

# **Global Boron Carbide Market Size Study, by Grade (Abrasive, Macrogrit, Microgrit, Nuclear, Refractory), by Physical Form (Powder, Granular, Paste), by End-Use (Armors & Ballistic Protection, Industrial Abrasives, Neutron Shielding, Refractory Materials, Others), and Regional Forecasts 2022-2032**

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## **Abstracts**

Global Boron Carbide Market is valued approximately at USD 153.9 million in 2023 and is anticipated to grow with a healthy growth rate of more than 5.3% over the forecast period 2024-2032. Boron carbide, recognized for its exceptional hardness and chemical resistance, plays a vital role across diverse industries, from defense to nuclear power. With the global construction and modernization of nuclear reactors, boron carbide's demand is surging, particularly due to its application as a neutron-absorbing material and its ability to withstand extreme conditions. The chemical compound is instrumental in enhancing the safety and efficiency of nuclear reactors, further cementing its importance in the global nuclear landscape.

The demand for boron carbide is also being fueled by the defense sector, where its lightweight yet incredibly hard nature makes it ideal for use in body and vehicle armor. Governments worldwide are increasing their defense budgets, driving the need for advanced materials that offer superior protection. Moreover, research and development in enhancing the material properties of boron carbide, such as adding silicon to improve impact resistance, are set to further propel its adoption in the defense sector. However, the high cost of boron carbide, compounded by stringent government regulations aimed at curbing environmental pollution, poses challenges to market growth. The material's complex and expensive manufacturing processes add to these challenges, although ongoing research into cost-effective production methods offers some relief.

The key regions considered in the study include Asia Pacific, North America, Europe, Latin America, and the Middle East and Africa. North America leads the market, driven by its robust defense industry and the significant presence of nuclear reactors. Meanwhile, Asia Pacific is expected to witness the fastest growth, supported by rising industrial activities, increasing defense budgets, and the expansion of nuclear power infrastructure in countries like China and India.

Major market players included in this report are:

Washington Mills North Grafton, Inc.

Saint-Gobain S.A.

3M

UK Abrasives, Inc.

Songshan Specialty Materials, Inc.

ABSCO Limited

Advanced Abrasives Corporation

Dalian Zhengxing Abrasive Co., Ltd.

Henan E-Grind Abrasives Co. Ltd

Bhukhanvala Industries Pvt. Ltd.

Feldco International

U.S. Electrofused Minerals, Inc.

CDH Fine Chemicals

TRBOR

Schunk Ingenieurkeramik GmbH

The detailed segments and sub-segment of the market are explained below:

By Grade

Abrasive

Macrogrit

Microgrit

Nuclear

Refractory

By Physical Form

Powder

Granular

Paste

By End-Use

Armors & Ballistic Protection

Body Armors

Vehicle Armors

Industrial Abrasives

Grinding and Polishing

Others

By Region:

North America

U.S.

Canada

Europe

UK

Germany

France

Italy

Spain

Rest of Europe

Asia Pacific

China

Japan

India

South Korea

Australia

Rest of Asia Pacific

Latin America

Brazil

Mexico

Rest of Latin America

Middle East & Africa

Saudi Arabia

South Africa

Rest of Middle East and Africa

Years considered for the study are as follows:

*Global Boron Carbide Market Size Study, by Grade (Abrasive, Macrogrit, Microgrit, Nuclear, Refractory), by Phy...*

Historical year – 2022

Base year – 2023

Forecast period – 2024 to 2032

Key Takeaways:

Market Estimates & Forecast for 10 years from 2022 to 2032.

Annualized revenues and regional-level analysis for each market segment.

Detailed analysis of the geographical landscape with country-level analysis of major regions.

Competitive landscape with information on major players in the market.

Analysis of key business strategies and recommendations on future market approach.

Analysis of the competitive structure of the market.

Demand-side and supply-side analysis of the market.

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