

# High-Strength Steel Market Slated to attain USD 177.55 billion by 2029, at a 9.6% CAGR | Says Exactitude Consultancy

*Automotive lightweighting, infrastructure projects, and energy sectors propel high-strength steel market growth.*

LUTON, BEDFORDSHIRE, UNITED KINGDOM, November 27, 2023 /EINPresswire.com/ -- The global [high-strength steel market](#) is expected to grow at 9.6 % CAGR from 2023 to 2029. It is expected to reach above USD 177.55 billion by 2029 from USD 36.29 billion in 2022.



High-strength steels are also known as structural steels because they are commonly used in structural applications. They can be made with or without the addition of a small amount of micro alloying components. Micro alloying elements such as CB, TI, MO, and V are used to create high strength low alloy steels, also known as HSLA steels. Because of the low carbon and alloy

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High-strength steel market surges on robust demand across construction, automotive, and aerospace industries, driven by its superior strength-to-weight ratio and durability.

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*Exactitude Consultancy*

content, these grades have adequate acceptable formability at the strength levels and good weldability. High-strength steel is commonly used in car body structures where long-term durability is required. Complex shapes can be more difficult to form than mild steels, but successful parts can still be produced with good die design and analysis.

The global market for high-strength steel is expanding due to increased consumption of these materials in the construction and automotive sectors, which aims to improve building strength and safety features while also

increasing vehicle fuel efficiency. The global market is expected to be driven by increased demand for high-strength steel in end-use industries such as the automotive and construction sectors. This is due to the increased use of high-strength steel as a substitute for traditional

carbon steel in auxiliary applications for the production of lightweight automobiles in the automobile industry. Furthermore, due to the building industry's explosive demand for high-strength and lightweight materials, demand for high-strength steel is expected to rise in the coming years.

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## Recent News

- December 2019 – Essar Steel India Ltd was acquired by ArcelorMittal and Nippon Steel & Sumitomo Metal Corporation jointly, and the new company is named ArcelorMittal Nippon Steel India Limited. The fourth-largest steel producer in India was Essar Steel. In this joint venture, ArcelorMittal will own 60% of the shares, with the remaining 40% being held by Nippon Steel. The joint venture and acquisition will enable the businesses to meet India's steel demand.
- May 2019 – SAIL SeQR (SAIL secure), a new brand of TMT bars that is safer and has the seldom combined properties of stronger strength and improved ductility, has been launched by the Steel Authority of India Ltd (SAIL). This brand would increase construction safety. The first consignment of these TMT bars was flagged off on May 6, 2019, in the brand-new, cutting-edge mill of SAIL's IISCO Steel Plant, an integrated steel facility situated at Burnpur in Asansol, West Bengal.

Asia Pacific accounted for the 36% Market in the High Strength Steel Market.

The market size in the Asia Pacific region, which dominates the market for high-strength steel, was USD 19.74 billion in 2022. Due to rising demand from applications in the automotive, building & construction, and mechanical & heavy equipment industries, the region is anticipated to continue to dominate over the projection period. Due to their expanding automotive and construction sectors, China, India, and Japan are major contributors to the market growth in the region. Because of its extensive vehicle industry, China is the world's top producer and consumer of this type of steel.

The expansion of developing economies like China, India, and Taiwan, among others, is responsible for the expansion of the Asia Pacific high-strength steel market. Demand for high-strength steels from the Asia Pacific region is growing as a result of reasons including rising exports from the region and the industrial sector's increased production to meet domestic demand for superior quality products.

Key Points Related to The High-Strength Steel Market:

- **Growing Demand in Automotive Industry:** High-strength steel is widely used in the automotive sector to reduce the weight of vehicles while maintaining structural integrity and safety standards. This helps improve fuel efficiency and meet stringent emission regulations.
- **Construction and Infrastructure Development:** The construction industry uses high-strength steel for structural components, leading to stronger and more durable buildings and infrastructure. The demand for such steel is influenced by global construction and infrastructure development activities.
- **Aerospace Applications:** High-strength steel is also utilized in the aerospace industry for manufacturing aircraft components. The aerospace sector's growth and demand for lightweight materials contribute to the high-strength steel market.
- **Research and Development:** Continuous research and development efforts are being made to enhance the properties of high-strength steel, making it more suitable for various applications. This includes improving strength, corrosion resistance, and formability.
- **Regional Market Dynamics:** The market conditions may vary by region, influenced by factors such as economic growth, industrialization, and government regulations.
- **Competitive Landscape:** Major steel manufacturers and suppliers are actively involved in the high-strength steel market. Companies are focused on product development, innovation, and strategic partnerships to strengthen their market position.

### High-Strength Steel Market [Technological Trends](#)

- **Advanced Manufacturing Processes:**
  - o **Microalloying:** The use of microalloying elements like niobium, vanadium, and titanium helps enhance the strength of steel without compromising other properties.
  - o **Quenching and Tempering:** Advanced heat treatment processes, such as quenching and tempering, are employed to achieve the desired combination of strength and toughness.
- **Innovations in Alloy Development:**

Ongoing research and development focus on creating new alloy compositions to improve the overall performance of high-strength steel, including increased strength, formability, and corrosion resistance.

- **Additive Manufacturing (3D Printing):**

The use of additive manufacturing techniques, including 3D printing, allows for the production of

complex geometries and customized components, potentially leading to more efficient use of high-strength steel in various applications.

- Nanostructured High-Strength Steel:

Advancements in nanotechnology enable the development of nanostructured high-strength steel, which can exhibit exceptional strength and improved mechanical properties compared to traditional steels.

- Coating Technologies:

Coating high-strength steel with advanced coatings, such as zinc-nickel alloys or other corrosion-resistant coatings, enhances its durability and extends its lifespan in various applications.

### High-Strength Steel Market Key Players

- ArcelorMittal S.A.
- United States Steel Corporation
- Baosteel Group Corporation
- Ssab Ab
- Voestalpine Ag
- Posco Group
- Nippon Steel & Sumitomo Metal Corporation
- Steel Authority of India Limited
- Tata Steel
- Angang Steel Company Limited
- Hebei Puyong Iron and Steel Group Co. Ltd.
- Jiangsu Shagang International Trade Co. Ltd
- Jfe Steel Corporation
- Nucor Corporation
- China Steel Corporation
- Thyssenkrupp Ag
- Metinvest Holding Llc
- Pao Severstal
- Jsw Steel
- Novo Lipetsk Steel (Nimk)
- Gerdau S.A.
- Citic
- Hyundai Steel Company
- Wuhan Iron and Steel Corporation
- Shandong Iron and Steel Group.

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Key Market Segments: High Strength Steel Market

High Strength Steel Market by Type, 2023-2029, (USD Billion), (Kilotons)

- High Strength Low Alloy
- Dual-Phase
- Bake Hardenable
- Carbon Manganese
- Others

High-Strength Steel Market by Product Type, 2023-2029, (USD Billion), (Kilotons)

- Cold Rolled
- Hot Rolled
- Metallic Coated
- Direct Rolled

High Strength Steel Market by Application, 2023-2029, (USD Billion), (Kilotons)

- Body And Closures
- Suspensions
- Bumper And Intrusion Beams
- Others

High Strength Steel Market by End-Use Industry, 2023-2029, (USD Billion), (Kilotons)

- Automotive
- Construction
- Yellow Goods & Mining Equipment
- Aviation & Marine
- Others

Market Dynamics:

- Growing Demand in Automotive Industry:

High-strength steel is widely used in the automotive industry to reduce vehicle weight while maintaining structural integrity. The increasing demand for lightweight and fuel-efficient vehicles is a key driver.

- Rising Construction Activities:

In the construction sector, high-strength steel is utilized for structural applications, contributing to the overall strength and durability of buildings and infrastructure.

- Advancements in Technology:

Ongoing advancements in metallurgical technologies contribute to the development of high-strength steel with improved properties, such as higher strength and enhanced corrosion resistance.

Drivers:

- Lightweighting Trends:

Industries like automotive and aerospace are increasingly focused on lightweight materials to enhance fuel efficiency and reduce emissions, making high-strength steel an attractive option.

- Infrastructure Development:

Growing infrastructure projects worldwide create a demand for high-strength steel in construction for its strength and load-bearing capabilities.

- Global Industrialization:

The overall growth of industrial activities globally, including manufacturing and machinery, contributes to the demand for high-strength steel.

Restraints:

- High Production Costs:

The production of high-strength steel often involves complex processes, leading to higher production costs compared to conventional steel.

- Limited Availability of Raw Materials:

The availability and cost of key raw materials, such as certain alloying elements, can impact the production and pricing of high-strength steel.

Opportunities:

- Emerging Economies:

The increasing industrialization and infrastructure development in emerging economies present significant opportunities for the high-strength steel market.

- Innovation and Research:

Ongoing research and development efforts to create new formulations and alloys with improved properties provide opportunities for market growth.

Challenges:

- Competitive Landscape:

The market for high-strength steel is competitive, and companies need to continually innovate to stay ahead in terms of product quality and cost-effectiveness.

- Environmental Concerns:

Concerns about the environmental impact of steel production may lead to increased scrutiny and regulations, potentially affecting the industry.

- Alternative Materials:

The development of alternative materials, such as advanced composites, poses a challenge to the widespread adoption of high-strength steel.

Key Question Answered

1. What is the current size of the high-strength steel market?
2. What is the expected growth rate of the high-strength steel market over the next 7 years?
3. Who are the major players in the high-strength steel market and what is their market share?
4. What are the end-user industries driving demand for the market and what is their outlook?
5. What are the opportunities for growth in emerging markets such as the Asia-pacific, the middle east, and Africa?
6. How is the economic environment affecting the high strength of the steel market, including factors such as interest rates, inflation, and exchange rates?
7. What is the expected impact of government policies and regulations on the high-strength steel market?
8. What is the current and forecasted size and growth rate of the global high-strength steel market?
9. What are the key drivers of growth in the high-strength steel market?
10. Who are the major players in the market and what is their market share?
11. What are the high-strength steel market's distribution channels and supply chain

dynamics?

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