

## **Thermal Spray Coatings Market Report and Forecast 2025-2034**

Market Report | 2025-08-11 | 156 pages | EMR Inc.

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### **Report description:**

The global thermal spray coatings market reached a value of approximately USD 11.85 Billion in 2024. The market is projected to grow at a CAGR of 5.10% between 2025 and 2034, reaching a value of around USD 19.49 Billion by 2034.

#### Thermal Spray Coatings Market Growth Rate

The thermal spray coatings market is propelled by the integration of automation and robotics in thermal spray processes which results in increasing precision, repeatability, and efficiency. Automated systems reduce labour costs and minimise human error, leading to higher-quality coatings.

Thermal spray coatings in aircraft engines enhance wear resistance, reduce oxidation, and improve thermal insulation. The expanding aerospace sector, notably driven by increased commercial air travel and defence expenditure, serves as a significant catalyst.

India witnessed a rise in the number of airports from 74 in 2014 to 147 in 2022, with projections indicating an increase to 220 by 2025.

#### Key Trends and Developments

Growth in the power generation sector, rising industrial applications, environmental regulations and sustainability, and advancements in coating materials are the major trends impacting global thermal spray coatings market growth.

May 2024

Tencarva Machinery Company, a US pump distributor and servicer, has acquired Tri-State Coating & Machine, a Salt Rock, West Virginia-based company that provides specialised thermal coating services and related parts to the industrial market.

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June 2023

Applied Materials India Private Limited, a subsidiary of the materials engineering leader Applied Materials, Inc., has announced a partnership with the IIT Ropar to establish a Center of Excellence (CoE) in Thermal Spray Coatings.

March 2023

Hardide Coatings has introduced the first product in a new series of pre-coated and enhanced components, featuring a JP-5000 4" copper nozzle used in High-Velocity Oxygen Fuel (HVOF) thermal spray coating.

September 2022

Extreme Coatings, a prominent supplier of wear-resistant coatings for plastics, rubber, and oil and gas industries, has introduced a novel internal diameter HVOF coating system tailored for oil and gas and industrial components.

Growth in the Power Generation Sector

The power generation industry uses thermal spray coatings to protect equipment from corrosion and high temperatures. Further, the rise in the energy demand is driving the market growth.

Rising Industrial Applications

Various industries such as oil and gas, healthcare, and electronics are increasingly adopting thermal spray coatings for their ability to improve component life and performance under harsh conditions.

Environmental Regulations and Sustainability

Stricter environmental rules drive industries to embrace coatings that reduce emissions and energy use. Thermal spray coatings improve component efficiency and durability, reducing maintenance and replacement needs.

Advancements in Coating Materials

The development of new materials such as nanostructured coatings and carbide coatings provides superior performance characteristics. These materials offer enhanced hardness, wear resistance, and thermal stability.

Thermal Spray Coatings Market Trends

The major developments propelling the demand for thermal spray coatings include the innovations in deposition techniques like HVOF, Cold Spray, and Plasma Spray have led to better coating adhesion, density, and uniformity. These technologies also allow for the application of coatings on complex geometries and sensitive substrates.

The adoption of digital technologies and Industry 4.0 principles is enhancing process control and monitoring. Real-time data collection, predictive maintenance, and simulation tools are improving the overall efficiency and effectiveness of thermal spray operations.

Thermal Spray Coatings Industry Segmentation

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"Global Thermal Spray Coatings Market Report and Forecast 2025-2034" offers a detailed analysis of the market based on the following segments:

#### Market Breakup by Technology

- Cold Spray
- Flame Spray
- Plasma Spray
- HVOF
- Electric Arc Spray
- Others

#### Market Breakup by Product Type

- Metals
- Ceramics
- Intermetallic
- Polymers
- Carbides
- Abradable
- Others

#### Market Breakup by Application

- Aerospace
- Industrial Gas Turbine
- Automotive
- Medical
- Printing
- Oil and Gas
- Steel
- Pulp and Paper
- Others

#### Market Breakup by Region

- North America
- Europe
- Asia Pacific
- Latin America
- Middle East and Africa

#### Thermal Spray Coatings Market Share

HVOF technology enhances the thermal spray coatings market by enabling rapid deposition rates and precise control over coating thickness, leading to increased productivity and reduced processing times for coating applications.

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HVOF coatings typically have lower porosity and higher bond strength, reducing the risk of coating degradation and environmental contamination over time.

Electric arc spray coatings offer cost-effective solutions due to their relatively low equipment and operating costs compared to some other thermal spray methods. This affordability makes electric arc spray technology accessible to a wider range of industries and applications.

As air travel booms, the aerospace industry relies more heavily on thermal spray coatings to keep planes reliable, safe, and efficient, thus driving the thermal spray coatings market growth.

Aerospace manufacturers aim to lighten aircraft components for better fuel efficiency and cost-effectiveness. Thermal spray coatings provide this without compromising strength, aiding fuel savings.

Thermal spray coatings play a vital role in crafting drug delivery systems like inhalers, microneedles, and implantable drug-eluting devices. These coatings regulate release, bolster adherence, and elevate biocompatibility, improving targeted drug delivery efficacy.

#### Thermal Spray Coatings Market Analysis by Region

North America holds a significant share of the thermal spray coatings market due to urbanisation and modernisation trends, alongside increasing disposable incomes. Demand from aerospace, oil and gas, and power generation industries, particularly for gas turbines, fuels this growth. Additionally, the United States government's policy transition towards replacing coal with natural gas for electricity generation is expected to further boost gas turbine demand.

Invest in Italy statistics reveal that Germany leads with 2,972 automotive sector companies, followed by Italy with 2,296, France with 1,908, Poland with 1,734, and Spain with 1,640. This indicates that Germany contributes the most to driving thermal spray coatings market demand, followed by Italy.

According to the Ministry of Petroleum and Natural Gas, GOI, the amount of natural gas produced in 2021-2022 was 34.02 BCM whereas it was 28.67 BCM in 2020-2021. This indicates the rise in the demand for the thermal spray coatings market in the country.

#### Leading Manufacturers in the Thermal Spray Coatings Market

The companies are a provider of innovative processes, surface-enhancing materials, hard face welding, and other solutions to industries including ceramics, blasting, and others.

##### Praxair S.T. Technology, Inc.

Founded in 1907 and based in Indianapolis, IN. The company provides surface-enhancing materials, innovative processes, technology, and more advanced coatings that extend the life of critical components.

##### Hayden Corp

Established in 1919 and based in West Springfield, Massachusetts. The company supplies thermal spray coating, hard face welding, and machining services for the protection of industrial machine components.

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Flame Spray Coating Company

Founded in 1974 and based in San Diego, CA. The company has been a leader and innovator in the application of Thermal Sprayed Coatings.

CUMI EMD.

Established in 1954 and is headquartered in Ernakulam, Kerala. CUMI Minerals provides correct solutions to various industries such as Abrasives, Refractories, Ceramics, Blasting, Metal Composites etc.

Other global thermal spray coatings market key players are Metatech Thermal Spray Pvt. Ltd., Kennametal Inc., and Alloy Thermal Spray Pvt. Ltd. among others.

Thermal Spray Coatings Market Report Snapshots

Thermal Spray Coatings Market Size

Thermal Spray Coatings Market Growth

Thermal Spray Coatings Market Trends

Thermal Spray Coatings Market Share

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Thermal Spray Coatings Market Regional Analysis

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