

Lightweight Materials Market Size, Share & Trends Analysis Report By Product (Aluminum, High Strength Steel), By Application (Automotive, Aviation, Energy), By Region, And Segment Forecasts, 2018 - 2024

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Abstracts

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The global lightweight materials market size is expected to reach USD 225.3 billion by 2024, according to a new report by Grand View Research, Inc., exhibiting a CAGR of 8.9% during the forecast period. Rising material innovation in aviation is expected to improve demand for lightweight materials.

The design of an aircraft must take into consideration a number of factors, such as life-cycle cost, strength-to-weight ratio, fatigue life, fracture toughness, corrosion resistance, and reliability. The importance of these factors governs the choice of materials used in the manufacture of aircraft.

Initially, metals were used to manufacture aircraft as they provide necessary tensile strength to the aircraft. The invention of drones or fighter planes with good aerodynamic balance and fuel efficiency has led to usage of lightweight materials in the aviation industry.

The lightweight materials market is dominated by aluminum, high strength steel, and polymers & composites and are expected to continue doing so in future. Their increased application in various fields is expected to augment demand.

Currently, high strength steel and aluminum are more popular; however, polymers and composites are expected to gain more popularity on account of reduction in prices and

increased production of polymers and composites.

Alumina, iron ore, nickel, rutile, and polyacrylonitrile are key raw materials used for manufacturing lightweight materials. These raw materials are further processed to obtain lightweight materials. alumina, rutile, iron ore, and nickel are naturally found in ores whereas polyacrylonitrile, which is one of the major raw materials for carbon composites, is manufactured from petroleum.

Further key findings from the report suggest:

The global lightweight materials market is anticipated to reach 61,925.6 kilotons by 2024, at a CAGR of 8.3% from 2015 to 2022

In terms of revenue, the high strength steel segment is projected to ascend at a CAGR of 10.2% over the forecast period

The automotive application dominated the global lightweight materials market with a share of over 86.0% in 2015

The North America lightweight materials market is anticipated to exceed 12,377.7 kilotons by 2024

Europe is projected to witness a remarkable CAGR of 8.2% over the forecast, owing to increasing investments in the energy sector

Asian countries, especially India and China, are expected to observe remarkable growth in next few years

The market is partially consolidated and competitive in nature, with strong presence of multinational players

Some of the key companies in the market are Guardian Industries; Cytec Solvay Group; SABIC; Formosa Plastics; Alcoa Inc.; Allegheny Technology Incorporated; Aleris International; and Covestro LLC.

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