

SiC Fibers Market: Global Industry Trends, Share, Size, Growth, Opportunity and Forecast 2023-2028

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Abstracts

The global SiC fibers market size reached US\$ 689.9 Million in 2022. Looking forward, IMARC Group expects the market to reach US\$ 1,222.1 Million by 2028, exhibiting a growth rate (CAGR) of 9.5% during 2023-2028.

Silicon carbide (SiC) fiber is a high-performance ceramic material that improves mechanical parts and extends the lifespan of different products. It is widely utilized in the fabrication of ceramic brake discs for sports cars. Apart from this, it is employed in the aerospace industry for turbine engines, nozzles, propulsion units and combustor liners as SiC contributes to environment sustainability by increasing fuel efficiency and lowering carbon dioxide (CO₂) and nitrogen dioxide (NO₂) emissions. As it also offers various advantages, such as high thermal and corrosion resistance, limited thermal expansion, high melting point, low density, excellent shock resistance, and strong tensile strength, the demand for SiC is rising around the world.

SiC Fibers Market Trends:

At present, there is an increase in the demand for SiC fibers in nuclear power plants due to their high tolerance to heat and radiation. This, along with the growing employment of SiC fibers in the hot section elements of next-generation gas turbines, is driving the market. In addition, SiC fibers are used in vanes, thermal protection systems (TPS), thruster nozzles, and turbo pump components of space vehicles, which are offering lucrative growth opportunities to key players operating in the industry. Besides this, governments of several countries are extensively investing in research and development (R&D) activities for making SiC fibers more effective in high temperatures. This, coupled with the escalating demand for enhanced materials to instruct complex shapes in the defense industry, is strengthening the growth of the market. Furthermore, automobile manufacturers worldwide are considerably focusing on the utilization of SiC

fibers in future engine models, which is projected to propel the market growth in the forecasted period.

Key Market Segmentation:

IMARC Group provides an analysis of the key trends in each sub-segment of the global SiC fibers market report, along with forecasts at the global, regional and country level from 2023-2028. Our report has categorized the market based on type, form, phase, usage and application.

Breakup by Type:

- First Generation
- Second Generation
- Third Generation

Breakup by Form:

- Continuous
- Woven
- Others

Breakup by Phase:

- Crystalline
- Amorphous

Breakup by Usage:

- Composites
- Non-Composites

Breakup by Application:

- Aerospace and Defense
- Energy and Power
- Others

Breakup by Region:

North America
United States
Canada
Asia-Pacific
China
Japan
India
South Korea
Australia
Indonesia
Others
Europe
Germany
France
United Kingdom
Italy
Spain
Russia
Others
Latin America
Brazil
Mexico
Others
Middle East and Africa

Competitive Landscape:

The competitive landscape of the industry has also been examined along with the profiles of the key players being Advanced Ceramic Fibers LLC, American Elements, BJS Ceramics GmbH, Compagnie de Saint-Gobain S.A., GE Aviation (General Electric Company), Haydale Graphene Industries Plc, NGS Advanced Fibers Co. Ltd., SGL Carbon SE, Specialty Materials Inc., Stanford Advanced Materials, Suzhou Saifei Group Co. Ltd., TISICS Limited and Ube Industries Ltd.

Key Questions Answered in This Report:

How has the global SiC fibers market performed so far and how will it perform in the coming years?

What has been the impact of COVID-19 on the global SiC fibers market?

What are the key regional markets?

What is the breakup of the market based on the type?

- What is the breakup of the market based on the form?
- What is the breakup of the market based on the phase?
- What is the breakup of the market based on the usage?
- What is the breakup of the market based on the application?
- What are the various stages in the value chain of the industry?
- What are the key driving factors and challenges in the industry?
- What is the structure of the global SiC fibers market and who are the key players?
- What is the degree of competition in the industry?

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