

Titanium Alloy Market - Growth, Trends, Covid-19 Impact, and Forecasts (2023 - 2028)

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Report description:

The titanium alloy market was estimated at over USD 4,500 million in 2021, and the market is expected to register a CAGR of over 7% during the forecast period (2022-2027).

The market was negatively affected due to COVID-19 in 2020. However, the condition has recovered in 2021, which is expected to drive the market during the forecast period (2022-2027).

Key Highlights

Over the short term, the market's growth is majorly driven by the growing usage of Titanium alloys in the aerospace sector and increasing demand for titanium alloys for combat vehicles to replace steel and aluminum.

On the flip side, the high reactivity of alloy demands specialized care during production. This is expected to act as a restraint for the market.

Furthermore, innovative product development is likely to be an opportunity for the market during the forecast period.

By microstructure segment, the alpha and near-alpha alloy segment is estimated to account for the largest share.

Titanium Alloy Market Trends

Alpha and Near-alpha Alloys to Drive the Titanium Alloys Market

Alpha and near-alpha alloys are primarily pure commercial titanium alloys, which maintain the alpha phase at room temperature

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and contain alpha stabilizers, aluminum, oxygen, and tin.

Near-alpha alloys have some amount of beta-phase ductility and are alloyed by 1-2% of beta stabilizers (silicon and molybdenum) in a few alloy products.

Alpha alloys find wide applications in steam turbine blades, gas turbines, autoclaves and other process equipment vessels, aircraft engine compressor blades, airframe and jet engine parts, welded stator assemblies, missile fuel tanks, structural parts, and hollow compressor blades, among others. They can be used at a high range of temperatures than alpha-beta alloys.

In the United States, in November 2020, the Senate was planning an investment of about USD 1.7 billion to buy 17 more F-35 fighter jets for the military in the fiscal year 2021. The plan includes an order of twelve F-35As for the Air Force and five F-35Cs for the Navy and Marine Corps for a total of 96 jets in FY21.

Hence, with such trends in the aerospace and defense sector, the demand is expected to drive the production of aircraft and jets, thus, creating derived demand for titanium alloys.

The increasing demand for SUVs and lightweight vehicles and governments supporting the production and sale of electric vehicles through favorable policies are also expected to stimulate the market for titanium alloys.

All the aforementioned factors are expected to drive the demand for alpha and near-alpha alloys over the forecast period and hence drive the titanium alloy market.

China to Dominate the Asia-Pacific Region

China dominated the titanium alloy market in the Asia-Pacific region, and it is expected to continue dominating the market during the forecast period, owing to the increasing demand from the chemical, high-end aerospace, medical, and environmental protection sectors.

The launch of new production facilities by Xinjiang New Material Co. Ltd and Chaoyang Baisheng Co. Ltd in China is expected to have a major role in boosting the production rate of titanium.

The demand for titanium alloy in the aerospace industry in China is mainly driven by the growing manufacturing activities of the aerospace industry in the country. Aerospace is a priority industry for the country, with the government investing huge amounts to increase its domestic manufacturing capabilities.

The Chinese aerospace policy represents one of the most comprehensive attempts to enter the top levels of aerospace development and production. China is expected to be the world's largest single-country market for civil aircraft sales over the next 20 years.

Under the plan 'Made in China 2025', it is expected that China is likely to supply over 10% of homemade commercial aircraft to the domestic market by 2025. This is expected to propel the demand for titanium alloys during the forecast period.

Thus, positive growth is expected to drive the titanium alloy market throughout the forecast period. Overall, the Asia-Pacific region is expected to register a high CAGR over the forecast period.

Titanium Alloy Market Competitor Analysis

The titanium alloy market is partially fragmented. The major companies include VSMPO-AVISMA Corporation, NIPPON STEEL CORPORATION, Allegheny Technologies Inc. (ATI), Kobe Steel Ltd, and Timet.

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