

# **Grained Electrical Steel Market - Global Industry Size, Share, Trends, Opportunity, and Forecast, Segmented By Product Type (Conventional, High Magnetic Strength Sheets, and Domain Refinement), By Thickness (0.2 mm and Below, 0.23 mm, 0.27 mm, 0.30 mm, and 0.35 mm and Above), By Application (Transformer, Power Generator, Electric Motor, and Others), By Region & Competition, 2021-2031F**

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## **Abstracts**

The Global Grained Electrical Steel Market will grow from USD 10.34 Billion in 2025 to USD 16.04 Billion by 2031 at a 7.59% CAGR. Grained electrical steel is a specialized ferromagnetic alloy engineered with a specific crystal alignment to minimize magnetic energy loss and facilitate efficient unidirectional magnetization. This material serves as a critical core component in the manufacturing of power transformers and large generators which are essential for high voltage energy transmission.

## **Key Market Drivers**

The Rapid Expansion of Renewable Energy Generation Capacity serves as a foundational catalyst for the market, fundamentally altering the requirements for power transmission hardware. As nations transition toward cleaner energy matrices, the intermittent nature of solar and wind power necessitates a more robust and responsive grid architecture, which directly intensifies the reliance on high-efficiency transformers and their grain-oriented electrical steel cores.

## **Key Market Challenges**

The volatility of raw material prices and supply chain instabilities presents a substantial barrier to the steady expansion of the Global Grained Electrical Steel Market.

Manufacturers rely on a consistent flow of high-quality inputs to maintain the precise magnetic properties required for these alloys, and any disruption in the supply chain leads to immediate production delays. Furthermore, erratic fluctuations in the cost of essential raw materials and energy create an unpredictable pricing environment. This forces producers to inflate manufacturing costs, which subsequently deters investment from utility providers who are operating under fixed budgets for grid infrastructure projects.

### **Key Market Trends**

The Emergence of Hydrogen-Based Green Steel Production Processes is fundamentally transforming the manufacturing landscape as producers strive to mitigate Scope 1 and Scope 2 emissions. This trend is driven by stringent industrial decarbonization mandates that compel steelmakers to replace carbon-intensive blast furnaces with hydrogen-based direct reduction technologies, thereby reducing the embedded carbon footprint of the ferromagnetic cores used in electrical equipment.

### **Key Market Players**

Nippon Steel Corporation

POSCO

ArcelorMittal

Thyssenkrupp Steel

Baowu Steel Group

JFE Steel Corporation

Voestalpine AG

NLMK Group

Aperam S.A.

## AK Steel Holdings Corporation

### Report Scope:

In this report, the Global Grained Electrical Steel Market has been segmented into the following categories, in addition to the industry trends which have also been detailed below:

#### Grained Electrical Steel Market, By Product Type:

Conventional

High Magnetic Strength Sheets

Domain Refinement

#### Grained Electrical Steel Market, By Thickness:

0.2 mm and Below

0.23 mm

0.27 mm

0.30 mm

0.35 mm and Above

#### Grained Electrical Steel Market, By Application:

Transformer

Power Generator

Electric Motor

Others

## Grained Electrical Steel Market, By Region:

### North America

United States

Canada

Mexico

### Europe

France

United Kingdom

Italy

Germany

Spain

### Asia Pacific

China

India

Japan

Australia

South Korea

### South America

Brazil

Argentina

Colombia

Middle East & Africa

South Africa

Saudi Arabia

UAE

### **Competitive Landscape**

Company Profiles: Detailed analysis of the major companies present in the Global Grained Electrical Steel Market.

### **Available Customizations:**

Global Grained Electrical Steel Market report with the given market data, TechSci Research offers customizations according to a company's specific needs. The following customization options are available for the report:

### **Company Information**

Detailed analysis and profiling of additional market players (up to five).

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