

Thermal Spray Market - Growth, Trends, Covid-19 Impact, and Forecasts (2023 - 2028)

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Report description:

The global thermal spray market is estimated to be valued at USD 10,399.73 million in 2022 and is expected to reach a value of USD 12,729.79 million by 2027, registering a CAGR of 4.13% between 2022 and 2027.

The market was negatively affected by the COVID-19 pandemic in 2020. The levels of activities were deficient, and many project schedules were changed or postponed. Due to all these interruptions, industrial activities and plant construction projects across all industries were also affected. Such a global scenario negatively affected the global thermal spray market for the existing plants in the end-user industries, such as aerospace, turbines, automotive, electronics, oil and gas, and power, which were temporarily shut down globally.

Key Highlights

Over the medium term, the primary drivers of the thermal spray market are the increasing usage of thermal spray coatings in medical devices, the rising popularity of thermal spray ceramic coatings, the replacement of hard chrome coatings, and the increasing use of thermal spray coatings in the aerospace industry.

However, process reliability and consistency issues are expected to be hindered by the emergence of hard trivalent chrome coatings in recent years.

The aerospace end-use industry dominated the market and is expected to grow significantly during the forecast period. Using thermal spray in the aerospace sector helps protect expensive engine components by extending the component life and dramatically increasing fuel efficiency, thereby improving the aircraft's performance, owing to the increasing investment in the global aerospace industry.

North America dominated the global thermal spray market, owing to the expansion of end-user industries such as automotive, aerospace, power, industrial gas turbine, and others, which is expected to benefit the thermal spray materials market over the

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forecast period.

Thermal Spray Market Trends

Aerospace Industry to Dominate the Market

The aerospace industry is the largest end-user of the thermal spray material market. Thermal spray coatings are used in the aerospace industry to protect components from extreme temperatures and pressures during flight.

They provide high thermal resistance and longevity in the protection of engine turbine blades and actuation systems.

In the Asian-Pacific region (excluding China), according to the Boeing Commercial Outlook 2021-2040, around 8,945 new deliveries may be made by 2040, with a market service value of USD 1,945 billion. Moreover, approximately 8,700 new deliveries may be made in China alone by 2040, with a market service value of USD 1,800 billion.

Thermal spray materials have advantages, such as low toxic gas emissions, electrical resistance, easy mobility, and wear and corrosion protection. Growth in the aerospace sector, especially in civil aviation in emerging economies, on account of high expenditure on aerospace infrastructural construction and commissioning of new projects, is expected to impact the market positively.

Thermal spray coatings, 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.

The factors mentioned above are expected to support the consumption of thermal spray used in the aerospace industry during the forecast period.

North America to Dominate the Market

The North American region has the highest share in the global market. Thermal spray is increasingly used in the region's automotive, aerospace, power, oil and gas, and other industries.

The automobile industry in the United States is the second-largest globally after China and contributes significantly to the regional and global automobile markets. The country houses major automakers producing and exporting vehicles to other economies in the Americas, Europe, and the Asia-Pacific. As per the National Automobile Dealers Association (NADA), the total value of the car and automobile manufacturing market in the United States was USD 82.6 billion in 2021. Moreover, the association predicts that US new light-vehicle sales are expected to likely increase by 3.4% to 15.4 million units in 2022.

The United States is by far the largest market for thermal spray equipment owing to the presence of a large aerospace industry which is the main end-user industry. Arzell Inc., Bay State Surface Technologies Inc. (Aimtek Inc.), Donaldson Company Inc., Linde PLC, and Oerlikon Metco are the major equipment providers in the country.

According to the Federal Aviation Administration (FAA), the total commercial aircraft fleet is expected to reach 8,270 in 2037, owing to the growth in air cargo. Furthermore, the US mainliner carrier fleet is expected to grow by 54 aircraft per year due to the existing fleet getting older.

In the 2022 defense budget, the US government allows USD 768.2 billion for national defense programs, which is about a 2% increase from the Biden administration's original budget request, registering a growing usage of thermal spray in the sector.

Canada is the fifth-largest automobile producer globally and holds a prominent global automotive vehicle production share.

Canada produced roughly 1.12 million cars and light trucks in 2021, registering a decline of 19% compared to 2020.

As of June 2021, there are 6,111 charging stations with 13,623 charging outlets across Canada, mainly in the Southern Territories. Furthermore, according to EV Volumes, Canada sold about 66,800 electric vehicles in 2021, registering a 42.5% increase compared to annual sales recorded in 2020.

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Owing to the rise of these end-user industries in the United States and Canada, North America is projected to dominate the market during the forecast period.

Thermal Spray Market Competitor Analysis

The global thermal spray market is fragmented, with the top five players accounting for less than 40% of the total market share. The major players present in the market include OC Oerlikon Management AG?, Linde plc, Chromalloy Gas Turbine LLC, Bodycote, and Kennametal Inc., among others.

Additional Benefits:

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

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