

Global and China Automotive Lightweight (Materials) Industry Report, 2019-2025

Nov. 2019

STUDY GOAL AND OBJECTIVES

This report provides the industry executives with strategically significant competitor information, analysis, insight and projection on the competitive pattern and key companies in the industry, crucial to the development and implementation of effective business, marketing and R&D programs.

REPORT OBJECTIVES

- ◆ To establish a comprehensive, factual, annually updated and cost-effective information base on market size, competition patterns, market segments, goals and strategies of the leading players in the market, reviews and forecasts.
- ◆ To assist potential market entrants in evaluating prospective acquisition and joint venture candidates.
- ◆ To complement the organizations' internal competitor information gathering efforts with strategic analysis, data interpretation and insight.
- ◆ To suggest for concerned investors in line with the current development of this industry as well as the development tendency.
- ◆ To help company to succeed in a competitive market, and

METHODOLOGY

Both primary and secondary research methodologies were used in preparing this study. Initially, a comprehensive and exhaustive search of the literature on this industry was conducted. These sources included related books and journals, trade literature, marketing literature, other product/promotional literature, annual reports, security analyst reports, and other publications.

Subsequently, telephone interviews or email correspondence was conducted with marketing executives etc. Other sources included related magazines, academics, and consulting companies.

INFORMATION SOURCES

The primary information sources include Company Reports, and National Bureau of Statistics of China etc.

Abstract

As an effective way to improve dynamic performance, reduce fuel consumption and cut emissions, lightweight holds the trend for automotive sector across the world.

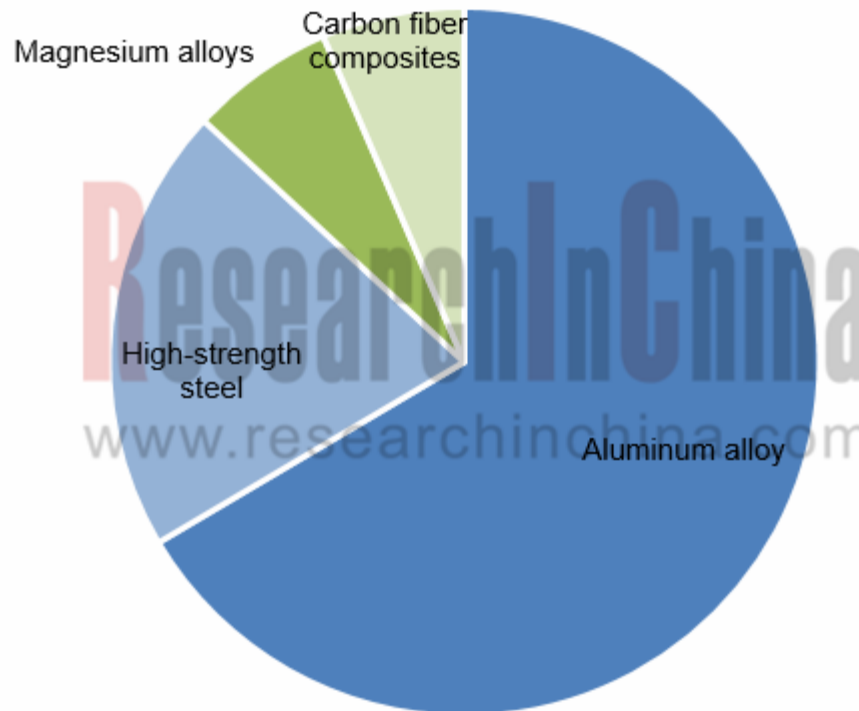
Global automobile lightweight market sustained a CAGR of roughly 10% between 2013 and 2018, being worth approximately RMB1 trillion in 2018. The ever stricter demanding of countries on automobile fuel consumption will help automobile lightweight industry develop steadily, at a CAGR of over 5% from 2019 to 2025.

As a big automobile manufacturer and seller worldwide, China's automobile lightweight market soared by 8.2% year on year to RMB340 billion (or virtually one-third of the global total) in 2018, which will expectedly show the CAGR of 7%-10% during 2019-2025. As well as a need to ease tight supply of crude oil and environmental pollution, wider use of new energy vehicles also fuels automobile lightweight demand.

Automobiles become lighter by way of using lightweight materials (now the mainstream in market) or advanced process or optimizing structure. Lightweight materials include high-strength steel, aluminum alloys, magnesium alloys and carbon fiber composites. China's development plan for lightweight technology involves the following: development priorities should be given to ultra high-strength and advanced high-strength steel technologies in the short term, on third-generation automotive steel and aluminum alloy technologies in the midterm and to magnesium alloy and carbon fiber composite technologies in the long run.

In China, high-strength steel and aluminum alloys currently find the broadest application among automotive lightweight materials. In 2018, they together commanded more than 85% of the Chinese market, of which aluminum alloys with high unit price occupied the most, over 60% in the year.

Automotive Lightweight Materials Structure in China, 2018



Source: ResearchInChina

High-strength steels: mature technology, low production cost, light weight and high safety. In 2018, automotive high-strength steel market was worth RMB68 billion or so, a figure projected to outnumber RMB100 billion in 2025. Major world-renowned manufacturers include: ArcelorMittal, Nippon Steel & Sumitomo Metal (NSSM), SSAB, JFE, ThyssenKrupp and POSCO; in China, key makers are Baosteel, WISCO, Ansteel and Panzhihua Iron & Steel, among which WISCO sweeps 50% shares in the Chinese market.

Aluminum alloys: sizable lightweight effect, reasonable technology roadmap, lower cost, and other merits. Big-name brands already apply a lot of aluminum alloy wheel hubs, aluminum alloy bodies, all-aluminum engines, and aluminum alloy transmission housings in their car models of differing classes. New energy vehicle companies take lightweight as their top priority and often use aluminum alloys, considering that battery, motor and control system add weight. It is predicted that China's automotive aluminum alloy market will be value at least RMB300 billion in 2025, compared with around RMB225 billion in 2018. More demand for aluminum alloys will be from vehicle body and chassis, and new energy vehicle aluminum alloy battery housings will be a new contributor.

Foreign aluminum alloy manufacturers are typically Ryobi, Ahresty and Georg Fischer, which remain professional and very competitive with large scale; main Chinese companies are Ningbo Xusheng Auto Technology Co., Ltd., Jiangsu Asia-Pacific Light Alloy Technology Co., Ltd. and Guangdong Hongtu Technology (holdings) Co., Ltd.. Generally speaking, Chinese companies are mostly small-sized and scattered, and the market desires to be concentrated with tremendous room for growth.

Magnesium alloys: poor corrosion resistance, flammability, high cost and other demerits. Magnesium alloys are used not so widely as aluminum alloys in automobiles. They are often found in interiors, wheel hubs and powertrains. In 2018, China's automotive magnesium alloy market was worth about RMB20 billion. As yet, key local producers are comprised of Nanjing Yunhai Special Metals Co., Ltd., Zhejiang Wanfeng Auto Wheel Co., Ltd. and Qinghai Salt Lake Industry Co., Ltd., among which Nanjing Yunhai Special Metals Co., Ltd. leads the market.

Carbon fiber composites: application of carbon fiber composites in automobiles is still in its infancy in China. Such expensive materials are often utilized in racing cars, supercars and other luxury cars, and seldom used in general civilian cars. In 2018, China's automotive carbon fiber composites market was valued at RMB20 billion. Carbon fiber composites will become increasingly widespread if production cost is lowered as they well outperform steel, magnesium and aluminum in reducing automobile weight.

The following are highlighted in the report:

- Automotive lightweight (definition, technology, development opportunities, etc.);
- Global automotive lightweight industry (scale, status quo in major countries, development trends, etc.);
- China automotive lightweight industry (prospects, market size, market structure, development trends, etc.);
- Automotive lightweight materials (high-strength steel, aluminum alloy, magnesium alloy and carbon fiber composites) (application, market size, etc.);
- Automotive lightweight (lightweight chassis, body and components) (application, market size, competitive pattern, etc.);
- 12 aluminum alloy manufacturers, 4 high-strength steel makers, 4 carbon fiber composites producers and 4 magnesium alloy manufacturers (operation, lightweight material business, etc.).

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