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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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Contents

1 EXECUTIVE SUMMARY

1.1 Key players
1.2 Market drivers and trends
1.3 Market challenges
1.4 Future trends

2 INTRODUCTION

2.1 Carbon fibers
  2.1.1 Properties of carbon fibers
    2.1.1.1 Types by modulus
    2.1.1.2 Types by the secondary processing
  2.1.2 Precursor material types
    2.1.2.1 PAN: Polyacrylonitrile
    2.1.2.2 Pitch-based carbon fibers
    2.1.2.3 Viscose (Rayon)-based carbon fibers
2.2 Carbon fiber reinforced polymer (CFRP)
  2.2.1 Applications
2.3 Bio-based and alternative precursors
  2.3.1 Lignin
  2.3.2 Polyethylene
  2.3.3 Vapor grown carbon fiber (VGCF)
  2.3.4 Textile PAN
2.4 Recycled carbon fibers (r-CF)
  2.4.1 Recycling processes
  2.4.2 Companies
2.5 Carbon Fiber 3D Printing
2.6 Plasma oxidation

3 CARBON FIBER PRODUCTION CAPACITIES

3.1 Annual capacity, by producer
3.2 Market share, by capacity

4 MARKETS FOR CARBON FIBERS

4.1 Carbon fiber industry developments 2020-2023
4.2 Aerospace
4.2.1 Market drivers, applications, desirable properties, pricing and key players
4.2.2 Global demand
4.2.2.1 Carbon fiber
4.2.2.2 CFRP
4.3 Wind energy
4.3.1 Market drivers, applications, desirable properties, pricing and key players
4.3.2 Offshore
4.3.3 Global demand
4.3.3.1 Carbon fiber
4.3.3.2 CFRP
4.4 Sports & leisure
4.4.1 Market drivers, applications, desirable properties, pricing and key players
4.4.2 Global demand
4.4.2.1 Carbon fiber
4.4.2.2 CFRP
4.5 Automotive
4.5.1 Market drivers, applications, desirable properties, pricing and key players
4.5.2 Global demand
4.5.2.1 Carbon fiber
4.5.2.2 CFRP
4.6 Pressure vessels
4.6.1 Market drivers, applications, desirable properties, pricing and key players
4.6.2 Global demand
4.6.2.1 Carbon fiber
4.6.2.2 CFRP
4.7 Oil and gas
4.7.1 Market drivers, applications, desirable properties, pricing and key players
4.7.1.1 Carbon fiber
4.7.1.2 CFRP
4.8 Other markets
4.8.1 Construction & infrastructure
4.8.1.1 Market drivers, desirable properties, applications and pricing
4.8.2 Medical
4.8.2.1 Market drivers, desirable properties, applications and pricing

5 GLOBAL DEMAND TO 2033

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5.1 Demand by market 2018-2033
5.1.1 Carbon fiber
5.1.2 Carbon fiber reinforced polymers (CFRP)
5.2 Demand by region 2018-2033

6 COMPANY PROFILES

6.1 Carbon fiber producers 75 (26 company profiles)
6.2 Carbon Fiber composite producers 95 (60 company profiles)
6.3 Carbon fiber recyclers 140 (16 company profiles)

7 RESEARCH METHODOLOGY

8 REFERENCES

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List Of Tables

LIST OF TABLES

Table 1. Market drivers and trends in carbon fibers.
Table 2. Market challenges in the CF and CFRP market.
Table 3. Classification and types of the carbon fibers.
Table 4. Summary of carbon fiber properties.
Table 5. Modulus classifications of carbon fiber.
Table 6. Comparison of main precursor fibers.
Table 7. Summary of markets and applications for CFRPs.
Table 8. Properties of lignins and their applications.
Table 9. Fiber properties of polyolefin-based CFs.
Table 10. Summary of carbon fiber (CF) recycling technologies. Advantages and disadvantages.
Table 11. Retention rate of tensile properties of recovered carbon fibres by different recycling processes.
Table 12. Recycled carbon fiber producers, technology and capacity.
Table 13. Methods for direct fiber integration.
Table 14. Continuous fiber 3D printing producers.
Table 15. Production capacities of carbon fiber producers, in metric tonnes, current and planned.
Table 16. Carbon fiber industry developments 2020-2023.
Table 17. Comparison of CFRP to competing materials.
Table 18. The market for carbon fibers in aerospace-market drivers, applications, desirable properties, pricing and key players.
Table 19. Global demand for carbon fibers 2016-2033, in aerospace (metric tonnes).
Table 20. Global revenues for CFRP 2016-2033, in aerospace (billions USD).
Table 21. The market for carbon fibers in wind energy-market drivers, applications, desirable properties, pricing and key players.
Table 22. Global demand for carbon fibers 2016-2033, in wind energy (metric tonnes).
Table 23. Global revenues for CFRP 2016-2033, in wind energy (billions USD).
Table 24. The market for carbon fibers in sports & leisure-market drivers, applications, desirable properties, pricing and key players.
Table 25. Global demand for carbon fibers 2016-2033, in sports & leisure (metric tonnes).
Table 26. Global revenues for CFRP 2016-2033, in sports & leisure (billions USD).
Table 27. The market for carbon fibers in automotive-market drivers, applications, desirable properties, pricing and key players.

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Table 28. Global demand for carbon fibers 2016-2033, in automotive (metric tonnes).
Table 29. Global revenues for CFRP 2016-2033, in automotive (billions USD).
Table 30. The market for carbon fibers in pressure vessels-market drivers, desirable properties of CF, applications, pricing, key players.
Table 31. Global demand for carbon fibers 2016-2033, in pressure vessels (metric tonnes).
Table 32. Global revenues for CFRP 2016-2033, in pressure vessels (billions USD).
Table 33. The market for carbon fibers in oil and gas-market drivers, desirable properties, applications, pricing and key players.
Table 34. Global demand for carbon fibers 2016-2033, in oil and gas (metric tonnes).
Table 35. Global revenues for CFRP 2016-2033, in oil and gas (billions USD).
Table 36. The market for carbon fibers in construction & infrastructure.
Table 37. The market for carbon fibers in medical.
Table 38. Global demand for carbon fibers 2016-2033, by market (metric tonnes).
Table 39. Global market revenues for Carbon fiber reinforced polymers (CFRP) 2016-2033, by market (billion USD).
Table 40. Global demand for carbon fibers 2018-2033, by region (thousand metric tonnes).
Table 41. Main Toray production sites and capacities.

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List Of Figures

LIST OF FIGURES

Figure 1. Manufacturing process of PAN type carbon fibers.
Figure 2. Production processes for pitch-based carbon fibers.
Figure 3. Lignin/celluose precursor.
Figure 4. Process of preparing CF from lignin.
Figure 5. Carbon fiber manufacturing capacity in 2022, by company (metric tonnes)
Figure 6. ASIO drone by Flybotix.
Figure 7. Global demand for carbon fibers 2016-2033, in aerospace (metric tonnes).
Figure 8. Global revenues for CFRP 2016-2033, in aerospace (billions USD).
Figure 9. Global demand for carbon fibers 2016-2033, in wind energy (metric tonnes).
Figure 10. Global revenues for CFRP 2016-2033, in wind energy (billions USD).
Figure 11. Global demand for carbon fibers 2016-2033, in sports & leisure (metric tonnes).
Figure 12. Global revenues for CFRP 2016-2033, in sports & leisure (billions USD).
Figure 13. Global demand for carbon fibers 2016-2033, in automotive (metric tonnes).
Figure 14. Global revenues for CFRP 2016-2033, in automotive (billions USD).
Figure 15. Schematic of a 700-bar Type-IV COPV for on-board FCV hydrogen storage.
Figure 16. CF pressure vessel for Hyundai Truck.
Figure 17. Global demand for carbon fibers 2016-2033, in pressure vessels (metric tonnes).
Figure 18. Global revenues for CFRP 2016-2033, in pressure vessels (billions USD).
Figure 19. Global demand for carbon fibers 2016-2033, in oil and gas (metric tonnes).
Figure 20. Global revenues for CFRP 2016-2033, in oil and gas (billions USD).
Figure 21. Global demand for carbon fibers 2016-2033, by market (metric tonnes).
Figure 22. Global market revenues for Carbon fiber reinforced polymers (CFRP) 2016-2033, by market (billion USD).
Figure 23. Global demand for carbon fibers 2018-2033, by region (thousand metric tonnes).
Figure 24. 9T Labs' Red Series.
Figure 25. 3D printed component.
Figure 26. Continuous carbon fiber part.
Figure 27. Speedland SL:PDX trail shoe incorporating carbon fiber plate.
Figure 28. Carbon 1 MK II.
Figure 29. CR-9 carbon fibre wheel.
Figure 30. The Continuous Kinetic Mixing system.
Figure 31. CBAM-2 3D printer.

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Figure 32. Thermoplastic CFRP single aisle pressure bulkhead demonstrator.
Figure 33. Rein4ced carbon mountain bike hardtails.
Figure 34. Recycled carbon fibers obtained through the R3FIBER process.
Figure 35. Compression molded automotive floorboard.

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