

Nanocrystalline Soft Magnetic Materials in North America to Projected Reach to Grow at a CAGR of 8.5%

Analysis of Nanocrystalline Soft Magnetic Material Industry Covering Countries Includes Analysis of United States and Canada.

MD, UNITED STATES, December 21, 2024 /EINPresswire.com/ -- Sales of nanocrystalline soft magnetic materials in North America are calculated at US\$ 1.92 billion for 2024. The North American market is projected to expand at a CAGR of 8.5% and reach US\$ 4.34 billion by 2034.

The North American nanocrystalline soft magnetic materials market is undergoing rapid growth due to the rising demand for high-performance and energy-efficient materials across industries such as automotive, electronics, and renewable energy. These materials are critical in



Nanocrystalline Soft Magnetic Material Industry
Analysis in North America

applications like electric motors, transformers, and power electronics, where energy efficiency is paramount.

Market Overview

Nanocrystalline soft magnetic materials are favored for their superior magnetic properties, including high saturation magnetization, low core loss, and good thermal stability. These properties make them ideal for use in a variety of devices, from transformers and electric vehicle (EV) motors to power supplies in consumer electronics. As the demand for energy-efficient solutions increases, particularly in the EV and renewable energy sectors, the market for nanocrystalline materials is expected to continue expanding.

In the automotive industry, the shift towards electric vehicles (EVs) has led to a surge in demand for efficient and lightweight materials that improve motor performance. Nanocrystalline soft magnetic materials play a key role in this transition, as they help reduce power losses and improve efficiency in electric motors and other key components of EVs. Additionally, these materials are also gaining traction in industrial machinery, where energy efficiency is a major concern, further boosting their market potential.

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Key Players

Leading players in the North American nanocrystalline soft magnetic materials market include major industry names such as Hitachi Metals, VacuumSchmelze, JFE Steel Corporation, and Mitsubishi Materials Corporation. These companies are actively involved in the development and commercialization of advanced nanocrystalline materials. They leverage cutting-edge technologies to improve the magnetic properties and efficiency of their products, catering to diverse industries like automotive, energy, and consumer electronics.

For instance, Hitachi Metals has long been a key player in the market, known for its expertise in producing high-performance magnetic materials. The company continues to focus on developing materials that meet the increasing demands of energy-efficient applications, including those in renewable energy and automotive sectors. Similarly, VacuumSchmelze is another major player known for its innovative approach to soft magnetic materials, with a focus on applications in the energy, automotive, and industrial sectors.

Market Analysis

The market for nanocrystalline soft magnetic materials in North America is experiencing steady growth, driven by the need for energy-efficient solutions and the shift toward green technologies. With electric vehicles (EVs) becoming a central focus of the automotive industry, the demand for these materials is increasing, as they are essential in electric motors, power inverters, and other EV components. Moreover, the growing adoption of renewable energy sources, including wind turbines and solar power systems, is further propelling demand for nanocrystalline soft magnetic materials. These materials are vital in ensuring efficient energy conversion and storage systems.

The ongoing trend toward miniaturization of consumer electronics is another important driver for the market. As devices become smaller, the need for more efficient magnetic materials that can operate at higher frequencies and reduced sizes becomes crucial. Nanocrystalline materials fit this need, as they offer superior performance while remaining compact and lightweight.

Additionally, these materials' high saturation magnetization and low power losses are essential for improving the energy efficiency of electrical systems. As such, industries focusing on sustainability and energy efficiency are increasingly adopting nanocrystalline materials in their products, further strengthening the market's growth prospects.

Future Opportunities

The future of the nanocrystalline soft magnetic materials market in North America appears promising, with several key opportunities on the horizon. The ongoing development of electric vehicles (EVs) is expected to be one of the primary growth drivers in the coming years. As automakers continue to invest in more energy-efficient EV technologies, the demand for high-performance materials like nanocrystalline soft magnetic materials will rise significantly. The materials' ability to enhance the performance of EV motors, powertrains, and charging stations positions them as an essential component in the future of the automotive industry.

In addition, the renewable energy sector is expected to create further growth opportunities. Wind turbines, which require efficient and reliable magnetic materials, are increasingly adopting nanocrystalline soft magnetic materials for their generators. These materials help improve power output and reduce energy losses, making them a critical component in the development of more sustainable energy systems.

Furthermore, the growing focus on sustainability and eco-friendly technologies presents an opportunity for companies to invest in the development of new, more energy-efficient magnetic materials. As the demand for greener technologies continues to rise, companies that specialize in the development of nanocrystalline materials with enhanced magnetic properties and lower environmental impact will likely see significant market opportunities.

Recent Updates and Industry News

Recent developments in the nanocrystalline soft magnetic materials market highlight the ongoing innovation in the industry. Companies are continually refining their products to meet the evolving demands of various sectors, particularly those related to energy efficiency and sustainability.

For example, VacuumSchmelze has recently introduced new types of nanocrystalline alloys designed for use in power electronics and high-frequency applications. These alloys are optimized to minimize core losses, making them ideal for next-generation electric motors and transformers. Similarly, Hitachi Metals is focusing on improving the efficiency of its nanocrystalline materials for use in both automotive and renewable energy applications, ensuring they remain at the forefront of the market.

In addition to advancements in product development, partnerships and collaborations between key players are becoming more common. Companies are increasingly working together to combine their expertise and technological capabilities, driving the development of new products and applications. These collaborations are expected to further accelerate the growth of the nanocrystalline soft magnetic materials market, especially as industries such as automotive and energy transition toward more sustainable and energy-efficient technologies.

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Sales of <u>nanocrystalline soft magnetic materials in APEI</u> are set to reach US\$ 2.55 billion in 2024 and are forecasted to climb to US\$ 7.99 billion by 2034, increasing at a CAGR of 12.1% from 2024 to 2034.

Sales of <u>nanocrystalline soft magnetic materials in Eastern Europe</u> are estimated at US\$ 654.6 million in 2024, as revealed in a new Fact.MR market research report. Demand for NCSMM in the region is projected to accelerate at a CAGR of 8.3% and reach a market value of US\$ 1.45 billion by the end of 2034.

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Contact:

US Sales Office 11140 Rockville Pike Suite 400 Rockville, MD 20852 United States

Tel: +1 (628) 251-1583, +353-1-4434-232 (D)

Sales Team: sales@factmr.com

S. N. Jha Fact.MR + +1 628-251-1583 email us here

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