Thermal Spray Materials - Market Share Analysis, Industry Trends & Statistics, Growth Forecasts (2025 - 2030)

Market Report | 2025-04-28 | 120 pages | Mordor Intelligence

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Report description:

The Thermal Spray Materials Market size is estimated at USD 2.20 billion in 2025, and is expected to reach USD 2.81 billion by 2030, at a CAGR of 5.04% during the forecast period (2025-2030).

COVID-19 negatively impacted the market in 2020 and the first half of 2021. All the manufacturing and other activities were put on hold to curb the spreading of the virus, thereby negatively affecting the market. However, the market is projected to grow steadily post the retraction of the pandemic, owing to increased manufacturing and reinstating demand from the end-user industries, which have become operational at almost full scale.

Key Highlights
- The studied market's significant factors include the increasing usage of thermal spray coating in medical device manufacturing, the rising popularity of thermal spray ceramic coatings, extensive consumption in anti-corrosion applications, and evolution in the Asia-Pacific wind power sector.
- On the other hand, the emergence of alternate substitutes is expected to hinder the market's growth.
- The ongoing progress in solution precursor plasma spraying of cermets, recycling of thermal spray processing materials, industrial-scale production of environmental barrier coatings (EBC) thermal spray powders, and growth prospects in the oil and gas industry are the significant opportunities expected to drive the market in the future.
- Asia-Pacific region is expected to dominate the market in the forecast period because of vastly growing economies such as China and India.

Thermal Spray Materials Market Trends

Aerospace Industry to Dominate the Market

- Thermal spray materials are extensively used in the aerospace sector. They are used in manufacturing coatings, which are applied to various parts throughout the aircraft. These coatings offer component longevity, thus, reducing maintenance costs and increasing fuel efficiency.
- Thermal spray materials, such as zirconium oxide, aluminum bronze, and cobalt-molybdenum, are used for coating purposes in rocket combustion chambers, compressor air seals, and high-pressure nozzles, respectively.
- Various degradation problems exist in aircraft engines due to wear, hot corrosion, fretting, particle erosion, and many more. This degradation is accelerated when high temperatures are involved. Thermal spray material imparts the surface conditions required to increase engine components' service life.
- The global military and aerospace manufacturing market include dominant players such as Boeing, Lockheed, and Northrop Grumman. As per the report published by International Civil Aviation Organisation, commercial airlines' revenue grew significantly during the post-pandemic period because of the opening up of economies. It reached up to USD 472 million in 2021 and is forecasted to gain a whopping 39% standing at USD 658 million by the end of 2022.
- Growth in the aerospace sector, especially in civil aviation in emerging economies, on account of high expenditure on aerospace infrastructural construction and commissioning new projects, is expected to drive the market's growth. For instance, in India, in March 2021, the government submitted a proposal to develop a water aerodrome project at the Ujjain Dam under the Ministry of Civil Aviation's UDAN-RCS.
- Thus, increasing the adoption of thermal spray material due to its advantages mentioned above is expected to boost its demand in the aerospace industry.

Asia-Pacific to Dominate the Market

- Thermal spray materials are used in the aerospace industry as protective coating. China is one of the largest aircraft manufacturers and one of the largest markets for domestic air passengers.
- Factors such as large market size, increasing government support, and the ability to book electric vehicles online are likely to fuel the demand for electric vehicles in the country.
- China's aerospace industry is projected to return to profitability in 2022 after facing a significant decline in the previous years. In addition, the Civil Aviation Administration of China (CAAC) has estimated the aviation sector to recover domestic traffic to around 85% of pre-pandemic levels.
- Moreover, Chinese airline companies are planning to purchase about 7,690 new aircraft in the next 20 years, valued at approximately USD 1.2 trillion, expected to drive the demand for thermal spray materials. According to the Boeing Commercial Outlook 2021-2040, around 8,700 new deliveries will be made in China by 2040, with a market service value of USD 1,800 billion.
- In December 2021, China planned to build at least 150 new nuclear reactors in the next 15 years with an investment of USD 440 billion. The country has 19 reactors under construction, 43 reactors awaiting permits, and a massive 166 reactors that have been announced. The combined capacity of these 228 reactors is 246GW.
- The Government of India has planned to give USD 7.8 billion to the automobile and auto components sector in production-linked incentive schemes under the Department of Heavy Industries. Thus, the expansion of the automotive sector with the growing production of automobiles is anticipated to drive the market's growth over the forecast period.
- Owing to these developments, Asia-Pacific is expected to dominate the market over the forecast period.

Thermal Spray Materials Industry Overview

The thermal spray materials market is partially fragmented in nature. Some of the major players in the market (in no particular order) include Hoganas AB, OC Oerlikon Management AG, Kennametal Inc., Sandvik AB, and Linde PLC.

Additional Benefits:

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

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