Graphite Electrode Market | Growth, Trends, Covid-19 Impact, and Forecasts (2023 - 2028)

Market Report | 2023-01-23 | 180 pages | Mordor Intelligence

AVAILABLE LICENSES:

- Single User License $4750.00
- Team License (1-7 Users) $5250.00
- Site License $6500.00
- Corporate License $8750.00

Report description:

The graphite electrode market was valued at USD 8,791.65 million in 2021, and it is projected to register a CAGR of 4.6% during the forecast period (2022-2027).

The graphite electrode market was affected negatively by the COVID-19 outbreak in 2020. However, with the resumption of operations in major end-user industries, the market recovered significantly in 2021.

Key Highlights
In the short term, the strong growth in steel production in emerging countries and the rising availability of steel scrap in China are expected to drive the market's growth.
On the flip side, soaring prices for needle coke are likely to hinder the growth of the studied market.
The rising production of steel through electric arc furnace (EAF) technology in China is expected to act as an opportunity for the market in the coming years.
The Asia-Pacific region is expected to dominate the market due to strong demand from China.

Graphite Electrode Market Trends

Electric Arc Furnace Segment to Dominate the Market

Electric arc furnace (EAF) melts steel scrap, DRI (direct reduced iron), HBI (hot briquetted iron, which is compacted DRI), or pig

iron in solid form to produce steel. In the EAF route, electricity provides the required power to melt the feedstock.
Graphite electrode is primarily used in the electric arc furnace (EAF) steelmaking process to melt steel scrap. Electrodes are made of graphite due to their ability to withstand high temperatures. In EAF, the tip of the electrode can reach 3,000? F, which is half the temperature of the surface of the sun. The size of electrodes varies widely from 75 mm to as large as 750 mm in diameter and up to 2,800 mm in length. Electric arc furnaces (EAF) in steel mills and iron and steel foundries commonly use UHP electrodes (usually 350 mm and larger) and HP and UHP electrodes (typically 400 mm and smaller), respectively.
The price surge of graphite electrodes in the recent past has boosted EAF mills' costs. In China, the prices of graphite electrodes witnessed a growth of more than 700% in 2019 compared to 2017. As of February 16, 2022, the average price of the graphite electrode in China was CNY 20,818/ton, up by 5.17% from the beginning of the year and 44.48% from the same period last year.
In China, EAF steel accounts for around 10% of the overall share in the current scenario. However, the situation is expected to change due to the growing availability of steel scrap in the country and the government policies supporting the usage of steel scrap. Due to such factors, the demand for graphite electrodes used for EAF applications is expected to increase steadily during the forecast period.
The graphite electrode downstream steel plants are in a recovery state. The graphite electrode stock is insufficient compared to previous years. With the resumption of steel plants, its demand is expected to increase.
In conclusion, driven by the favorable demand, tight supply, and high cost, the price of graphite electrodes is expected to rise, which will boost their demand during the forecast period.

China to Dominate the Asia-Pacific Market

China holds the largest share in terms of the consumption and production capacity of graphite electrodes globally. Presently, there are more than 40 official graphite electrode producers in China, with 30 new entrants that make other refractory products, along with electrodes, observed in the past 2-3 years.?
Chinese manufacturers rushed to install capacity for graphite electrodes when the country began to commit heavily to higher rates of steel production via electric arc furnaces in 2017. EAF steelmaking technologies have been strongly encouraged by the decision-making bodies in China to reduce carbon emissions and achieve sustainability in the country's steel industry.?The production of vehicles in 2021 accounted for 2,60,82,220 units.
In March 2022, Xinyu Steel started constructing its 100 metric ton EAF project. The new mill will have a liquid steelmaking capacity of 1 million metric ton/year. ?
Chinese graphite electrode producers are making constant efforts to procure quality needle coke either via imports or through domestic procurement while securing technology for quality improvement. Chinese electrode manufacturers are also focusing on producing more UHP-grade graphite electrodes of sizes larger than 700 mm.?
The proportion of China's electric furnace steel production is lower than the global average. Driven by policy factors, the proportion is expected to increase in the future, which may boost the demand for ultra-high-power graphite electrodes.
Therefore, the abovementioned factors are expected to drive the growth of the graphite electrodes market in China.

Graphite Electrode Market Competitor Analysis

The graphite electrode market is partially consolidated, with the top five players accounting for approximately 37% of the total market in terms of production capacity in 2021. Some of the key players include SHOWA DENKO KK, GrafTech International, Fangda Carbon New Material Co. Ltd, ZHONGZE GROUP, and Dan Carbon.

Additional Benefits:

The market estimate (ME) sheet in Excel format
3 months of analyst support

Table of Contents:

Graphite Electrode Market | Growth, Trends, Covid-19 Impact, and Forecasts (2023 - 2028)

Market Report | 2023-01-23 | 180 pages | Mordor Intelligence

To place an Order with Scotts International:

- - Print this form
- - Complete the relevant blank fields and sign
- - Send as a scanned email to support@scotts-international.com

ORDER FORM:

Select license	License	Price
	Single User License	$4750.00
	Team License (1-7 Users)	$5250.00
	Site License	$6500.00
	Corporate License	$8750.00
	VAT	
	Total	

*Please circle the relevant license option. For any questions please contact support@scotts-international.com or 0048 603 394 346.

** VAT will be added at 23% for Polish based companies, individuals and EU based companies who are unable to provide a valid EU Vat Numbers.

Email*		Phone*	
First Name*		Last Name*	
Job title*			
Company Name*		EU Vat / Tax ID / NIP number*	
Address*		City*	
Zip Code*		Country*	
		Date	2026-03-02
		Signature