China Automotive Parts Aluminum Die Casting - Market Share Analysis, Industry Trends & Statistics, Growth Forecasts (2024 - 2029)

Market Report | 2024-02-17 | 85 pages | Mordor Intelligence

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Report description:

The China Automotive Parts Aluminum Die Casting Market size is estimated at USD 10.41 billion in 2024, and is expected to reach USD 15.49 billion by 2029, growing at a CAGR of 8.26% during the forecast period (2024-2029).

Over the long term, increasing investments in research and development by major industry players, a rise in sales of electric and hybrid vehicles, and the rising demand for commercial vehicles have been creating demand in the Chinese automotive and transportation industry with a surge in sales of automotive parts with aluminum die-casting.

China is one of the largest markets for automobiles in the world and is expected to grow more in the future. An increase in the production of passenger cars and commercial vehicles is expected to drive the market for automotive parts developed through aluminum die casting. Pollution is becoming a serious concern, and governing bodies are focused on curbing the pollution caused by vehicles. At the same time, automobile manufacturers are opting for lightweight components to reduce fuel consumption and curb the emission of harmful pollutants into the atmosphere.

The government is pushing automobile manufacturers and encouraging customers to adopt electric vehicles by providing subsidies as the country is planning to completely ban diesel and petrol vehicles. An increase in the production of electric vehicles, such as passenger cars and commercial vehicles, is expected to boost the sales of automotive parts developed through aluminum die casting.

China Automotive Parts Aluminum Die Casting Market Trends

Body Parts Segment is Expected to Register High Growth Rate Over the Forecast Period

Automotive body parts are becoming advanced and innovative with the evolution of new technologies. Among them, the use of lightweight materials for the manufacturing of body components is gaining attention globally. One of the important factors for this trend is the enhanced fuel economy of automobiles through the adoption of lightweight automotive materials in manufacturing crucial parts. Additionally, lightweight vehicles must be manufactured without compromising on safety while also ensuring quality and performance.

In the present scenario, nearly 30-35% of the auto components in a vehicle are made of aluminum alloys, which are mostly developed using the die-casting process due to their higher output volumes and immense flexibility in component design. Electric vehicles (EVs) are expected to use 25% to 27% more aluminum by weight than combustion engine cars during the forecast period. Currently, at an average of 250 kg of aluminum per unit, electric vehicles have already created a demand for around 250,000 million metric tons of aluminum, which is expected to soar to 10 million tons by 2030.

Furthermore, aluminum is a lightweight material with a density of about one-third that of steel material. Using high-pressure die casting for automotive body components allows manufacturers to create lightweight yet strong parts. This weight reduction contributes to overall vehicle weight reduction, enhancing fuel efficiency, range, and handling. Thus, due to the chemical properties of the material, the application and demand for aluminum parts are predicted to increase in the Chinese automotive industry. This, in turn, would expand the market for aluminum die casting in the Chinese automotive industry.

Pressure Die Casting Segment Holds a Significant Market Share -

Aluminum is the most preferred material for pressure die casting within automotive applications, and hybrid and electric vehicle technologies are on the rise. Pressure die casting is expected to be a key contributor in areas of transmission, power train components, and battery compartment housings. For instance, electric vehicles (EVs) are expected to use 25% to 27% more aluminum by weight than combustion engine cars over the coming years.

In China, More than 6 million electric vehicles were sold in 2022, which is an increase of 82.33% over 2021. This massive increase in electric vehicle sales can be attributed to the government incentives provided for the purchase of electric vehicles both at the central and provincial levels, rising vehicular pollution, growing levels of environmental consciousness, and the announcements to ban sales of new ICE vehicles from 2040. Such instances are expected to drive the demand for high-pressure die-casting components owing to their advantages. In addition, the companies manufacturing EVs are also actively procuring these pressure die-casting machines and are adopting this technology to prepare themselves to cater to the growing consumer demand.

The major players across the country are focusing on upgrading their portfolios and focusing the expansion of their manufacturing plants, collaborations, etc., on pitching themselves as top players in the market. For instance,

In April 2022, Nantong Jiangzhong Photoelectricity Co. Ltd ordered two new die-casting machines from Italpressegaus. The two TF 2800 High-Pressure Die Casting (HPDC) machines will be installed at Jiangzhong's facility in Jiangsu Province later this year. They will help Nantong Jiangzhong focus on toggle-free two-platen technology as the future of modern die casting.

Based on the factors above automotive aluminum parts die-casting market is anticipated to grow at a healthy growth rate over the forecast period.

China Automotive Parts Aluminum Die Casting Industry Overview

The Chinese automotive parts aluminum die casting market is fragmented, with many players accounting for a small market share. The market is characterized by the presence of considerably large players who have secured long-term supply contracts

with major automotive OEMs. Some prominent companies in the market studied are Nemak, RYOBI Die Casting, Linamar Corporation, and ALCOA Inc. The major players in the country are entering into strategic partnerships with global leaders to gain a considerable market share. These players also engage in joint ventures, mergers and acquisitions, new product launches, and product development to expand their product portfolios and cement their market positions. For instance,

In August 2023, GF Casting Solutions announced its expansion in the Chinese market with its new plant in Shenyang, Northern China. The plant produces highly complex aluminum and magnesium castings for the automotive industry and is located close to the automotive manufacturers' (OEM) production sites.

In August 2022, Fawer Automotive Parts Limited Company invested USD 12.52 million (CNY 90 million). Through this investment, the company set up a die-casting subsidiary to develop, manufacture, and sell aluminum alloy die-casting products.

In May 2022, Rheinmetall AG and HASCO KSPG Nonferrous Components (Shanghai) Co. Ltd won a major order for transmission housings from a world-leading electric vehicle manufacturer. The transmission housings will be produced at the joint venture plant of Rheinmetall AG and HASCO KSPG Nonferrous Components (Shanghai) Co. Ltd. Each transmission housing will consist of an aluminum alloy manufactured by pressure die casting technique.

In September 2022, Alcoa Corporation launched a new high-strength, 6000 series alloy, A210 ExtruStrong, for automotive, construction, industrial, and consumer goods applications. Alcoa Corporation licensed C611 EZ cast alloy production and sales to CSMet New Material Group Co, based in Shanghai, China.

In February 2022, SuperTurbo Technologies Inc. and Linamar Corporation agreed to manufacture, test, and supply SuperTurbo turbochargers. SuperTurbo turbochargers provide an on-demand boost to internal combustion engines, which helps to precise control and balance boost pressure and air-fuel ratio. These turbochargers comply with China 7, Euro 7, and California Air Resource Board/EPA 2024/2027 emissions norms.

Additional Benefits:

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

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