

Synthetic Diamond Market Report by Type (Polished, Rough), Manufacturing Process (High Pressure High Temperature, Chemical Vapor Deposition), Application (Gem, Heat Sinks and Exchangers, High-End Electronics, Laser and X-Ray, Machining and Cutting Tools, Surgical Machinery, Water Treatment, Medical, Optical, and Others), and Region 2024-2032

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Abstracts

The global synthetic diamond market size reached US\$ 16.0 Billion in 2023. Looking forward, IMARC Group expects the market to reach US\$ 28.8 Billion by 2032, exhibiting a growth rate (CAGR) of 6.5% during 2024-2032.

Synthetic diamonds are man-made or laboratory-grown diamonds generally manufactured by subjecting graphite under high-pressure, high-temperature (HPHT) and chemical vapor deposition (CVD) methods. They are widely used as hard coatings for industrial equipment, such as wire-drawing dies, quarrying saws, grinding wheels, machine tools, and mining drills. Unlike natural diamonds, synthetic diamonds are produced under precisely regulated circumstances, have fewer flaws, and exhibit limited indications of strain in their crystal structure. Apart from this, they exhibit hardness, electron mobility, and thermal conductivity, due to which they find extensive applications across the construction, electronics, mining, and oil and gas industries.

Synthetic Diamond Market Trends:

Significant growth in the electronics industry across the globe is creating a positive outlook for the market. Synthetic diamonds are widely used in high-power switches at power plants, high-frequency field-effect transistors, and light-emitting diodes (LEDs). In line with this, the widespread product adoption in telecommunications, due to its high

refractive index with minimized information loss during high-level-security signal transmission, is favoring the market growth. Apart from this, synthetic diamonds are sustainable and free of unethical mining, which, in turn, is providing an impetus to the market growth. Furthermore, the extensive product utilization in various industrial applications, such as manufacturing machines and computer chips, mining, medical procedures, space science, and stone cutting, is acting as another growth-inducing factor. Besides this, the growing popularity of synthetic diamonds as an alternative to natural diamonds owing to their eco-friendliness, rising disposable incomes of consumers, and widespread product incorporation in UV (ultraviolet) light or high-energy particle detectors are anticipated to drive the market toward growth.

Key Market Segmentation:

IMARC Group provides an analysis of the key trends in each sub-segment of the global synthetic diamond market report, along with forecasts at the global, regional and country level from 2024-2032. Our report has categorized the market based on type, manufacturing process and application.

Breakup by Type:

- Polished
- Rough

Breakup by Manufacturing Process:

- High Pressure High Temperature
- Chemical Vapor Deposition

Breakup by Application:

- Gem
- Heat Sinks and Exchangers
- High-End Electronics
- Laser and X-Ray
- Machining and Cutting Tools
- Surgical Machinery
- Water Treatment
- Medical
- Optical
- 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 Applied Diamond Inc., D.NEA, Element Six (UK) Ltd., Finegrown Diamonds, Henan Huanghe Whirlwind Co. Ltd, Henan Liliang Diamond Co. Ltd., Heyaru Engineering Pvt. Ltd., Hyperion Materials & Technologies Inc., Iljin Diamond Co. Ltd., Industrial Abrasives Ltd, New Diamond Technology, Soham Industrial Diamonds, Swarovski AG and Zhengzhou Sino-Crystal Diamond Co. Ltd.

Key Questions Answered in This Report

1. What was the size of the global synthetic diamond market in 2023?

2. What is the expected growth rate of the global synthetic diamond market during 2024-2032?
3. What are the key factors driving the global synthetic diamond market?
4. What has been the impact of COVID-19 on the global synthetic diamond market?
5. What is the breakup of the global synthetic diamond market based on the manufacturing process?
6. What is the breakup of the global synthetic diamond market based on the application?
7. What are the key regions in the global synthetic diamond market?
8. Who are the key players/companies in the global synthetic diamond market?

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