

# **Spherical Silicon Carbide Market Size, Share & Trends Analysis Report By Application (Filler Material, Coating), By Product (Below 30.0 Micrometre, Above 50.0 Micrometre), By Region, And Segment Forecasts, 2024 - 2030**

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## **Abstracts**

**This report can be delivered to the clients within 3 Business Days**

### **Spherical Silicon Carbide Market Trends**

The global spherical silicon carbide market size was estimated at USD 3.68 billion in 2023 and is projected to grow at a CAGR of 11.0% from 2024 to 2030. Silicon carbide's exceptional properties, such as high thermal conductivity, high breakdown voltage, and superior efficiency at high temperatures, make it ideal for the electronics industry. The material is particularly suited for developing high-power devices like electric vehicle (EV) inverters, energy-efficient chips, and semiconductors. As industries push toward next-generation electronics, SiC is used in high-frequency and high-temperature applications. This supports the demand for more efficient electronic components in electric vehicles (EVs), renewable energy systems, and data centers.

Silicon carbide (SiC) plays a crucial role in the renewable energy industry, particularly in solar inverters and wind turbines, where it significantly improves energy efficiency. Its ability to reduce power loss and increase energy conversion efficiency in photovoltaic systems and power grids has driven demand. As countries aim to meet stringent energy goals and reduce carbon footprints, using SiC in renewable energy technologies is expected to expand significantly.

The global shift toward EVs is another critical driver for SiC demand. In EV powertrains,

silicon carbide offers higher efficiency than traditional silicon-based devices, leading to longer driving ranges and faster charging capabilities. With major automakers scaling up EV production, the demand for SiC-based semiconductors is expected to rise. In addition, SiC is used in automotive components such as braking systems and engine parts, further boosting its adoption.

Moreover, the aerospace industry is turning to silicon carbide for high-temperature, wear-resistant applications such as jet turbine blades and aerospace electronics. SiC's ability to withstand extreme environments while maintaining its strength makes it a preferred material for producing critical components that must endure high pressures and temperatures. Furthermore, SiC is used in advanced defense systems for sensors and radars, where durability and performance are paramount.

The growing demand for specialty ceramics, especially in defense, aerospace, and electronics sectors, contributes to the rising need for silicon carbide. Its hardness and resistance to wear and corrosion make it ideal for producing durable ceramic components. Industries that require materials with high mechanical strength, such as the automotive and steel sectors, are also turning to SiC-based ceramics to enhance performance and reduce maintenance costs.

Silicon carbide is increasingly used in the steel industry to improve furnace operations and reduce emissions. SiC's high thermal conductivity allows for more efficient energy use, thus enabling cleaner and faster steel production processes. This aligns with the global push towards reducing carbon emissions, particularly in heavy industries like steelmaking, which are traditionally energy-intensive.

#### Global Spherical Silicon Carbide Market Report Segmentation

This report forecasts revenue growth at global, regional & country levels and provides an analysis of the industry trends in each of the segments from 2018 to 2030. For this study, Grand View Research has segmented the global spherical silicon carbide market based on the product, application, and region:

Product Outlook (Revenue, USD Million, 2018 - 2030)

Below 30.0 ?m

30.0-50.0 ?m

Above 50.0 ?m

Application Outlook (Revenue, USD Million, 2018 - 2030)

Filler Material

Ceramic Material

Coating

Other

Regional Outlook (Revenue, USD Million, 2018 - 2030)

North America

U.S.

Canada

Mexico

Europe

Germany

UK

France

Italy

Spain

Asia Pacific

China

Japan

India

Central & South America

Brazil

Middle East & Africa

Saudi Arabia

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