Corporation, Gen 2 Carbon, Hexcel Corporation, Hyosung Advanced Materials, Jiangsu Hengshen Co., Ltd., Kureha Corporation, LeMond Carbon, Mitsubishi Chemical Corporation, REGEN Fiber, Mallinda, SGL Carbon SE, Solvay SA, Teijin Limited, Toray Industries, Inc., UMATEX, Zhongfu Shenying and 9T Labs.

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