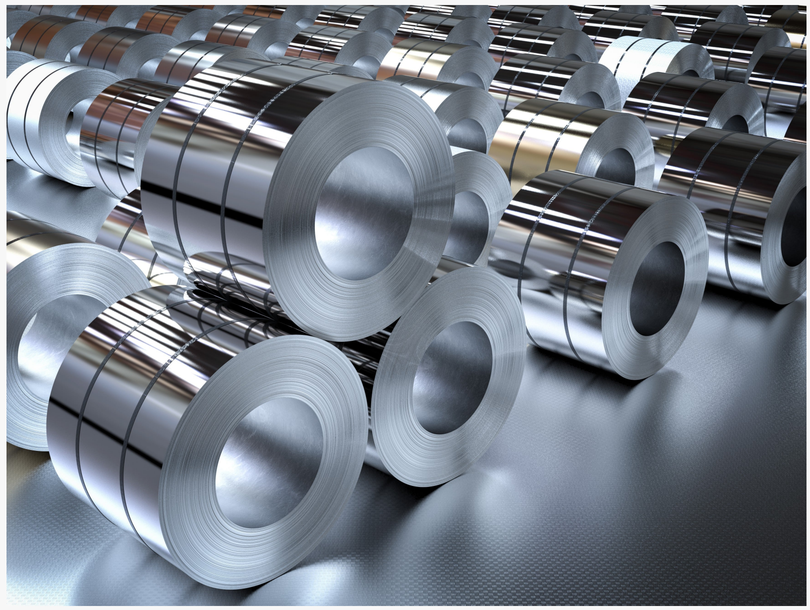
Electrical Steel Market Size to Worth Around USD 50.09 Billion by 2031 | NLMK, Voestalpine AG, POSCO, Nippon Steel

Electrical steel market was valued at US$ 35.7 Billion in 2022 in terms of revenue, exhibiting a CAGR of 6.9% during the forecast period (2022 to 2030).


Electrical Steel Market Trend

BURLINGAME, CALIFORNIA, UNITED STATES, August 7, 2024 /EINPresswire.com/ -- Market Overview:

Electrical steel, also known as silicon steel, is widely used in transformers, electric motors and generators due to its high magnetic properties and low hysteresis and eddy current losses. It is made up of silicon alloyed with conventional low carbon steel and is used in devices which require efficient conversion of electrical energy.

Market Dynamics:

Rising demand for energy-efficient technologies across various industry verticals such as automotive, transportation, electronics and renewable energy sectors is expected to drive growth of the electrical steel market. With growing concerns regarding environmental impact as well as rising energy costs, there is increased focus on developing sustainable and cost-effective solutions to optimize energy usage. Additionally, rapid industrialization along with expansion of transmission & distribution infrastructure in developing economies will further fuel the market growth over the forecast period. Implementation of stringent emission norms by regulatory bodies across the globe to curb carbon emissions is also propelling the adoption of electrical steel sheets in applications such as electric vehicles, wind turbines and home appliances.

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Electrical Steel Market Drivers

Rising demand from transformers industry driving electrical steel market growth

The transformers industry has been witnessing steady growth over the past few years. Transformers are extensively used in power transmission and distribution networks. The growing electricity demand and infrastructure development activities across the globe are fueling the demand for transformers. Electrical steel is a key raw material used in the manufacturing of transformer cores. According to estimates, around 60% of the global electrical steel production is consumed by the transformers industry alone. The continuous capacity additions in the power sector and investments toward grid upgradation are augmenting the demand for transformers. This upsurge in transformers demand is directly boosting the consumption of electrical steel.

Electrical Steel Market Opportunity

Growing adoption of non-grain oriented electrical steel presents opportunities

Traditionally, grain oriented electrical steel has dominated the electrical steel market. However, with the increasing utilization of non-grain oriented (NGO) steel in rotating electrical machines and welding transformers, its demand is witnessing a rise. Several advantages offered by NGO steel such as good magnetic properties, easy fabrication, and stability over a wide range of frequencies have triggered its adoption. The superior flexibility and low production costs associated with NGO steel are supporting its usage in several specialized applications. Moreover, the ability of NGO steel to deliver stable performance in the presence of loading harmonics is boosting its penetration. With power system requirements evolving, focus on exploiting the benefits of NGO steel is projected to open up new avenues of growth in the coming years.

Electrical Steel Market Trends

Growing focus toward developing ultra-grain oriented electrical steel

Original grain oriented electrical steel possesses extraordinary magnetic properties that make it ideal for use in power transformers applications by minimizing core losses. However, frequent grid fluctuations due to the rising share of renewables are impacting the stable functioning of power grids. This has stimulated substantial R&D initiatives toward developing advanced steel grades with even lower core losses and higher magnetic induction levels. Ultra-grain oriented (UGO) electrical steel is emerging as the next-generation steel capable of delivering higher efficiency and stable grid operations, especially in high cyclic loading conditions created by volatile renewable power. Leading steelmakers are consistently thriving to develop novel UGO steel grades through advanced silicon treatments and mechanical processes. The rising commercialization of UGO steel is projected to emerge as a key trend defining the future course of the electrical steel market.

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Top Companies Included in This Report:

 NLMK
 Voestalpine AG
 POSCO
 Nippon Steel & Sumitomo Metal Corporation
 Thyssenkrupp AG
 JFE Steel Corporation
 ArcelorMittal
 Cogent Power Limited
 Aperam
 Baosteel Group Corporation
 AK Steel Corporation
 ATI
 Schneider Electric
 Nicore Electrical Manufactory Co.
 Ltd

Market Segmentation:

Based on Product Type:

 By Type: Grain-oriented(Hi-Permeability (HiB), Conventional GOES,Laser magnetic domain refinement (LMDR)) Non-grain oriented(Fully Processed,Semi Processed)

Based on Applications:

 By Application : Transformer(Distribution,Transmission,Portable) Motors(1hp - 100hp, 101hp – 200hp, 201hp – 500hp, 501hp-1000hp, Above 1001hp) Inductors

Key Regions/Countries Classified as Follows:

» North America (U.S., Canada, Mexico)

» Europe (Germany, U.K., France, Italy, Russia, Spain, Rest of Europe)

» Asia-Pacific (China, India, Japan, Singapore, Australia, New Zealand, Rest of APAC)

» South America (Brazil, Argentina, Rest of SA)

» Middle East & Africa (Turkey, Saudi Arabia, Iran, UAE, Africa, Rest of MEA)

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FAQ:
What is the scope of this report?

Does this report estimate the current market size?

Does the report provide market size in terms of Value (US$ Mn) and Volume (thousand ton/metric ton/cubic meter)?

Which segments are covered in this report?

What are the key factors covered in this report?

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Author Bio:

Vaagisha brings over three years of expertise as a content editor in the market research domain. Originally a creative writer, she discovered her passion for editing, combining her flair for writing with a meticulous eye for detail. Her ability to craft and refine compelling content makes her an invaluable asset in delivering polished and engaging write-ups.

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